Tenor Violin or Tenor Cello?

Problems of Identification and Repertoire

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<td>Annales Musicologiques</td>
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<tr>
<td>BD</td>
<td>Bach-Dokumente</td>
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<td>BJb</td>
<td>Bach-Jahrbuch</td>
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<tr>
<td>DoA</td>
<td>The Dictionary of Art</td>
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<td>EM</td>
<td>Early Music</td>
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<tr>
<td>FoMRHI</td>
<td>(Journal of the) Fellowship of Makers and Restorers of Historical Instruments</td>
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<tr>
<td>GSJ</td>
<td>Galpin Society Journal</td>
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<tr>
<td>JAMS</td>
<td>Journal of the American Musicological Society</td>
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<tr>
<td>JAMIS</td>
<td>Journal of the American Musical Instrument Society</td>
</tr>
<tr>
<td>JVGSA</td>
<td>Journal of the Viola da Gamba Society of America</td>
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<tr>
<td>MGG</td>
<td>Die Musik in Geschichte und Gegenwart</td>
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<tr>
<td>ML</td>
<td>Music &amp; Letters</td>
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<td>MQ</td>
<td>The Musical Quarterly</td>
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<td>MT</td>
<td>The Musical Times</td>
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<tr>
<td>NBA</td>
<td>Die Neue Bach-Ausgabe</td>
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<td>NGDMI</td>
<td>The New Grove Dictionary of Musical Instruments</td>
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<td>NGDMM</td>
<td>The New Grove Dictionary of Music and Musicians</td>
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<tr>
<td>ZMw</td>
<td>Zeitschrift für Musikwissenschaft</td>
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ABSTRACT

We know from Quantz that in Baroque times cellos appeared in at least two sizes.\(^1\) In this thesis all aspects of the smaller instrument are examined. Tunings to F or G, as specified by relevant theoretical writings from the Renaissance and Baroque periods, indicate that small cello-type instruments between the sizes of violas and cellos are likely to have been used from the beginning of violin building. Measurements for such instruments were not specified either by theorists or commentators. This gap is filled here by measuring and documenting a relatively large number of surviving examples. Iconographical representations are discussed, as they indicate that the small instrument might have preceded the bigger cello. Of the smaller instruments, those in size between the viola and the cello, the focus is on the G-tuned instrument and on the music which might have been or, arguably, should have been played on it. Repertoire examined by Baroque as well as later composers throughout Europe strongly suggests that the G-tuned instrument was used but rarely specified. On the evidence of current findings, the instrument was mostly referred to as a cello or small bass violin (although occasionally as tenor violin, violoncello piccolo and by other terminology). Its survival would have been smoother – fewer of these instruments would have been turned into child’s cellos – if it had been called the tenor cello.

\(^1\) Johann Joachim Quantz, *Versuch einer Anweisung die Flöte traversiere zu spielen*, Berlin, 1752, 212.
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Lewis Jones for his unpublished article ‘Playing *Orfeo I*: Monteverdi’s *violini* and *viole da braccio*’.

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At last but not least, I am indebted to the late Dr David Kenneth Rycroft who accepted, edited and published my article on the tenor violin in 1994. Without Dr Rycroft’s encouragement I would have been unlikely to continue with research on this field.

I dedicate this thesis to the memory of Dr David Kenneth Rycroft.
Chapter 1: Introduction

In the 1980s Nona Pyron (of Grancino Editions) published several Baroque cello sonatas. Pyron suggested that modern cellists might find the left-hand leaps and other technical demands challenging. The implication, that modern cellists had lesser instrumental technique than their Baroque forebears, was intriguing and raised several questions. Were perhaps some of those particularly difficult Baroque cello pieces actually not intended for the cello but another instrument? Were there any (or, indeed, many other) cello compositions outside Pyron’s repertoire which also pointed towards the possibility of another instrument? We know that in 1752 Quantz indicates a variety of cellos:

Wer auf dem Violoncell nicht nur accompagniret, sondern auch Solo spielt, thut sehr wohl, wenn er zwei besondere Instrumente hat; eines zum Solo, das andere zum Ripienspielen, bey großen Musiken. Das letztere muß größer, und mit dickern Saiten bezogen seyn, als das erstere. Wollte man mit einem kleinen und schwach bezogenen Instrumente beydes verrichten; so würde das Accompagnment in einer zahlreichen Musik gar keine Wirkung thun.  

Those who not only accompany on the violoncello, but also play solos on it, would do well to have two special instruments, one for solos, the other for ripieno parts in large ensembles. The latter must be larger, and must be equipped with thicker strings than the former. If a small instrument with thin strings were employed for both types of parts, the accompaniment in a large ensemble would have no effect whatsoever.

Two centuries later Borgir is more specific, allocating tunings to large as well as smaller instruments:

The bass violin in early seventeenth-century Italy came in two different sizes: a large instrument tuned to B’ flat [BB♭], and a smaller instrument tuned to F or G. 

The questions raised by the Pyron repertoire and the possibility of a smaller instrument tuned to F or G have led to my search for an alternative to the cello. My findings were published in 1994 but the scope was restricted.

As David Boyden has specified, tenor violin was the term for a certain type of viola, mostly of larger size. According to Boyden, the term was also used to denote an instrument rather like a small cello. The instrument’s four strings were tuned in fifths, with the lowest string as F or G. Thus the tuning was between that of the modern viola and the cello. However, the term ‘tenor violin’ was and remains problematic, partly because it was applied to two instruments (large viola and small cello). The cello-type or, to be more precise, the

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2 Quantz, *Versuch einer Anweisung die Flöte traversiere zu spielen*, Berlin, 1752, 212.  
7 Ibid.
F/G-based tuning seems to have disappeared from use at some point in time. Inevitably, several questions arose which prompted further research. How widespread was the use of this cello-type tenor violin before it disappeared? Why has it sunk into near oblivion? Could the reason for the disappearance be its neglect by theorists? Was the problem caused by the lack of a distinctive name for the instrument with such tuning? Does the blame lie with composers, because they may have referred to this instrument merely as the violoncello? Did the actual instrument disappear or was it later used with other than F/G-based tuning?

Scepticism among modern scholars might have hindered research. In 1990 Michael Talbot wrote:

The last collection of concertos by a Venetian composer to require two viola parts is Vivaldi’s *L'estro armonico*, Op.3, published in 1711. When not simply termed ‘Viola prima’ and ‘Viola seconda’, the two viola parts commonly took the name of the register that they occupied, being styled ‘Alto viola’ and ‘Tenore viola’ or ‘Violetta alto’ and ‘Violetta tenore’. In either case the same type of instrument and the same tuning was employed. (This remark is needed to counter a lingering belief that there existed for this repertory a separate tenor instrument of the violin family played in the manner of a cello!)[^8]

It is clear that here Talbot talks about Vivaldi’s *L'estro armonico*, but his exclamation mark (concluding his bracketed remark) and reference to ‘a lingering belief’ might have discouraged any investigation into the possible existence of some cello-type tenor instrument (even if beyond the repertory which Talbot discusses). However, he added:

The ordinary bass instrument for which Albinoni wrote, at least in his mature works, was not the original bass violin, often called *violone piccolo* to distinguish it from the *violone grosso*, the double-bass instrument. It was the *violoncello*, the smaller, more effective version of the same instrument that the invention of wire-wound strings in Bologna during the 1660s had made a practical proposition. It is true that the *Trattenimenti armonici per camera*, Op.6 (c. 1711), specify a violone as the bass stringed instrument, but the conservatism here is probably one of nomenclature rather than actual performance practice.[^9]

Thus Talbot appears to advise, possibly inadvertently, that instrumentation is not always clear, because terminology can be confusing and misleading. However, it is perhaps conservatism, mentioned by Talbot above, which is one of the reasons for his rejection of the possible appearance of a tenor-type cello in this repertory.[^10]

As far as is known, to date only my own papers feature this particular instrument.[^11] Hence, the most extensive article on the topic remains my paper from twenty-four years ago.

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[^9]: Ibid., 71.
[^10]: Vivaldi’s cello works – although not his *L'estro armonico* specified by Talbot – are discussed in Chapter 4.
[^11]: See Bibliography for the full list of these papers.
This article has been discussed or quoted by at least fourteen authors,\(^\text{12}\) and was indicated as reference for Boyden’s posthumous article in *The New Grove Dictionary of Music and Musicians*.\(^\text{13}\) Most authors reacted positively, although there was criticism about the term ‘tenor violin’. Segerman wrote that ‘There is a major problem of terminology in Agnes Kory’s article...It seems rather inappropriate for a name that almost always applied to a different instrument at the time, to be applied to an instrument which almost always had a different name. Kory’s tenor violin was usually called a bass violin and was used as such.’\(^\text{14}\) According to Badiarov, ‘Kory’s article on the tenor violin describes, in essence, a small bass violin. It is smaller than a cello and it can be played either on the shoulder, or against the chest, or da gamba.’\(^\text{15}\) Vanscheeuwijk also allocates the instrument to the bass: ‘I do not believe however, that this smaller instrument can be the “tenor” cello Agnes Kory advocates for. I concur with Segerman on this issue that the instrument tuned an octave below the violin was called a basso, whereas the tenore viola was rather a large-size viola tuned c-g-d’-a’.’\(^\text{16}\)

To provide additional evidence for the existence and usage of the instrument tuned to G-d-a’ (and F-c-g-d’) throughout the 17\(^\text{th}\) and 18th centuries, I am now widening the scope from that which was available to me for my article twenty-four years ago.

Renaissance and Baroque theorists seemed to have been unclear about the cello-type tenor violin. Apart from isolated exceptions, this instrument was conspicuous by its absence in the literature. Nevertheless, albeit only in rare instances, occasionally the instrument was actually specified, and in other instances it seems to have been implied. This time I am presenting all those theorists and commentators from Renaissance to modern times whose description or reference to tunings, terminology and sizes of instruments might have indicated (even if it did not specify) the F/G-tuned tenor/bass under our focus. I also include a summary of those theorists who engaged with instruments but did not mention this type of tenor/bass.

My article did not engage at length with specific instruments – indeed, only one example was mentioned – or with their place among relevant stringed instruments. Here I present a survey of some three-hundred instruments from inventories, catalogues and relevant publications as well as of actual surviving tenor instruments.


In order to find museums, inventories and catalogues where the small tenor-sized violoncello would be present, I searched the *New Grove Dictionary of Music and Musicians (NGDMM)*, the *Répertoire International de Littérature Musicale* (RILM) and *JStor*. In the summer of 2008, the online version of the *NGDMM* produced some thirty-seven pages containing addresses of museums with instrumental collections. The list included over 100 cities with museums as well as 25 additional inventories. A similar list appeared in 2001, in the second hard-copy edition of *NGDMM*, but it has been updated in later online versions. *JStor* indicated sixty-six possibly relevant articles, *RILM* facilitated eighty-two more possibly relevant titles. I carefully scrutinised all articles in English, German and Hungarian; a great number of articles in other languages were interpreted with assistance. In the event, I focused on those museums, catalogues and inventories which indicated the instrument of my focus. My thesis, therefore, includes only those museums, catalogues and inventories which contain information about relevant instruments.

Finding actual instruments was of utmost importance. As Vanscheeuwijck pointed out, ‘unfortunately not too many surviving instruments confirm the existence of various sizes of bass violins (or violoni) of the smaller type with four or five strings, tuned an octave below the violin.’ However, my 55 surviving examples – 45 in museums, 10 in private possession – should indicate the likelihood of the existence of many more such instruments.

In my article iconographical examples were restricted to only one. This time I am presenting 34 iconographical examples which, notwithstanding possible artistic errors and thus problematic evaluation, should give an insight into iconographical perception of relevant instruments.

It was the Pyron repertoire for regular cellos (and, crucially, Pyron’s comments about technical difficulties in that repertoire) which instigated my research into alternatives to regular violoncellos in the Baroque period. Here, in Chapter 4, I examine scholarly contributions to additional repertoire which might have been intended for the tenor instrument. The composers I selected have connections to relevant tunings or relevant instruments or relevant geographical centres discussed in Chapters 2 and 3. Composers thus featured include Banchieri, Kircher, Monteverdi, Bach, Tartini, Vivaldi, Boccherini and lesser known composers with pieces in the Estensian Baroque manuscript collection.

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This time I was looking for answers to several pertinent questions. How did this instrument relate to the cello – and to other members of the violin family – in size, tuning and usage? Would we find accepted or suitable terminology for any of these instruments, and, in particular, for the F/G-tuned four-stringed version? Were tunings clearly specified in treatises or compositions? Were there any geographical or chronological preferences for the F/G instrument during any particular period?

As indicated earlier, for the current investigation all known articles about members of the violin family with various sizes between those of the viola and the cello have been surveyed. These articles, as well as my iconographical examples, are presented in chronological order to provide a historical overview. (To bridge what might have been and what might follow, an account of modern revivals of instruments similar to the F/G-tuned tenor/bass will be discussed in a separate article.)

My music examples may be open to alternative interpretation (as for the choice of repertoire as well as instrumentation). Nevertheless, I will endeavour to find feasible answers to crucial questions. Were these compositions intended for the cello, the G-based tenor/bass or another instrument? Were, on occasions, several options available?

I will now probe the existence and usage of the tenor-sized version of the violoncello – the F/G-based cello-type tenor violin – by examining tunings and terminology specified or referred to by theorists and commentators (Chapter 2), published instrument sizes, visual representation of instruments and actual instruments (Chapter 3) and internal musical evidence in selected repertoire (Chapter 4).
Chapter 2: Theorists and Commentators

2.1. Tuning and Terminology

My aim is to explore if tunings and terminology used by various theorists would help to identify the instrument of our focus. However, first I will present early theorists who, in spite of reasonable expectations, did not mention the F/G tuned member of the violin family (2.1.a). I will then explore tunings in the Renaissance and Baroque periods (2.1.b), followed by my survey of terminology from the Renaissance to Modern times (2.1.c and 2.1.d). The question needing answers is whether available tunings and terminology specify or imply the F/G-tuned tenor/bass.

2.1.a: Early theorists who neither specify nor imply the tenor violin

Surprisingly, and unfortunately for latter-day scholars, the instrument which filled the gap between the viola and violoncello within the violin family was often ignored by early theorists. Arguably this is one of the reasons for the presumed disappearance of such instruments. Many theorists of significance did not explore musical instruments at all; for instance Zarlino, Calvisius, Fux and Rameau dealt with many aspects of music but excluded instruments. I aim to draw attention to those early theorists who either specified or implied the instrument of my focus. Nevertheless, let us first look at some of the early theorists who wrote about instruments but have neither specified nor implied the tenor/bass instrument between the viola and violoncello.

Christopher Simpson (c.1604-1669), Thomas Mace (c.1612-1706) and Jean Rousseau (1644-1699) deal with members of the viol family – distinct from the violin family – but their comments on the sizes of viols have relevance to the sizes of violins, in particular to those between the viola and cello.

In his important work on the viol Christopher Simpson does not mention the violin family.\(^1\) Nevertheless, the issue of size – which is one of the determining factors for the instrument between the viola and the cello – is commented on at the outset:

> A Viol for Division should be of something a lesser size than a Consort Bass; that so the Hand may better command it: more or less short, according to the reach of his fingers, who is to use it…\(^2\)

Christopher Simpson’s requirement for a smaller instrument may also apply to the violin family: the tenor instrument of our focus would have been the size which enabled the hand to command difficult passages better than on the big violoncello.

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2. Ibid, 1.
Thomas Mace writes extensively on music of his time but there is only a very brief reference to violins. He suggests that ‘one may add a pair of violins to viols in readiness for some extraordinary jolly concert occasions, but the violins must not dominate, hence theorbos too should be added.’ On the other hand, Mace makes it clear that viols were available at least in three registers and three sizes:

Your Best Provision, (and most compleat) will be, a Good Chest of Viols; Six, in Number; viz. 2 Basses, 2 Tenors, and 2 trebles: All Truly, and Proportionably Suited. Let your bass be large. Then your Trebles must be just as short again, in the String, (viz) from Bridge, to Nut, as are your basses, because they stand 8 Notes higher than the Basses; Therefore, as short again; for the Middle of Every String, is an 8th. The Tenors, (in the String) just so long as from the Bridge, to F fret; because they stand a 4th Higher, than your basses;…

Clearly, a variety of sizes is of importance to Mace as it was for Simpson.

In his *Traité de la Viole* (Paris, 1687) Jean Rousseau describes the bass viol and then adds:

There have been in use for some time three other viols of different sizes: one a little smaller than the Bass to serve as Tenor, and one a little smaller the Tenor to serve as Alto; and finally one a little smaller than the Alto to serve as a treble. These four instruments take the parts of the four voices, as had been the practice in Italy long ago, where the four viols were tuned thus: the Tenor and Alto in unison, one fifth above the Bass (i.e. A to a’) and the Treble one fourth above the Tenor and Alto, that is to say, one octave above the Bass (d to d’).

It is significant that, as seen above, the viol family included a wide range of instrument sizes, so the early history of the violin family occurred against a backdrop in which people were used to mid-size instruments of various types.

Johann Andreas Herbst (1588-1666), Johann Crüger (1598-1662) and Daniel Speer (1636-1707) attempt to describe stringed instruments of all kinds; John Gunn (c.1765-1824) focuses on the violoncello but also provides a history of stringed instruments from ancient times to the 19th century. However, as we will now see, none of these four writers seems to have been aware of the F/G tuned instrument within the violin family.

Herbst compiled a singing manual which included extensive music theory. On page 51 he mentions violins, trumpets and flutes in connection with playing correct cadences while

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3 Thomas Mace, *Musick’s Monument, or, A Remembrancer of the Best Practical Musick, both divine, and civil, that has ever been known, to have been in the world*, London, 1676.
4 Ibid., 245.
5 Ibid.
6 Ibid., 246.
on the last two pages (75-76) he lists 37 entries for instruments of the day. Among other instruments Herbst mentions violins, violas and the violone, and describes the viola da gamba (eine Geige mit 6 Saiten und / Bünden wie eine Laute / welche Viola zwischen den Beinen gehalten; that is a violin with six strings, with frets like the lute and held between the legs as the viola) but there is nothing in his list to indicate a violin-type instrument between the viola and violone. The bass violin is mentioned for the violone’s entry as ‘eine grosse Bassgeige’ (a big bass violin), but, in reverse, there is no specific entry for the bass violin. Herbst comments that the ‘viola di gamba sonnten auch Viola bastarda genennet wird’ (sometimes the viola da gamba is called Viola bastarda), so he seems eager to include instruments he knows about. However, evidently, he is unaware of any violin-type instrument between the viola and the big bass violin.

Another extensive singing manual which includes music theory is that by Crüger. On page 44 a list of eleven instruments is briefly specified. Of stringed instruments the following are included: Violinum, eine discant Fiedel (descant violin); Violone, eine Bassgeige (bass violin); Viola di Brazio, welche man auf den Armen halt (viola which is held on the arm); Viola di Gambe, so man zwischen den Beinene halt (viola di gamba, which is held between the legs). This brief list of descriptions suggests that, as indicated by Herbst’s list above, the viola da gamba filled the gap between the viola and the bass violin.

Speer – theorist, musician, music teacher, composer and writer – sets out to provide a comprehensive overview. On pages 189-97 and 198-205 he discusses at length violins and violas, including their tunings (g-d’-a’-e” and c-g-d’-a’) and clef notations. He uses G2 and C1 clefs for the violin, while C3 and C4 clefs for the viola. Speer provides descriptions as well as notates tunings for Viol di Gamba (D-G-c-e-a-d’) and Bass-Violon (GG-C-F-A-d-g). However, the violoncello is conspicuous by its absence in any of its forms or by any of its names (be it with Bb-F-c-g or C-G-d-a or F/G tuning).

Herbst (1658), Crüger (1660) and Speer (1697) were clearly unaware of an F/G-tuned tenor/small bass violin. Yet, as we will see, their compatriot Daniel Hizler clearly specified (and notated the tuning for) the F-based tenor violin earlier, that is by 1623.

The opening thirty-two pages of the ninety-six page long cello tutor by Gunn consist of a ‘Dissertation on the Origin of the Violoncello, and on the Invention and Improvements of

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Stringed Instruments.\textsuperscript{11} Gunn discusses stringed instruments from the lyre of the ancient Greeks right until his own time. When commenting on the violin family, Gunn further develops Mace’s observation about violins overpowering viols:

For some time after the Introduction of the Violin into concerts, the under parts were performed on the Tenor Viol and Bass Viol; it was after discovering the inefficiency of these, especially of the latter, that instruments of its own species, the Tenor Violin and Violoncello, were made of the same shape, but increasing in size in proportion to the additional length and thickness of the strings they were to carry. The Violins were conceived to be so powerful in tone, as to require Basses of a considerably greater size and length of string than those now in use.\textsuperscript{12}

Gunn’s tenor violin is most probably the viola and he does not mention any family members between the viola and the violoncello.

As seen, many theorists appear to have been unaware of the F/G-tuned member of the violin family. However, let us now examine those theorists whose evidence, whether intentional or otherwise, allows a path to the instrument of our focus.

2.1.b: Tuning in Renaissance and Baroque periods

Some of the tunings given by Renaissance and Baroque theorists point to the F/G tenor/bass. Zacconi’s F-c-g-d’ Tenor Viole da braccio (1592), Banchieri’s G-d-a-e’ Primo violino per il basso (1609) and G-d-a-e’ Prima Violetta basso (1611), Praetorius’s F-c-g-d’ Bass-Geig de Braccio (1619), Hizler’s F-c-g-d’ Tenor-Geige (1623) and Kircher’s G-d-a-e’ Violone (1650) seem to indicate the tenor violin/cello. Mersenne’s F-c-g-d’ tuning (1636) also merits serious consideration. However, tunings given by other theorists are not always clearly defined. To gain a historical perspective, I will detail all available tunings – whether clearly defined (as mentioned above) or only implied – in chronological order. My survey will conclude with summarising specified tunings (Table 1), implied tunings (Table 2) and the mixture of the two (Table 3).

Martin Agricola (1486-1556) may have been the first theorist to consider instrumental music equal in importance to vocal music. His 1529 treatise on musical instruments was sufficiently popular to be reprinted in 1530, 1532 and 1542 before Agricola revised it for its 1545 publication.\textsuperscript{13} In 1529 the three-stringed ‘kleine Geigen’ (small violins), apparently usually without frets but at times with frets, are described with the following tunings: ff (FF)-C-G (bass), C-G-d (alto and tenor) and G-d-a (discant).\textsuperscript{14} According to current

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\textsuperscript{11} John Gunn, \textit{The Theory and Practice of Fingering the Violoncello}, London, 1789.
\textsuperscript{12} Ibid., 19.
\textsuperscript{13} Martin Agricola, \textit{Musica instrumentalis deutsch}, Wittenberg, 1529 and 1545.
\textsuperscript{14} Agricola, 1529, 50v.
notation, Agricola’s tuning surely means F-c-g, c-g-d' and g-d'-a'. Tuning is not mentioned for the four unfretted three-stringed small fiddles.15

Although in his book on viols, violins and lutes Hans Gerle (1500-1570) discusses the tuning of three-stringed violins, identifying his actual pitches for the strings is problematic. We know that Gerle adds a fourth string to the bass:

> Nun folgt hernach wie du solt auff den klynen Geyglen lernen / die haben kein bundt un werden auch anderst gezogen dann die grossen Geygen / und haben den merern tayl nur drey saytten un haben eben genug daran wiewol wann du wilt mit gesellen geygen die vier stym. So muss der bass vier saytten haben.16
>
> (Now you should learn about the violins, which don’t have frets and are tuned differently from the viols and have mostly only three strings which are usually enough even if they play in four parts. But the bass must have four strings.)

Stephen Bonta may be right to state that Gerle was the earliest to describe a four-stringed cello, and gave the tuning that is used today: C-G-d-a.17 Gerle indeed suggests the note C for his fourth string:

> ‘hat aber die Geyg vier saytten / so greyff auff die dritte saytten auff den fu(e)nfften gryff auff das .c. unnd zeuhe die obere saytt legig ein octaff niderer / dann die stym(m) laut wann du auff das .c. greißt’.18
>
> (If the violin has four strings, you must press the fifth note (c) on the third string and tune the fourth string an octave lower to C.)

If Gerle’s third string is G, then the first note on it is G#, then follow A, A#, B and the fifth note is indeed the note c. If the fourth string is an octave below this c, we indeed have the C string. As Gerle specifies the interval of a fifth between all the strings and the C string is the lowest, his bass is tuned to C-G-d-a. However, the later development of the violin shows that a fifth was added upwards to the g-d-a’ and c-g-d’ instruments, thus creating the g-d-a’-e” violin and the c-g-d-a’ viola tuning respectively. A top string added to the three-stringed G-d-a bass violin would have created the G-d-a-e’ tenor instrument, although extending downwards to the C – and thus creating the C-G-d-a cello tuning – was clearly also an option.

According to present-day knowledge, Giovanni Maria Lanfranco (1490-1545) wrote the earliest comprehensive treatise on music theory in Italian.19 In his last chapter Lanfranco deals with tuning. He includes, among other instruments, bowed strings with or without frets. He does not specify any note names but gives a description that offers instructions for the intervals between the strings. The instruments in ‘Dei Violini da tasti & da Arco’ (About

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15 Ibid., 55v-56r.
18 Gerle, Hiii/v.
three fretted viols with bow), that is the Soprano, Tenore and Basso viols are tuned – going upwards from the bottom string – in 4th, 4th, major 3rd, 4th and 4th. However, the instruments in ‘Delle violette da arco senza tasti’ (About bowed violins without frets) have three strings although, as Gerle’s bass in Germany one year earlier, the bass has four. All three fretless instruments, which Lanfranco also calls Violetta da Braccio, are tuned in fifths. The lowest string of the Soprano (violin) is in unison with the top string of the Basso as well as with the middle string of the Tenore. Lanfranco does not specify any pitches. However, if we take Agricola’s and Gerle’s pitches, then Lanfranco’s tuning can be interpreted as follows: g-d'-a' (Soprano), c-g-d' (Tenore) and BB♭-F-c-g (Basso). Like Gerle’s bass, Lanfranco’s basso is a fretless four-stringed violin tuned entirely in fifths. Only the bass has four strings, but evidently it sets the future trend for its higher siblings in the violin family.

There is no indication for a three-stringed bass in Lanfranco, but it is tempting to speculate as to how it would have been tuned. Arguably the pattern of tuning for his Soprano (g-d'-a’) and Tenore (c-g-d’) instruments would suggest F-c-g tuning for a three-stringed bass. As later both the Soprano and the Tenore progressed upwards by a fifth (to g-d'-a’-e’’ and c-g-d’-a’ tuning respectively), it is logical that the bass could have progressed to the F-c-g-d’ tuning (although, as indicated by Lanfranco, it also progressed downwards to the lower set of BB♭-F-c-g).

There is no need for speculation about the tuning of the three-stringed fretless bass in Silvestro Ganassi (1492-1565). He mentions the existence of three-stringed viols with F-c-g (Bass), c-g-d’ (Tenor) and g-d’-a’ (Soprano) tuning. He adds that the same tuning is used for members of the fretless viola da braccio family:

‘...guesto acordo delle ditte tre corde sole sera acordate tutte in quinta alta una da l’altra che sera il bordon dal basso & el tenor dal bordon & di questa acordatura sene potra seruiere li sonatori de viola da brazo senza tasti pernar suo...’

In Bodig’s translation this is the relevant passage:

‘...the tuning of [the] three remaining strings for solo playing will be in fifths, that is, the second string a fifth above the first string, and the third string a fifth above the second string. This tuning can be used also by players of the unfretted viola da braccio, since the stringing is in the usual manner.’

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20 Ibid., 142.
21 Ibid., 137-8.
22 Silvestro Ganassi, Regola rubertina, Venice, 1542; Lettione seconda, Venice, 1543.
23 Ganassi, Lettione, 69.
24 Ibid.
There is flexibility for the tuning of Ganassi’s fretless violins, but the F-c-g (Bass), c-g-d’ (Tenor) and g-d’-a’ (Soprano) version was one of the possibilities and, furthermore, this was the only version with specified pitches. Thus, although Lanfranco does not mention it in his Scintille di musica, here we have the Italian three-stringed fretless instrument with the F-c-g tuning, this time clearly specified by Ganassi.

When, in 1545, Agricola mentions (and illustrates) four small three-stringed fretless fiddles (‘vier kleine Geigen one bünde [sic] und mit dreien Seiten [sic]’), he explains tunings, but specifies pitches only for three of the three-stringed instruments. Owing to their designated vocal register, the G-d-a (Discant) and C-G-d (Tenor) specifications are likely to have meant the g-d’-a’ and c-g-d’ tuning. Agricola allocates four strings to the bass but with the somewhat astonishing F-Γ-D-a (that is, F-G-d-a) tuning. It is not clear, why the pattern of fifths – which, in 1529, Agricola specifies with his F-c-g, c-g-d’ and g-d’-a’ series and which is also specified by Gerle (1532), Lanfranco (1533) and Ganassi (1543) – is suddenly broken. Detailed instructions are given how the tenor’s d (d’) and G (g) open strings are tuned in unison to the discant’s d (d’) and G (g) open strings and how the bass’s a, D (d) and Γ (G) open strings should be tuned an octave below to the discant’s a (a’), d (d’) and G (g) open strings. But then we are told that the fingered note ‘f’ should be played on the discant’s d string, and the F string of the bass should be tuned to this ‘f’ note in the lower octave (presumably meaning two octaves below this designated ‘f’). The F string below the G string is an unexplainable oddity. However, it is of particular interest that Agricola specifies that the open strings of the discant and those of the bass instrument should be tuned to each other in octaves. Notwithstanding the odd addition of the F string to the bass, we have the g-d’-a’ tuning for the discant and the G-d-a tuning for the top three strings of the bass. In other words, by 1545 the violin had a counterpart which was tuned an octave below. This is, as we will see, the same relationship as that between the later violin and the cello-type tenor violin.

Philibert Jambe de Fer (c.1515–c.1566) is the first theorist to write extensively about the four-stringed violin.27 Howard Mayer Brown writes that Jambe de Fer ‘briefly described the ranges, tunings, fingerings and playing techniques of the flute, the recorder, the viola da gamba and the violin. With its woodcut illustrations and charts the book is a rare and invaluable source of information. He was the earliest author to treat the violin at such length, and the only one to draw a comparison between Italian and French practices who provides

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26 Agricola, 1545, 48r/v and 51r.
27 Philibert Jambe de Fer, L’Epitome musical, Lyons, 1556.
insight into national differences." Jambe de Fer’s original French seems very difficult to understand. However, here follows an English translation of his section about tuning:

Firstly, the violin is different from the viol. It has only four strings. They are tuned fifths apart and on each string there are four notes, so much so that it has as many notes with four strings, as the viol has with five strings. Its shape/body is smaller, flatter and it has a rougher/harsher sound. The touch is exiguous, because the fingers nearly touch each other from one note to the next, ‘everywhere they land’ (literally ‘on all parts’). The tuning of the instrument is done in unison. The “dessus” is tuned from the bottom string (open string), the “bas” is tuned from the chanterelle (open string), the “taille” and “haute-contre” are tuned from the second string from the bottom, next to the bourdon, and they call it G sol re ut... 

As the French used to call the top string of the violin chanterelle and the bottom string bourdon, we may assume the following interpretation of de Fer's text: All instruments have four strings, all of which are tuned in fifths. The fixed point is the bottom string of the dessus (violin), which is the note g (G sol re ut). The top string of the bass has to be in unison with the bottom string of the violin. The second string(s) from the bottom on the alto and tenor have to be tuned to the same note; that is again to g. Therefore, using English pitch terminology and going from bottom upwards, Jambe de Fer gives the following tuning for members of the violin family:

Dessus: g d' a' e''
Taille, haute-contre: c g d'a'
Basse: BB♭ F c g

It is puzzling why haute-contre (alto) and taille (tenor) should have been tuned the same way. This could have happened only if the two instruments were of the same size and used strings of the same thickness. But if they were so similar, was there no difference between them? Perhaps the c g d' a’ tuned instrument was sometimes called haute-contre (alto) but some other times taille (tenor). On the other hand, it is not beyond possibility that Jambe de Fer was inaccurate in his report and, therefore, on the taille (tenor) the third string – not the second – from the bottom was in unison with the note g. In such a scenario the tuning of the tenor would be F-c-g-d' thus completing the pattern of fifths in all directions (that is, vertically as well as horizontally):

Dessus: g d' a' e''
Haute-contre: c g d' a'
Taille: F c g d'
Basse: BB♭ F c g

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29 Jambe de Fer, L’Epitome, 58; trans.Tatiana Andonovski.
While the F-c-g-d’ instrument is conspicuous by its absence in the middle of the 16th century in Jambe de Fer’s French thesis, 36 years later it is specified in Italy. Lodovico Zacconi (1555-1627) deals with the tunings of instruments on the last two pages of his Italian thesis.\textsuperscript{30} He lists a great many instruments and their tunings. Guidonian note names are used but, in Zacconi’s Italian text, they are difficult to decipher:

\begin{quote}
But the Viole da braccio, as they are tuned according to the Violin's order (and the Violin is tuned from fifth to fifth), will keep this order: first, as for tuning the Soprano’s lowest string in Unison with the Soprano of the Basso; and this Soprano of the Basso has to be the second string of the Tenor among the highest strings; in this way, the Tenor with all the other Viole di mezzo will form these voices from A la mi re to F fa ut out of the Mano; and the Basso, as it is tuned with the soprano, will form the lowest sound that it can form (referring to the Viole ordinarie [standard viole] that will be that of B fa b mi basso up to D la sol re. In this way, you will have not only the broadest natural range [tutta la possibilità natural] of the stable and mobile sound instruments [strumenti di suono stabile e mobile] but you will also have all the sounds that they can produce.\textsuperscript{31}
\end{quote}

As Zacconi’s text seems very difficult to decipher, an alternative translation might be useful. 50 years ago Boyden offered the following interpretation of Zacconi’s viole da braccio instruments:

\begin{quote}
But the viole da braccio, because they are tuned in the order of the violin, and the violin is tuned by fifths, conform to this order, first to tune the lowest string of the soprano [soprano viola da braccio] in unison with the soprano [string: highest string] of the Basso [viola da braccio] and the soprano [string] of the Basso has to be in [unison with] the second string of the Tenor among the highest strings [i.e. “second” down from the highest string] in such a way that the Tenor with all the other “violas in the middle” will form the range [voci] a’ – F beyond the beginning of the hand [i.e. the “Guidonian hand”, whose lowest note was G]; and the Bass [viola da braccio] because it is tuned to the lowest note that can be played by the soprano [da braccio] (speaking of the ordinary viole) will have the range from BB-flat – d’).\textsuperscript{32}
\end{quote}

The bottom string of the basso in Zacconi’s text is BB♭. As the four strings are tuned in fifths, the basso is tuned to BB♭-F-c-g. The soprano instrument’s bottom string must be in unison with the top string of the basso (which is the note g), therefore, going up from its bottom string, the soprano is tuned to g-d’-a’-e”. On the tenore the second string from the top must be in unison with the top string of the basso (the note g), so the tenore is tuned F-c-g-d’. (Zacconi refers to this F note by specifying the ‘F fa ut out of the Mano’ for the tenor). As some of the violas in the middle (Viole di mezzo) reach the note a’ (A la mi re), there may be at least one instrument tuned to c-g-d’-a’. Zacconi also mentions that ‘i violini ascendano fino à 17 voci, incominciando da C fa ut, fino in A la mi re’. In Boyden’s translation this means

\begin{itemize}
\item \textsuperscript{30} Lodovico Zacconi, \textit{Prattica di musica}, Venice, 1592, 218r/v.
\item \textsuperscript{31} Trans. Marina Romani.
\item \textsuperscript{32} David Boyden, ‘Monteverdi’s Violini Piccoli alla Francese and Viole de Brazzo’, \textit{AM}, vi, 1958, 398-9.
\end{itemize}
that ‘the violins ascend through 17 notes, commencing from c and ending in a’. As the bottom string is C fa ut (the note c) and the top string is A la mi re (the note a’), it is likely that here Zacconi is referring to the viola which is tuned to c-g’-d’. Zacconi’s text includes four sets of tuning:

- **G d’ a’ e’**  Sopran
- **C g d’ a’**  Mezzo
- **F c g d’**  Tenore
- **BB♭ F c g**  Basso

In addition to his text, Zacconi notates several sets of tunings (for a variety of instruments) on eleven-line staves. The notation for the bottom open strings includes the note g for Violini, the note c for Canto and the note F for Viole Canto. The notated g is clearly for the violin, while the c-tuned Canto and the F-tuned Viole Canto might indicate the viola and the tenor of the violin family. From the combination of his text and notation it seems safe to conclude that Zacconi’s tuning for members of the four-stringed violin family is as follows:

- **G d’ a’ e’** violin
- **C g d’ a’** viola
- **F c g d’** tenor
- **BB♭ F c g** cello

The interpretation of Zacconi’s text and of his somewhat arbitrary notation/specification might be open to variations, but, as shown above, Zacconi’s F-tuned tenor seems indisputable. His tuning instructions imply this instrument and his notated F for the bottom string of the Viole Canto may also refer to it.

Adriano Banchieri (1568-1634) specifies the G-d-a-e’ instrument, which – tuned one tone higher than Zacconi’s F-c-g-d’ tenor – evidently creates the interval of an octave between the g-d-a’e’ strings of the violin and its tenor/bass sibling. Although Banchieri writes about the organ, he discusses a variety of topics and thus allows us an insight into Italian musical practice of the early 17th century. Banchieri mentions his Mass for four choirs, in which – among other instruments – he used three violini da braccio and a tenor (voice). Unfortunately, Banchieri does not specify which members of the violin family he used here. However, he lists all gut stringed instruments which are tuned to the organ and harpsichord, and specifies their tunings. Among the (ten) instruments mentioned, he includes the six-stringed viol family with four members and the four-stringed violin family with three members.

-presumably, these three violins were used in the Mass mentioned above.

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33 Adriano Banchieri, *Conclusioni nel suono dell’ organo*, Bologna, 1609, 55.
34 Ibid., 49-55.
Banchieri starts his Violini da braccio con quattro (violins with four strings) with the bass:

**PRIMO VIOLINO PER IL BASSO.**
(first violin, that is bass)
1 Basso con G. graue.
2 Tenore D. graue.
3 Mezana con A. acuto.
4 Canto con E. acuto.

**SECONDO VIOLINO ACCORDATO.**
con i’ terzo seruendo amendui per tenore, & alto.
(Second violin, tuned with the third violin; serving tenor and alto)
1 Basso con D. graue.
2 Tenore con G. acuto.
3 Mezana con D. acuto.
4 Canto con A. sopracuto.

**ULTIMO VIOLINO PER IL CANTO.**
(last violin, that is soprano)
1 Basso con G acuto.
2 Tenore con D. acuto.
3 Mezana con A sopracuto.
4 Canto con E. acutissimo.

It is tempting to assume that the D. graue for the bottom string of the second violin/viola is an error instead of C. graue: the D. graue breaks the pattern of fifths. In his English translation Garrett shows the note c for the bottom string of the second violin and viola.\(^{35}\) Maybe he assumed that the note d was a mistake, or perhaps he saw the 1626 re-print of the work where the note c may be specified. However, this later version was not available for our examination. As shown above, Banchieri shows his bass exactly one octave below the violin.

His specification for tuning may be translated as follows:

Bass: G d a e’
Second violin and viola: d g d’ a’
First violin: g d’ a’ e”

In 1611 Banchieri keeps his earlier (1609) tuning, but this time he notates on staves – thus leaving no doubt about the pitches (including the note d for the bottom string of the second violin and viola) – and his terminology changes as follows\(^{36}\):

Concerto di violette da Brazzo (Family of Violins):

Prima Violetta, Basso
Seconda & 3. Violette, Tenor and Alto
Violino In Concerto et solo

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Notwithstanding Garrett’s correction mentioned above, Banchieri shows the bottom string of the second violin/viola as the note d both in 1609 and 1611, thus the mystery of this tuning prevails.

Although a contemporary of Banchieri, in his Spanish treatise the Italian Pietro Cerone (1566-1625) seems to echo Lanfranco’s tuning of the fretless violin from some 80 years earlier.\textsuperscript{37} In his chapter ‘Del modo de templar la vihuela de braço, y sin trastes’ (Tuning the fretless violins) Cerone tells us about three instruments – Tiple, Tenor and Baxo – all of which are tuned in fifths.\textsuperscript{38} The Tiple and Tenor have only three strings, but the Baxo has four. Like Lanfranco, Cerone does not specify pitches. However, the Tenor is a fifth below the Tiple and the Baxo is two fifths below the Tenor. If we take the bottom string of the Tiple as the note g, Cerone’s tuning (from the bottom string upwards) is as follows:

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Bottom String</th>
<th>Fourth String</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tiple</td>
<td>g</td>
<td>d’</td>
</tr>
<tr>
<td>Tenor</td>
<td>c</td>
<td>g</td>
</tr>
<tr>
<td>Baxo</td>
<td>BB♭</td>
<td>F</td>
</tr>
</tbody>
</table>

Cerone’s tuning seems to be identical with that of Lanfranco, yet – as shown in the intervening years by Jambe de Fer, Zacconi and Banchieri – the four-stringed violin family has clearly emerged (in France and Italy) by the time Cerone’s thesis was published. It is tempting to assume that Cerone might have paraphrased Lanfranco’s Italian text in his Spanish thesis. It is possible that, after a period of 80 years, Lanfranco’s ideas had spread from Brescia (Lanfranco) to Naples (Cerone). Indeed, we know for certain that, by 1592, Lanfranco was known in Pesaro and Venice, as Zacconi mentions him in \textit{Prattica di musica}:

\begin{quote}
... De gl’altri Instrumenti poi come le Viole tanto da braccio come da gambe, Violini: & altri, si puo guardar nel fin del libro di Gio: Maria Lanfranco, il quale distintamente insegna come ciaschedun s’accorda...
\end{quote}

\textsuperscript{39}...of other instruments like violas da braccio and da gamba, violins and others, you can look at the end of Gio Maria Lanfranco's book who clearly teaches how to tune each of these instruments...\textsuperscript{40}

Cerone explains that he does not provide any clef that indicates fixed pitches, because he wants musicians and singers to choose comfortable registers for themselves.\textsuperscript{41} As in Lanfranco’s treatise, the instrument tuned a fifth above the bass – which would be based on F in the Cerone set above – is conspicuous by its absence.

\begin{flushright}
\textsuperscript{37} Pietro Cerone, \textit{El melopeo y maestro, tractado de musica theorica y practica}, Naples, 1613.  
\textsuperscript{38} Ibid., ii, 1057-58.  
\textsuperscript{39} Zacconi, 217v.  
\textsuperscript{40} Trans. Barbara Corrias.  
\textsuperscript{41} Cerone, ii, 1057. I am indebted to Xavier Díaz-Latorre (eminent lute player and chamber music partner of Jordi Savall) for approving my understanding of Cerone’s text; email correspondence, January 2010. 
\end{flushright}
Michael Praetorius (1571-1621) is clear about the F-based four-stringed instrument. The second volume of his *Syntagma musicum* deals with instruments of the day and it includes a set of illustrations – consisting of 42 plates – as *Theatrum instrumentorum*. Praetorius presents the tunings of instruments: those for the gamba and violin families are shown on pages 25 and 26 respectively. There are two possibilities for the tuning of the Baβ Viol de Braccio (of the violin family): C-G-d-a and F-c-g-d'. The Groß Quint-Baβ is tuned to FF-C-G-d-a, the Tenor Viol [de Braccio] to c-g-d'-a' and the violin to g-d'-a'-e". Praetorius shows his tuning specifications on staves with the appropriate clefs.

As seen, the violin family in Praetorius’s Germany includes an F-based bass, which may be regarded as a tenor elsewhere. It is of note that Praetorius’s C-G-d-a and F-c-g-d' instruments appear under the same name (of Baβ Viol de Braccio). This shared name could explain why later composers would specify the cello for their compositions when – in reality – they had the F- or G-based instrument in mind. The Groß Quint-Baβ tuned to FF-C-G-d-a is of interest inasmuch as its tuning is the logical downward extension from the C-G-d-a Bass Viol de Braccio but it seems to have disappeared from use. Praetorius deals comprehensively with the instruments of the day but he allocates less space to those instruments which are well known (in his time). Unfortunately for today’s researcher, the fifth-tuned violin family is given no more than short shrift. Praetorius allocates only thirteen lines – constituting an entire chapter – to the Violn de Bracio [sic], otherwise to the Vivola, Viola de bracio and Violino da brazzo which are fiddles (Fiddel) held on the arm. Below follow the thirteen lines constituting Praetorius’s entire chapter on the violin family:


In Harold Blumenfeld’s translation:

The Viol da Braccio, or Violino da Brazzo, is also called Violin and is named Fiddle by the common folk. It is named da braccio because it is held on the arm.

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43 Ibid., 48.
The bass, tenor and discant of this instrument (the last of which is also called violino, violetta picciola and rebeccino) all have four strings, and the very small violin (called pochette in French – see plate XVI) has three. All these strings are tuned in fifths. Since everyone is familiar with these instruments it is unnecessary to deal further with them here. When brass and steel strings are used on these instruments they produce a softer and lovelier tone than with other strings. The various kinds of these instruments are to be found on plate XXI and also in the foregoing table.\textsuperscript{44}

Praetorius takes it for granted that everybody knows the violin family, and therefore there is no need to write about them. Nevertheless, his F-c-g-d' Baß Viol de Braccio (presumably playing bass) is clearly specified.

The F-c-g-d' instrument (this time as a tenor) appears again clearly in another German treatise of the time. In the Appendix of his singing manual Daniel Hizler/Hitzler (1576-1635) describes the notes on certain keyboard and stringed instruments.\textsuperscript{45} He includes the organ, keyboard (Clavier), lute and some of the fretted/non-fretted bowed instruments.

In Hizler/Hitzler’s staff notation the violins are tuned as follows:\textsuperscript{46}

| Discant-Geigen:       | g d’ a’ e” |
| Die Alt-Geigen:      | c g d’ a’ |
| Die Tenor-Geigen:    | F c g d’ |
| Bass-Geigen:         | C F c g |

The notation for the bass instrument may include an error, as the lowest note C breaks the pattern of fifths horizontally as well as vertically: the notated C might have been intended as BB♭. However, the F-based tenor instrument is indisputable. (See Appendix 1b.) Neither Praetorius nor Hizler/Hitzler includes a G-tuned tenor. Yet by their time, there is evidence of this version in Germany: a Cassel Court inventory, dated 1613, lists ‘Eine grosse Tenorgeige mit 4 Seitten aus dem G oder F unden gestimmet’ (One large tenor violin with 4 strings, tuned upwards from low G or F).\textsuperscript{47}

According to Boyden, in Harmonie universelle Marin Mersenne (1588-1648) provides the following tuning for his stringed instruments:\textsuperscript{48}

| Dessus:               | g d’ a’ e” |
| Quinte or Cinquiesme: | c g d’ a’ |
| Haute-contre:         | c g d’ a’ |

\textsuperscript{45} Daniel Hizler/Hitzler, Extract aus der Neuen Musica oder Singkunst, Nuremberg, 1623, 72-85. The author’s name is shown as Hizler on the title page (see Appendix 1a.); elsewhere the spelling is Hitzler (NGDMM, 2001, xi, 563; MGG, Personenteil, 2003, ix, column 70).
\textsuperscript{46} Hizler/Hitzler, 81-5.
\textsuperscript{47} Ernst Zulauf, ‘Beiträge zu Geschichte der Landgräflich – Hessischen Hofkapelle zu Cassel bis auf die Zeit Moritz des Gelehrten’, Ph.D. diss., Cassel, 1902, 117.
Elsewhere Boyden gives a simpler version of his understanding of Mersenne:49

Dessus: 

The “three parts of the middle”:

Basse: 

Boyden’s interpretation does not seem to have been challenged, but arguably a different reading of the original50 might also be considered. Deciphering Mersenne’s text and illustrations can be difficult as clarity is sometimes blurred by some minor errors/omissions.

Nevertheless, Mersenne’s violins are tuned in fifths and there are at least four (although often more) instruments with at least four (although often more) sets of tunings. The four instruments specified as members of the violin family are the bass (Basse), the contratenor (Haute-contre), the alto (Taille), and the treble (Dessus). This specification appears already with the first tuning chart, showing BB♭-F-c-g, F-c-g-d’, c-g-d’-a’ and g-d’-a’-e” tunings.51 It is reasonable to assume that – contrary to Boyden’s interpretation – the F tuning represents one of Mersenne’s instruments. Some of Mersenne’s staff-notation (as well as his Guidonian notation) could be misinterpreted, as several of his pitches seem to appear in the wrong octave.52 However, Mersenne remarks that ‘it is necessary to locate the clefs and the notes according to the disposition of the practitioners, who do not place them as we have done in the preceding figures, although it all comes to the same thing.’53 Mersenne specifies the regular lowest string as three fifths below the treble’s open g54 and, as already seen, he indicates BB♭-F-c-g, F-c-g-d’, c-g-d’-a’ and g-d’-a’-e” tunings (although in some of his examples he erroneously omits the flat sign for his bottom note). These notes ‘show the range of all the parts which serve in the concerts, and which compose the family of violins, that is the bass (Basse), the contratenor (Haute-contre), the alto (Taille), and the treble (Dessus), to which it is customary to add a fifth part’.55 So while Mersenne notates four sets of regular tunings and specifies four instruments, his ‘customary fifth part’ is not clarified. However, although not notating on a staff, Mersenne specifies a fifth set of tunings: EE♭-BB♭-F-c. This addition is a fifth below the Basse and would provide a sixth part to the customary fifth ‘if

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50 Marin Mersenne, Harmonie universelle, iii, Traité des instruments à chordes, Paris, 1636.
52 Ibid., 178, 184 / 236, 243.
53 Ibid., 185 / 244.
54 Ibid., 185 / 242.
55 Ibid., 179 / 237.
one were to add a sixth part a fifth lower for a second bass, in the Lorraine fashion’.

Mersenne adds that ‘these seven fifths form a twenty-ninth, that is to say four octaves, so that the violins have as much of a range as the keyboard of the spinets and organ’.

Elsewhere, Mersenne’s tuning shows eight fifths: this time expanding the top end of the range. But he then reverts to seven fifths (notating the flat sign for his bottom note correctly, although mistakenly notating the note c" instead of the note b" at the top end). Variations and errors notwithstanding, F-tuning within the violin family is constant throughout. Mersenne refers to the ‘24 Violons du Roy’ (the Twenty-four Violins of the King). It is, therefore, likely that this orchestra – at least at that time – included the F-tuned tenor violin.

Mersenne writes:

> Or il faut remarquer que les parties du milieu, c’est à dire la Taille, la Cinquiesme partie, & la Haute-contre sont de differente grandeurs, quoy qu’elles soient toutes à l’unisson…

In Chapman’s translation:

> Now it must be noted that the parts of the middle, that is to say, the alto, the fifth part, and the contra-tenor are of different sizes, even though they are in unison...

Arguably, Mersenne might have referred to playing in unison rather than being tuned in unison. It is significant that Mersenne does not specify the c-g-d’-a' tuning in connection with the parts of the middle although the contratenor (Haute-contre) from his four basic instruments is likely to correspond with the c-g-d’-a’ tuning in his chart. We may assume that – in accordance with Mersenne’s tuning charts – one or two of these middle parts would have been tuned to the note c. However, it is tempting to speculate that – contrary to the assumed combination of one violin, three violas and cello/bass – Mersenne’s five-instrument ensemble might have (at least at times) consisted of one violin, two violas (one being the unnamed fifth part), tenor and cello/bass or one violin, one viola, two tenors (one being the unnamed fifth part) and cello/bass. Mersenne suggests that a 24-piece violin ensemble should consist of six trebles, six basses, four contratenors, four altos and four of the fifth part. The measurements specified by Mersenne make it unlikely that ‘the parts of the middle, that is to say the alto, the fifth part, and the contra-tenor’ would have had identical tuning. It is of note that Mersenne is specific about the difference in sizes: ‘...if the surface of the contra-tenor [Haute-contre] is

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56 Ibid.
57 Ibid., 184 / 243.
58 Ibid., 185 / 244.
59 Ibid., 177, 184, 189 / 235, 242, 244.
60 Mersenne, 180.
61 Chapman, 238.
62 Mersenne 185 / Chapman 244.
63 Ibid., 180 / 238.
to that of the treble as nine is to four, that is to say, double sesquiquartal, and their bodies are in the same ratio as 27 to 8, that is to say, triple sesqui-octaval, the surface of the alto (Taille) ought to be to that of the treble as four to one, so that their volumes would be as 8 to 1, that is to say octuple.\footnote{Ibid.}

According to this specification, the Haute-contre is half the size of the Taille instrument. Considering Mersenne’s specifications, description and tuning charts it seems highly likely that the Haute-contre was a c-tuned viola while the Taille was an F-based instrument.\footnote{Ibid., 178-9 / 236-7.} Thus Boyden’s interpretation that Mersenne suggests c-g-d’-a’ tuning for the ‘three parts of the middle’ is inexplicable.

We do not know, if Athanasius Kircher (c.1602-1680) was aware of Banchieri’s works of 1609 and 1611. At any event, Banchieri and Kircher were the only 17th-century theorists who clearly demonstrated the existence of the G-d-a-e' tenor/bass instrument. Kircher’s work is in two volumes, containing books 1-7 and 8-10 respectively.\footnote{Athanasius Kircher, \textit{Musurgia universalis}. Rome, 1650.} According to the table of contents, book 5 of the first volume deals with musical instruments. However, they are included in book 6. Among other discussions, topics include Vicentini, Sabbatini and lutes/guitars/cythers. When briefly discussing bowed stringed instruments, a set of seven pictures includes, among others, a violin and an instrument named Violone with the clearly specified G-d-a-e’ tuning.\footnote{Kircher, fol. 487. (Iconismus VIII.).} There is no ambiguity as Kircher notates his specified pitches on a seven-line staff in the bass clef. The bottom line clearly indicates the G string, while the top line specifies the e’ string. The set of pictures is followed by \textit{Symphonia pro chelybus omnibus numeris absolutissima, à 4.}\footnote{This composition, presumably by Kircher, is discussed in Chapter 4.}

In 1694 Bartolomeo Bismantova (before 1675-after 1694) specifies tuning for what he calls the violoncello da spalla (as well as the violoncello da spalla alla moderna).\footnote{Bartolomeo Bismantova, \textit{Compendio musicale}. MS, 1677/revised 1694, 119.} Bismantova presents his tuning in a hand-written chart in tablature (with names of strings and with fingering for pitches) as well as on the five-line stave in the bass (F) clef. On his chart the bottom string is specified as tuned to D but Bismantova comments that it could go down to C. In modern terminology Bismantova’s five-line notation shows D G d a tuning. In fact, on his chart Bismantova specifies the strings as D la sol re Basso, G sol re ut Tenore, D la sol re Alto and A la mi re Canto. This terminology seems to be inaccurate in terms of Guidonian notation, making the bottom string two octaves too high and the two middle strings one
octave too high (although the Basso, Tenore, Alto and Canto qualifications may determine the accurate pitches). However, the five-line notation in the bass (F) clef is crystal clear, specifying D-G-d-a tuning, hence there is no doubt about the notated sounds (which are exactly one octave below Banchieri’s tuning for the second violin and viola).

Unfortunately, the greatly respected English publisher John Playford (1623-1687) says very little about tuning the instruments of the violin family. Furthermore, what he says includes errors. Yet An Introduction to the Skill of Musick was ‘immensely influential for 100 years or more’ and ‘its theoretical sections were copied or cited in numerous later treatises’. My survey of all but the 1697 and 1730 re-prints of this work indicates that Playford might have been familiar with the violin, but not with other members of the violin family. In 1655 Playford writes that ‘The bass violin is tuned eight notes lower than the treble violin is, and is tuned in fifths, in the same manner, his first string is A la mi re, the second string is D la sol re, the third is Gam ut, the fourth is Double C fa ut.’ Presumably, Playford here means the viola – often called tenor violin – rather than the treble violin, as his tuning for the bass violin (which translates to a-d-G-C) is one octave below that of the a'-d'-g-c viola (tenor violin). Playford’s specification for the second string of the bass violin is wrong: it should be D sol re (and not D la sol re which is an octave higher and translates to the note d'). He correctly specifies the treble (that is, violin) tuning as G sol re ut, D la sol re, A la mi re, E la (g-d'-a'-e'). In 1667 and 1670 Playford provides three viol tunings (treble, tenor, bass) but gives only one tuning (g-d'-a'-e") for the violin family because he deals only with the treble violin. But, of course, violas and cellos did exist by then, even if Playford did not mention them. Surprisingly, the 1674 and 1679 re-prints still mention only the treble violin tuning. But by 1683 Playford includes three members of the violin family. The treble violin keeps its tuning, the tenor violin (that is, the viola) is tuned to C fa ut, G sol re ut, D la sol re, A la mi re (that is, to c-g-d'-a' as in 1655) and the bass member of the family apparently to BB mi, FF fa ut, C fa ut, G sol re ut (that is, to BB-F-c-g). In other words, contrary to his bass violin tuning (of C-G-d-a) in 1655, Playford here specifies the BBb based version but incorrectly, as his BB mi should be BB fa.

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70 Margaret Dean-Smith/Nicholas Temperley, ‘Playford’, NGDMM, 2001, xix, 912.
71 Published under three titles: A Breefe Introduction to the Skill of Musick (1654), An Introduction to the Skill of Musick (1655; reprints 1672, 1674, 1679, 1683, 1687, 1694, 1697, 1700, 1703, 1713, 1718, 1724, 1730) and Brief Introduction to the Skill of Musick (1658; reprints 1660, 1662, 1664, 1666, 1667, 1670).
72 Playford, 1655, 55.
73 Ibid.
74 Playford, 1667, 81-2; 1670, 82.
75 Playford, 1674, 112-13; 1679, 110-11.
76 Playford, 1683, 107-8.
Let us now look at our available evidence, that is at specified tunings, arguably implied tunings and the mixture of the two. In my tables below the names of authors and the titles of their cited works appear in shortened forms. Place refers to places of publication of the cited works.

Table 1: Tunings specified between 1529 and 1694

<table>
<thead>
<tr>
<th>Tuning</th>
<th>Term</th>
<th>Author</th>
<th>Title</th>
<th>Place</th>
<th>Date</th>
</tr>
</thead>
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<td>Musica</td>
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Table 2: Tunings implied between 1533 and 1613

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Table 3: Tunings specified as well as implied between 1556 and 1683

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<tr>
<td>[Fcg'd']</td>
<td>Bass</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As seen above, F/G-based tunings are clearly specified by Agricola, Ganassi, Zacconi, Banchieri, Praetorius, Hizler/Hitzler, and Kircher. Furthermore, as shown in my preceding survey, the F-based tuning within the violin family is also clearly specified by Mersenne although he does not allocate this tuning to any particular instrument. (Similarly, he does not specify any instrument for his c-g-d'-a' tuning). The F-based tenor instrument is conspicuous by its absence in Lanfranco, Cerone, Jambe de Fer and Playford as their tuning pattern of fifths is broken by this absence. As seen, tunings specified by theorists were not unified. Let us now investigate if their use of terminology was more homogeneous.

2.1.c: Terminology in the Renaissance and Baroque periods

A further examination of the Renaissance and Baroque periods may demonstrate the extent of confusion which surrounded terminology. The F/G tuned member of the violin family surfaced in a variety of names in theoretical writings. In my table below the names of authors and titles are shortened; place refers to places of publication.

Table 4: Terminology for F/G tuned instruments between 1592 and 1650

<table>
<thead>
<tr>
<th>Term</th>
<th>Tuning</th>
<th>Author</th>
<th>Title</th>
<th>Place</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tenor Viole da braccio</td>
<td>Fcg'd'</td>
<td>Zacconi</td>
<td>Prattica</td>
<td>Venice</td>
<td>1592</td>
</tr>
<tr>
<td>Bass-Geig de Braccio</td>
<td>Fcg'd'</td>
<td>Praetorius</td>
<td>Syntagma</td>
<td>Wolfenbüttel</td>
<td>1619</td>
</tr>
<tr>
<td>Tenor-Geige</td>
<td>Fcg'd'</td>
<td>Hizler</td>
<td>Extract</td>
<td>Nuremberg</td>
<td>1623</td>
</tr>
<tr>
<td>Primo violino per il basso</td>
<td>Gdae'</td>
<td>Banchieri</td>
<td>Conclusioni</td>
<td>Bologna</td>
<td>1609</td>
</tr>
<tr>
<td>Prima violetta basso</td>
<td>Gdae'</td>
<td>Banchieri</td>
<td>L'organo</td>
<td>Venice</td>
<td>1611</td>
</tr>
<tr>
<td>Violone</td>
<td>Gdae'</td>
<td>Kircher</td>
<td>Musurgia</td>
<td>Rome</td>
<td>1650</td>
</tr>
</tbody>
</table>

As seen above, in theoretical writings the F/G-tuned instrument had at least two names in Germany (Bass-Geig de Braccio, Tenor-Geige) and at least four names in Italy (Tenor Viole da braccio, Primo violino per il basso, Prima violetta basso, Violone) within just fifty years. Confusion was not restricted only to these two countries and only to these fifty years. Let us examine the problem thoroughly.
During the period under examination the terminology for members of the violin family appears to have varied from country to country, town to town, time to time and from theorist to theorist. Indeed, theorists sometimes used different terminology for the same instrument in their own work. Banchieri’s Primo violino per il basso (1609) is identical with his Prima Violetta, Basso (1611). Praetorius (1619) reports about the Discantgeig (and mentions that it is also called Violino or Violetta picciola but also Rebecchino) and about the ‘gar kleinen Geiglein’ (which, he adds, is often called Französisch Pochetto). In his tuning specification Praetorius mentions Groß Quint-Baß but in his ‘Sciagraphia’ (Illustrations) the same instrument appears under Bas-Geig de bracio.

Boyden suggests that, by the mid-16th century, in Germany the term ‘grosse Geigen’ (big violins) meant the viol family, while ‘kleine Geigen’ (small violins) referred to rebecs or early violins. In 1529 Agricola explains how to tune the Discantus, Altus, Tenor and Bassus instruments of the ‘grosse Geigen’, while his pictures show four-stringed fretted instruments, with rosettes, of the viol family. On the other hand, his ‘kleine Geigen’ show three-stringed unfretted rebecs. In 1545, too, Agricola first discusses (and illustrates) Geigen as fretted, viol-type instruments, but later he presents his ‘Vier kleine Geigen one bünde / und mit dreien Seiten’ (four small violins without frets and with three strings) – that is, rebecs or early violins. In 1532 Gerle presents Discant, Tenor, Alt and Bass Geignlenn (calling them also Geygen and Geigen) with illustrations of fretted instruments but refers to ‘klynen Geyglen’ when discussing the unfretted violins.

Among German treatises there is no known reference to the terminology of stringed instruments in the second half of the 16th century. However, according to Boyden, ‘by Praetorius’s time (1619) Geigen is used alone as a synonym for viola da braccio, or violins; and grosse Geigen had been displaced by the term viole da gamba or Violen’. It is of note that in Praetorius’s Fidicinia instrumenta the title words of the actual first chapter – Violen, Geigen/Violuntzen – appear to distinguish between the two types of instruments. But, in his

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77 Banchieri, 1609, 55; 1611, 97. In both cases Banchieri specifies G-d-a-e’ tuning.
78 Praetorius, 48.
79 Ibid., 26 and plate XXI.
81 Agricola, 1529, 46v.
82 Ibid., 55v-56r.
83 Agricola, 1545, 39v and 48r/v.
84 Gerle; four-stringed Geignlenn: Hiii, five and six-stringed examples: Aiii.
85 Ibid., Hii/v.
87 Praetorius, 43.
subsequent text, Praetorius seems to imply only one type as he does not distinguish between fretted and non-fretted instruments and focuses mainly on the viols. Nevertheless, describing two sizes of instruments, Praetorius writes:

The viol da gamba is so called because it is held between the two legs... Because the viols da gamba are much the larger and have longer necks and strings, they produce a far lovelier sound than the viol da braccio, held on the arm. Musicians differentiate between these two types of instruments by calling the viols da gamba simply viols and the viols da braccio, violins – or Polish fiddles...

So Praetorius’s terminology differentiates according to the size and the manner of holding an instrument. On the other hand, in 1623 Hizler (Hitzler) describes fretted and non-fretted, and furthermore four-, five-, and six-stringed instruments (possibly including viols and violins) only as Geigen. (However, the Tenorgeige entry in a Cassel inventory of 1613 clearly indicates a member of the violin family.)

In 1650 Kircher pictures a small cello-like instrument which he calls Violone and for which he specifies the G-d-a-e' tuning under ‘L’accordo del Violone’ (The Tuning of the Violone). Kircher’s evidence is particularly important in understanding the likely reasons for the eventual disappearance of the G-tuned cello-type tenor violin. As in later centuries the violone implied a large bass instrument, the small tenor/bass instrument – clearly demonstrated by Kircher – could have been overlooked.

The inconsistency of terminology must have been particularly confusing in Italy. Drawing from printed music of the time and from archival records – which were primarily prepared by musicians – Stephen Bonta provides the following names for the 17th-century bass violin (which, as he believes, was tuned to C-G-d-a):

- **Large size:** basso di viola (Florence, c.1688), violone (from 1610, outside Venice), violone basso (Northern Europe), violone da brazzo, viola da brazzo (Venice, from 1663), viola (Venice, from 1644).
- **Small size:** bassetto (mainly Ferrara and Mantua, 1674-93), bassetto di viola (as bassetto), violetta (Chierici and Perti), violoncino (Bergamo, Bologna, Venice), violoncello, violonzino, violonzono.
- **Size undetermined:** basso viola da brazzo (Legrenzi), basso da brazzo (Buonamente), viola da braccio (Legrenzi), vivola da brazzo (Monteverdi), violone piccolo (Bergamo).

Later Bonta writes: ‘I have also sought to explain why the term *violone* might have been applied to two of the three known sizes of this early bass violin, one of them smaller, the other larger than the present-day cello. The smallest size, apparently the earliest to be so

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88 Ibid., 44.
89 Praetorius, trans. Blumenfeld, 44.
90 Hizler/Hitzler, 79-85.
91 See Chapter 3.2.a.
92 Kircher, fol. 487. (Iconismus VIII.).
named, was tuned either a 4\textsuperscript{th} or 5\textsuperscript{th} higher than the cello.\textsuperscript{94} (Bonta does not provide any evidence about these tunings but the instrument a ‘5\textsuperscript{th} higher than the cello’ was clearly shown, for instance, by Kircher.) Although it is not included in Bonta’s list, mention should be made of yet another name. As seen in our section on tunings,\textsuperscript{95} in 1694 Bismantova describes an instrument, possibly similar to those on Bonta’s list, as violoncello da spalla (with the alternative name of violoncello da spalla alla moderna).

Eleanor Selfridge-Field publishes archival records concerning musicians performing at the Basilica of San Marco, Venice.\textsuperscript{96} Depending on the date of registration, musicians appear with different instruments: it is possible that at different times different terminology was applied to the same instrument. Antonio Caldara is variously listed as the player of viola da spalla (29.4.1688; 6.2.1693), violoncino (15.2.1694) and contralto (16.1.1695; 22.7.1698) while Tonini is registered as player of the cello (19.1.1689) and the viola da spalla (11.1.1692).\textsuperscript{97}

In his 1722 \textit{Gabinetto armonico} – one of the principal documents for the history of 18\textsuperscript{th}-century musical instruments – Filippo Bonanni includes a picture which, judging by the size of the instrument and that of the man playing it, looks like a double bass. However, Bonanni presents it as a viola:

\begin{quote}
L’Imagine sequente é in atto di suonare un’Istromento simile nella figura al Violino, má per la grandezza, che há é nominate Viola. Il manico de esso é lungo la terza parte di tutto l’Istromento, ed há quattro corde come il Violino, má piú grosse assai; sicomme l’arco é molto piú lungo. Quando si suona si sostiene dal Pavimento nel modo qui espresso.\textsuperscript{98}
\end{quote}

(The instrument, shown on this picture, is similar in shape to the violin but because of its size it is called viola. The length of the neck takes up a third of the length of the whole instrument. As on the violin, there are four strings but they are thicker. The bow is much longer. As shown, when in playing position the instrument rests on the floor.)\textsuperscript{99}

So, according to Bonanni, the double bass (or violone) is similar to the violin but it is bigger and it is called viola. The description is not much clearer when, in 1729, the dictionary published by the distinguished \textit{Accademici della Crusca} defines the violone as a ‘Viola grande di tuono grave, che si dice anche Basso di viola, e Violoncello quando é di minor grandezza’. (A large low-pitched viola, which is also called basso di viola, and violoncello when of smaller size).\textsuperscript{100}

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\textsuperscript{95} Chapter 2.1.b.


\textsuperscript{97} Ibid., 304.

\textsuperscript{98} Filippo Bonanni/Buonanni, \textit{Gabinetto armonico}, Rome, 1723, plate LVI.

\textsuperscript{99} Trans. Marina Romani.

\textsuperscript{100} \textit{Vocabulario}, Florence, 1729, v (T-Z), 281.
Terminology can also be confusing when one needs to determine how an instrument was played. The word ‘braccio’ does not always determine arm position. Drawing from a great many sources, Howard Mayer Brown states that in the 16th and 17th centuries the viola da braccio was ‘a generic term for a bowed instrument played on the arm. ..This terminology was adopted even though the violoncello, the bass viola da braccio, is played between the knees’.\(^\text{101}\)

While discussing two types of bass violins (that is, small and large bass violins), Tharald Borgir suggests that the larger bass violin became the principal bowed bass instrument after the middle of the 17th century and that the small bass violin was recycled, and surfaced under new names such as bassetto and violoncello da spalla.\(^\text{102}\) These two names were indeed in use but – as seen in Bonta’s list – so were a multitude of other names. With such confusion over names, clearly terminology on its own is not sufficient to determine instruments, their playing modes and tunings. It is possible that Borgir’s small bass violin may have lived on well into the 18th century under a multitude of names and that by the mid-18th century it was generally referred to as the violoncello.

2.1.d Terminology in Classical and Modern periods

The earliest known use of the term ‘violoncello’ dates from 1665.\(^\text{103}\) Regarding this possibly seminal date, several questions arise. Do we call two identical (or very similar) instruments by two different names if one was made before 1665 while the other shortly afterwards? Do we use the English term ‘bass violin’ for pre-1665 instruments but the Italian word ‘violoncello’ for instruments made a few years later? Looking at available evidence, the situation is far from clear. In 1980 Klaus Marx explains that the violoncello is

> The bass instrument of the violin family. This fact is reflected in the compound terms by which it was originally known: ‘basso di viola da braccio’, ‘Bass-Klein-Geig’, ‘basse de violon’, ‘bass violin’. A distinctive name for it first emerged in mid-17th-century Italy, where it became known by a diminutive form of ‘violone’.\(^\text{104}\)

However, sharing the page with Marx’s specification, the illustration is titled as Violoncello with five strings from ‘Syntagma musicum’, ii (2/1619) by Praetorius. Does this contradiction mean that, although originally the pre-1665 instrument was specified as bass (of the violins), by now we can classify even Praetorius’s 1619 instrument as a violoncello? In 1984 Marx describes the bass instrument of the violin family similarly but adds that ‘The earliest known makers of instruments that would be recognised today as cellos were Andrea Amati (d. before


\(^{103}\) In: Giulio Cesare Arresti, \textit{Sonate Op.4}, Venice, 1665.

1580) of Cremona, Gasparo da Salò (1540-1609) of Brescia and his pupil Giovanni Paolo Maggini (c1581-c1632)." So should we call these early, pre-1665 instruments violoncellos?

In 2001 Bonta states that

In this article the term BASS VIOLIN will be used for the earliest forms of the instrument: not until the early years of the 18th century did the smaller model of cello become standard, and the name violoncello was adopted at about the same time. 106

Contradicting Bonta’s statement, an illustration on the following page shows a Violoncello with Five Strings: ‘Still-life with Musical Instruments’ by Pieter Claesz, 1623. 107 The date of the painting is well before the 1665 Arresti publication and certainly before ‘the early years of the 18th century’, which Bonta specifies as standard for the name violoncello.

If we accept the name ‘violoncello’ as the diminutive form of the violon, Bonta’s assumption – that the name ‘violoncello’ indicated a smaller size model from the early years of the 18th century – has merit. But was terminology so neatly confined in every country?

Referring to the name ‘violoncello’, Bonta states that ‘this newer term was soon generally accepted in Italy and Germany, and after 1700 in France and England, though the term ‘bassetl’ persisted in Austria during Haydn’s younger years’. 108 Ironically, in an earlier study, Bonta himself points out that although Corelli arrived in Bologna in 1666 – the year after the term ‘violoncello’ appears to have been coined by the Bolognese composer Arresti – Corelli continued to use the term ‘violone’ for the bass violin. 109

The great cellist Boccherini’s inventory of 26 April 1787 includes a Violon de Estayner and a Violon Chico. 110 As there are no violoncellos mentioned in his inventory, it is reasonable to assume that Boccherini referred to violoncellos when he specified the name ‘Violon’ for these two instruments in his inventory. Boccherini’s compositions include some 100 string quintets (scored for string quartet and a second cello), about ten cello concertos and over 30 cello sonatas. 111 It is unlikely that Boccherini did not have any cellos. Indeed, Christian Speck takes it for granted that the instruments referred to were cellos: ‘In a property inventory of 26 April 1787, he describes his two cellos as ‘un Violon de Estayner’ and ‘un Violon Chico’ (a small cello).’ 112 A seven-language dictionary for musical terms shows only

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107 Ibid., 746.
108 Ibid., 745.
112 Ibid.
violoncelo’ and ‘violonchelo’ for the Spanish form of violoncello. However, Spanish cellist and viol player (as well as Baroque specialist) Dr Patxi del Amo explains that ‘in an Iberian context, ‘Violon’ means any large, low-sounding stringed instrument. It is known to have been applied to cellos, basses and even viols in different places and at different times.’ So the German bass violin or violoncello by Stainer would be called neither a bass violin nor a violoncello in the hands of the Italian cellist Boccherini in 18th-century Spain. It would be called a ‘Violon’.

Bonta mentions that the term ‘bassetl’ was used for violoncellos in Austria. Did the name imply a smaller model or was the size irrelevant? Leopold Mozart refers to the ‘Bassel or Bassete’:

Bassel oder Bassete, welches man, nach dem italiänischen Violoncello, das Violoncell nennet. Vor Zeiten hatte as 5. Seyten; itz geigt man es nur mit vieren. Es ist das gemeinste Instrument den Baß damit zu spielen: und obwohl es einige etwas grössere, andere etwas kleinere giebt; so sind sie doch nur der Beseytung nach, folglich nur in der Stärke des Klanges, ein wenig von einander unterschieden. (Bassel or Bassete, which is called Violoncell after the Italian Violoncello. Earlier it had five strings, but now it has only four. It is usual to play the bass part on this instrument. Although some are larger, others smaller, they differ little from each other except, depending on their stringing, in the strength of their tone.)

Terminology, therefore, did not determine the size of Bassel, Bassete or Violoncello. Furthermore, the term ‘bass violin’ (Baßgeige or Paßgeige) also continued to be used in Austria. A Tirol inventory of 1717 mentions ‘Zwey Violoncello oder Paßgeigen’. While writing about a string quartet in 1782, Samuel Petri refers to the lowest instrument as ‘Bassgeige oder Violoncell’.

In Germany too, even in the late 18th century, terminology at times was contradictory. The 1786 instrument inventory of King Friedrich Wilhelm II of Prussia included one ‘Violoncello oder Paßgeige’. On the other hand, the Cöthen inventory (that is, Johann Sebastian Bach’s Kapelle) of 9 October 1773 includes, as No. 22, ‘Ein Violon cello von Jac: Steiner [sic] 1650’. Yet, arguably, such a pre-1665 instrument should have been called Bassgeige (or Paßgeige).

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113 Terminorum musicae index septem linguis redactus, Budapest, 1978, 634.
114 Email, August 2010.
115 Leopold Mozart, Versuch einer gründlichen Violinschule, Augsburg, 1756, 3.
117 Kurt and Anneliese Birsak, Gambe, Cello, Kontrabass und Katalog der Zupf- und Streichinstrumente im Carolino Augusteum, Salzburg, 1996, 47.
118 Senn/Roy, 185.
119 Rudolf Bunge, ‘Johann Sebastian Bachs Kapelle zu Cöthen und deren nachgelassene Instrumente’, BJb, ii (1905), 38. Steiner is most probably Jacob Stainer.
The term ‘violoncello’ might not have been clear to all in France. Investigating inventories in music schools, Florence Getréau presents a list (dated 1796) with 56 violons, 16 altos and 19 basses, one of which is a “faite d’une basse de viole” – possibly a hybrid instrument made from a bass viol – and one is a “de Lorraine”. So there is a bass viol/violin and a Lorraine double bass, but otherwise it is far from clear how many cellos and double basses are included among the 19 basses. However, by 1816 an inventory mentions ‘basse’ as well as ‘violoncelle’.

And how did the German composer/musician Pepusch define the violoncello in early 18th-century England? Item No. 6 in ‘A Catalogue of Instruments belonging to his Grace James Duke of Chandos’ is ‘A Violincello [sic] or Baβ Violin made by Mr Mears’. The inventory is dated August 23rd 1720 and is signed by Pepusch as follows: ‘All those instruments I have under my care, Aug the 23. 1720 J. C. Pepusch’. Perhaps Pepusch wanted to make sure that terminology was understood, one way (Violincello) or the other (Baβ Violin).

Examining British publications – including music, treatises, and dictionaries – Brenda Neece found that the name ‘bass violin’ was used frequently from c. 1670 to c. 1750. Furthermore, all evidence that she had examined suggested that early cellos made in Britain were smaller than what could be deemed as average. The earliest cellos Neece had studied had back lengths of 71.6 to 72.07 cm (thus smaller than the modern standard of 75 cm). It appears that the term ‘bass violin’ lived on in England at least to the middle of the 18th century and that the name had nothing to do with the size of the instrument.

As Darcy Kuronen’s 18th- and 19th-century examples (as well as her narrative) show, violoncellos in America – in period advertising and on the labels of most surviving examples – were called bass viols, although they had nothing to do with bass members of the viol family.

20th-century usage of terminology favours the word ‘violoncello’ regardless the seminal 1665 date. Schlosser specifies an instrument in the Vienna Kunsthistorisches

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120 As discussed in Chapter 2.1.b, Mersenne mentions a bass (‘in the Lorriane fashion’) tuned a fifth below the B♭-based bass.
122 Ibid., 62-63.
125 Ibid., 79-80.
Museum as a violoncello (rather than a Bassgeige) by Dorigo Spilmann, Padua, c. 1590. Lachmann comments on ‘violoncellos in the latter part of the 16th century’. Donington presents Talbot’s bass violin measurements under the heading of Violoncello. Christopher Bunting writes that ‘The violoncello first appeared in the sixteenth century’ and mentions violoncellos by Andrea Amati and Gasparo da Salò from that time. Describing a Florence collection, Gai specifies an instrument as a violoncello (rather than, for instance, basso viola da braccio or bassa di viola da braccio) by Nicola Amati, 1660, and a later presentation of the same Amati retains the violoncello description. Marcuse mentions ‘true celli made by Andrea Amati and his sons’, and Cowling refers to the same instruments as well as those made by Gasparo da Salò and Francesco Ruggeri (c. 1663) as violoncellos. While discussing surviving instruments by Andrea Amati (16th century), Witten writes about violoncellos in the specialist Early Music journal. Markevich comments that ‘the angel playing a primitive type of cello [in the Saronno fresco, c. 1536-36] is our best proof of the emergence of the cello before 1535. At the time the instrument was called bassa di viola da braccio, the name of the violin family having been viola da braccio. In 1993, the 20th-century usage of terminology is evidently challenged by Peter Holman who re-introduces the term ‘bass violin’ but allocates it to large instruments: ‘It [the C-G-d-a tuning] does not seem to have become common until the violoncello, a small version of the bass violin developed...’ Three years later Peter Trevelyan offers a fascinating insight into the muddle of terminology. When Trevelyan purchased his 1672 Baker instrument – about which more later – it was designated as a cello on account of having been modernised. The restoration (of neck, fingerboard, bass bars, bridge and scroll) included taking the profile of the neck from a Stradivari template inscribed as ‘Christina Visconti

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127 Julius Schlosser, Unsere Musikinstrumente: eine Einführung in ihre Geschichte, Vienna, 1922, table 13, No.38.
139 See Chapter 3.4.b.
1707’ and thus making an authentic neck. Did Stradivari make a small bass violin in 1707? Or was it a small, post-1665 violoncello? (After its restoration, carried out by John Dilworth, Trevelyan regarded his Baker instrument as a bass violin).

Dilworth himself writes about a ‘five-string cello’ by the Amati brothers from around 1620 and suggests that the instrument may be a violoncello piccolo.\textsuperscript{140} Does its small size influence Dilworth when he calls the instrument a ‘five-string cello’ (rather than a five-string bass violin)? Perhaps he believes that the instrument does not differ from violoncellos of later times.

The editor of \textit{The British Violin} might have tried to play it safe by mentioning two types or, perhaps on the contrary, might have wished to assert that one type of instrument may be described by two names: a reference is made to a William Baker instrument as ‘... a small-sized cello or bass violin of 1672...’.\textsuperscript{141} It is of note that this post-1665 instrument is small, therefore the implication is that the term ‘bass violin’ is not restricted either to large sizes or to pre-1665 times. In 2001 Lucy Robinson and Peter Holman re-visit Holman’s 1993 idea and – although initially stating that bass violins were made in several sizes (and ‘also made small enough to be played standing or walking’) – they appear to favour the notion that the violoncello is ‘a small variant of the bass violin’.\textsuperscript{142}

Interestingly, prior to this Robinson-Holman article, \textit{Grove} publications (including \textit{NGDMM}, 1980 and \textit{NGDMI}, 1984) had no bass violin entries. This term was included under entries for the violoncello. There is no entry for the bass violin – that is, for the Bassgeige – either in the 1949/51 or in the 1994 volume of \textit{MGG}. So until 2001, \textit{Grove} and \textit{MGG} entries appear to have assumed that the violoncello was the main tree, while the bass violin was a branch of the tree according to size or age. Robinson and Holman seem to have turned this round, possibly implying that the bass violin was the constant with the violoncello deriving from it. However, as they mention, there is also stringing to be considered. Indeed, earlier Stephen Bonta convincingly argued that the bass violin became the violoncello when manageable small-size bass violins were strung with thinly-covered or wire-wound strings.\textsuperscript{143} Until then, a bass violin had to be inconveniently large (with an appropriately long and thick bottom string) to produce an acceptable sound on its uncovered bottom string. Winding a gut string with metal meant that the density of the string increased and it was possible to have a

\begin{itemize}
\item \textsuperscript{141} Milnes, \textit{The British Violin}, 23.
\item \textsuperscript{142} Lucy Robinson/Peter Holman, ‘Bass Violin’, \textit{NGDMM}, 2001, ii, 896.
\item \textsuperscript{143} Bonta, ‘From Violone to Violoncello: A Question of Strings?’, \textit{JAMIS}, iii (1977).
\end{itemize}
good, rich bass tone on the lowest string of the instrument even if it was a manageable smaller size for solo playing.

The question of strings raises further questions. What do we call a small bass violin without a covered bottom string? Does it remain a bass violin? Did instruments change their names according to how they were strung on any particular day? Oliver Webber’s research shows that stringing was not universally similar in Baroque times.\textsuperscript{144} Response to covered strings and to the thickness of strings varied from country to country. The main part of Talbot’s manuscript mentions only gut strings for violins of all sizes,\textsuperscript{145} although the possible existence of strings wound with copper or silver is mentioned elsewhere among the Talbot papers.\textsuperscript{146} Indeed, overwound strings are referred to in England earlier than possibly anywhere else; mention is made in the Hartlib papers (1650s) and in an advertisement by Playford (1664).\textsuperscript{147} Webber believes that, in England, an overspun [overwound] string, a cello C, was seen for the first time on a portrait of Frederick, Prince of Wales, in 1733.\textsuperscript{148} It is hard to tell whether 1650, 1664 or 1733 would be the year which separates violoncellos from bass violins in England.

Returning to original Italian sources, should we really date the ‘little violon’ only from 1665? Although, as far as we know, the first appearance of the term ‘violoncello’ was in the Sonatas by Arresti in 1665, the first known appearance of the term ‘violoncino’ had already arrived on the title page of a score by Giovanni Battista Fontana in 1641.\textsuperscript{149} As the suffixes ‘-ino’ and ‘-ello’ are diminutives in different Italian dialects, the terms ‘violoncino’ as well as ‘violoncello’ might equally be translated as little violon.

Unfortunately, over the centuries terminology has been far from clear and some confusion still exists even regarding the more regular-sized violoncellos. There are those, like Bonta, who believe that the bass violin is the correct name for violoncellos made before 1665. Others, like Holman, lean towards the concept that only the larger of these instruments are bass violins. Trevelyon deems his small Baker instrument as a violoncello while still in the modernised version but as a bass violin after it is restored to its original Baroque state.

\textsuperscript{145} Donington, ‘James Talbot’s Manuscript’, 30.
\textsuperscript{146} Email message from Webber, November 2013.
\textsuperscript{147} Webber, ‘Real Gut Strings’, 10.
\textsuperscript{148} Ibid., 11.
\textsuperscript{149} Giovanni Battista Fontana, \textit{Sonate a 1. 2. 3. per il violino, o cornetto, fagotto, chitarone, violoncino o simile altro istromento}, Venice, 1641.
The stringing of an instrument – either with overspun or with pure gut strings – seems also to influence the decision whether it should be called a bass violin or a violoncello.

As seen, available tunings from the Renaissance and Baroque periods give us a fair amount of clarity about the likelihood of F/G-tuned instruments within the violin family. However, as also seen, terminology in all periods, from Baroque to modern, can be confusing. Let us now investigate if commentators over the centuries would offer any evidence for instruments of dimensions between those of the viola and the cello.
Contrasting views on instruments of dimensions between those of the viola and cello are problematic in Baroque/Classical times as well as in the 20th century. There is no unified view about sizes, playing modes (whether on the shoulder or between the legs), and function (whether tenor or bass). Nomenclature and tuning are also interpreted in a variety of ways.

Let us examine material on hand in chronological order; first by commentators from the 17th and 18th centuries, then by writers from the 20th centuries. As far as is known, authors in the 19th century did not make any observation about the topic.

2.2.a: 17th and 18th centuries

In Chapter 2.1 we discussed Bismantova’s tuning and terminology for his violoncello da spalla which he also named as violoncello da spalla alla moderna. In 1677 Bismantova – musician and composer at the Ferrara Cathedral and cornet player at the Accademia dello Spirito Santo – compiled a manuscript which deals with compositional technique and describes the flute, cornet, violin, organ and harpsichord. In his 1694 revision Bismantova added the violoncello da spalla (or violoncello da spalla alla moderna) and the contrabass.¹

As detailed earlier, Bismantova presents the violoncello da spalla with a tuning chart. It now needs to be added that Bismantova presents his D G d a tuning with a diatonic fingering which specifies the following notes (and fingering): D E F (0 1 2) G A B c (0 1 2 3) d e f g (0 1 2 3) a b c' d' e' (0 1 2 3 4). Bismantova’s fingering implies dreadfully big stretches between those fingers which create a whole tone. The stretch between the 3rd and 4th fingers on the ‘a’ string is impossible, unless the instrument is much smaller than the cello. Bismantova does not specify measurements for his violoncello da spalla, but the combination of his (cello) tuning and (violin) fingering strongly indicates an instrument between the viola and cello, which was probably (but not necessarily) held or hooked on the shoulder (spalla) in some way. The name ‘spalla’ indicates shoulder, but Bismantova does not refer to any playing position: he restricts his short description to tuning and fingering. However, it seems that Bismantova simply transferred his violin fingering² to his violoncello da spalla, therefore the shoulder-playing mode (rather than holding the instrument between the legs) is likely.

In 1708, a year after Johann Gottfried Walther (1684-1748) was appointed as organist/musician at the city church of St Peter and St Paul in Weimar, Walther provides a somewhat muddled description of what he calls the violoncello:

¹ Bismantova, 1694, 118-119.
² Ibid., 111.
Violoncello ist ein Italienisches, einer Violadigamba nicht ungleiches Bass-Instrument, wird fast tractiret wie eine Violin, neml. es wird mit der lincken Hand theils gehalten, und die Griffe formiret, theils aber wird es wegen der Schwere an des Rockes Knopff gehänget und durch die rechte Hand mit einem Bogen gestrichen. Wird gestimmet wie eine Viola.3

(The violoncello is an Italian bass instrument, not unlike the viola da gamba. It is treated as a violin, partly supported by the left hand which fingers the strings while the right hand bows them. But – because of its weight – the instrument is also held with the support of a hook which is attached to the button of the player’s coat. It is tuned as a viola.)

It is not clear how the playing mode compares to playing the violin. If the fingering follows Bismantova’s diatonic pattern with large stretches between the fingers, it would surely necessitate a smaller instrument than what we regard today as the violoncello. Walther’s viola tuning, presumably referring to one octave above the violoncello, is also problematic. One is left wondering whether Walther is describing a very large viola which is used for bass parts, or if he is actually referring to an instrument which in size is between the viola and the cello.

It is notable that Walther wrote his thesis in the year (1708) when Bach composed his cantata BWV 71: the elaborate solo cello part (in the sixth movement) does not need a C string, but goes rather high on the ‘a’ string. It is therefore feasible that, for this cello part, Bach used a small instrument with G-d-a-e’ tuning. Bearing this possibility in mind, the question arises whether in 1708 some stringed instruments – which have been referred to as violoncellos – were in reality between the viola and the cello (in tuning as well as in size).

Five years after Walther’s ambiguous description of the violoncello, Johann Mattheson (1681-1764) mentions three small bass violins, with specific names of their own, although he does not specify how small they are:


(The excellent violoncello, the bassa viola, and the viola di spala are small bass violins in comparison with the larger ones, with five or also even six strings, upon which one can play all manner of rapid things, variations, and ornaments with less effort than on the larger machines. Particularly, the viola di spala, or shoulder viola produces a great effect when accompanying because it cuts through strongly and can express the notes clearly. A bass line cannot be brought out more distinctly and clearly than on this instrument. It is

3 Johann Gottfried Walther, Praecepta der musicalischen Composition, Weimar, 1708, 56.
attached with a strap to the chest and at the same time it is thrown on the right shoulder, and that way there is nothing that can impede or prevent its resonance.)

So all three instruments (including the ‘excellent violoncello’) are small, while the viola di spala – evidently small enough to carry on the right shoulder – is particularly distinguished by its quality. Mattheson’s violoncello is characterised in a positive way, yet his viola di spala appears to be superior in the quality and strength of its tone. As far as is known, this is the first mention of the term ‘viola di spala’, although Walther already describes a similar instrument. Several questions arise. How does Bismantova’s violoncello da spalla differ from Mattheson’s viola di spala? How large is Mattheson’s bassa viola, which he equates with small bass violins? What is the size of Mattheson’s violoncello which is one of his three small bass violins? Do all three of his instruments fall between what we now term as the viola and the violoncello? Unfortunately, Mattheson does not deal with these issues.

In 1732 Walther revised his violoncello entry of 1708. This time he simply copied Mattheson, whom he duly acknowledges, but added that “Die viersäitigten warden wie eine Viola, C. G. D. A. gestimmt and gehen bis ins a.”5 (The four-stringed version is tuned as a viola and goes up to ‘a’.) So Walther’s four-stringed violoncello has the same ambitus (range) as the viola. This, in turn, may imply either the same size as a viola or the unspecified size of Bismantova’s 17th-century violoncello da spalla, which – as seen – is probably small enough for the use of diatonic fingering but large enough to be tuned to D-G-d-a (or to C-G-d-a).

In 1738 Johann Philipp Eisel (1698-1763) briefly refers to small bass violins:

Von dem Violoncello, Bassa Viola und Viola di Spala. Wir wollen alle drey in eine Brühe werffen: Denn alles dreyes sind kleine Bass-Geigen, auf welchen man mit leichtere Arbeit als auf dem grossen Violon allerhand geschwinde Sachen, Manieren, Varietions und dergleichen machen kan.6 (About the violoncello, bassa viola and viola di spala. We will throw all three in the same broth, since all three are small bass violins on which one can do all sorts of fast things, passages, and variations, etc. with much less effort than on the big violone.)

Eisel’s comment opens up the possibility that the terminology of instruments might have been a great deal more varied than the instruments themselves.

Joseph Friedrich Bernhardt Caspar Majer (1689-1768) seems to repeat Mattheson’s text: ‘Der hervorragende Violoncello, die Bassa Viola und Viola di Spala Ital. sind kleine Bass-Geigen... (The excellent violoncello, the bassa viola, and the viola di spala are small bass violins...) but he adds that ‘... von vielen aber wird sie zwischen beiden Beinen gehalten

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5 Walther, Musikalisches Lexikon oder Musikalische Bibliothek, Leipzig, 1732, 637.
6 Johann Philipp Eisel, Musicus autodidactos, Augsburg, 1738, 44.
(but many will hold them between their legs). This comment does not indicate the size of the instrument as, of course, instruments of various sizes were held between the legs.

However, Majer provides C-G-d-a tuning and fingerings. He notates the diatonic scale on the five-line stave, starting with the bottom open string. He adds fingerling to every single fingered note and specifies all open strings. Unlike Bismantova, Majer does not use the 4th finger (but, correspondingly, he does not reach to Bismantova’s e’): his fingering pattern, starting on C and concluding on d’, is 0 1 2 3 for the notes of the C major scale on all four strings. This fingering implies a small instrument, otherwise the extension between the 1st and 2nd finger is not only awkward but surely painful after a while. Majer’s drawing of the viola (with c. 5cm body length on the page) is only slightly smaller than his drawing of the cello (with c. 7 cm body length); he notates the viola scale one octave higher than the cello scale, but with identical fingerling. So Majer’s cello/spala is small enough (as suggested by his drawing) to use identical fingerlings, therefore Majer’s cello/spala is between the regular viola and regular cello. But what can we make of Majer’s bassoon violin? It seems to be a viola played on the arm but tuned as a cello.

Eine Fagott-Geige wird auf dem Arm gehalten und wie Viola tractirt, auch ist die Stimmung also eingerichtet, nur daß sie durchaus um eine völlige Octav tiefer und diesserhalben die Saiten alle stärker darzu genommen werden. Deren Ambitus und Application der Finger und Buchst. ist wie bei der Französ. Baß-Geige oder Violoncello. (The bassoon violin is held on the arm and is played like a viola; the tuning is also the same, except that it is a full octave lower, so that stronger strings are used. The range and the fingering are just like those of the French bass violin or violoncello.)

So, it seems, the bassoon violin is identical with the cello in all aspects except that it is played on the arm. This means that it is smaller than the regular size (modern) cello because it is small enough to hold on the arm.

Leopold Mozart (1719-1787) also mentions the bassoon violin but gives no specification. However, while he describes various types of violins, Mozart comments that the bassoon violin is somewhat different from the viola in size and stringing, and that it is customary to play bass parts on it. Presumably Mozart’s bassoon violin is bigger than the viola; a smaller instrument would be unlikely to be used for bass parts. One could, therefore, reasonably speculate that the bassoon violin is a stringed instrument of dimensions between those of the viola and the cello.

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8 Ibid., 100.
Jacob Adlung (1699-1762) simplifies the difference between the cello and the viola da spala: ‘Violoncello heiß auch Viola di Spala’ (the violoncello is also called viola da spala).\textsuperscript{10} So: is the violoncello as small as the viola da spala? Adlung does not elaborate further.

The term ‘viola pomposa’ first appears in writing in 1766 although the author refers back to 1738. While writing about an informal private performance in Dresden (in 1738), Johann Adam Hiller (1728-1804) describes the viola pomposa. Solo violinist Benda was accompanied on the viola pomposa by Pisendel, the Concert Master of the Dresden court orchestra:

Dieses Instrument ist wie ein Violoncell gestimmt, hat aber in der Höhe eine Sayte mehr, ist etwas größer als eine Bratsche, und wird mit einem Bande so befestigt, daß man es vor der Brust und auf dem Arme halten kann. Der seel. Kapellmeister Herr Bach in Leipzig hat es erfunden.\textsuperscript{11} (This instrument is tuned as the violoncello but has one more string on the top. It is bigger than the viola and is supported by a strap which enables playing it in front of the chest or on the arm. This instrument was invented by Bach in Leipzig.)

Hiller’s description of the viola pomposa does not seem to differ from Mattheson’s viola da spala of 1713, although Hiller attributes the invention (of the viola pomposa) to Bach. As we shall see later, this concept (of Bach as the inventor of the viola pomposa) survived for a long time. In 1784, in his biographical essays about famous musicians, Hiller writes again about Benda’s trip to Dresden in 1738. He repeats his description of the viola pomposa from 1766 but adds that ‘Der ehemalige Geigenmacher in Leipzig Hoffmann hat deren verschiedene, auf Angeben Joh. Seb. Bachs, verfertigt.’\textsuperscript{12} (The late Leipzig violin maker Hoffmann made it on specification by Joh. Seb. Bach). So Bach was the inventor but the Leipzig violin maker Hoffmann built the instrument. From 1784 onwards, both Bach and Hoffmann variously appear in the literature as associated with the viola pomposa. However, most interestingly, no mention seems to have been made about their association with the instrument during their own lifetime.

In 1776 Johann Friedrich Köhler (1756-1820) states that Bach ‘erfand ein Instrument das er Viola pomposa nannte, das bey dem Violinsolospielen gebraucht werden sollte. Es ist das Mittel zwischen Violine und Violoncell.’\textsuperscript{13} (Bach invented an instrument which he called viola pomposa and used it for violin solos. It is mid-way between the violin and violoncello.) So Bach not only invented the instrument, but also created the name for it.

\textsuperscript{10} Jacob Adlung, Anleitung zu der musikalischen Gelahrtheit, Erfurt, 1758, 599.
\textsuperscript{11} Johann Adam Hiller, Wöchentlichen Nachrichten und Anmerkungen die Musik betreffend, Leipzig, 16 December 1766.
\textsuperscript{12} Hiller, Lebensbeschreibungen berühmter Musikgelehrten und Tonkünstler neuerer Zeit, Leipzig, 1784, 45.
\textsuperscript{13} BD, iii, 312-313.
While discussing the pros and cons of accompanying a solo violinist with a violoncello or second violin, in 1782 Johann Nikolaus Forkel (1749-1818) copies Hiller’s 1766 description of the viola pomposa. He too attributes the invention of the instrument to Bach and he too places it mid-way between the violin and violoncello. However, evidently, this instrument is a bit bigger than the viola:


(In order to find a middle [solution], and to avoid both extremes, former Leipzig music director Bach invented an instrument which he called viola pomposa. The instrument is tuned as the violoncello but it has one more string on the top. It is bigger than the viola and is supported by a strap which enables playing it in front of the chest or on the arm.)

The author’s name is not shown in this 1782 article. However, Forkel is known to have authored the *Musikalische Almanach.*¹⁵

In 1790, Ernst Ludwig Gerber (1746-1819) continued the theme of Bach inventing and naming the viola pomposa. Gerber’s description of the instrument is similar to those provided by Hiller and Forkel. However, Gerber adds that Bach had to resort to such measures because, at the time, the standard of violoncello playing was not good enough to manage the high and fast passages in his bass parts:

Die steife Art womit zu seiner Zeit die Violonzells behandelt wurden, nöthigten ihn, bey den lebhaften Bässen in seinen Werken, zu der Erfindung, der von ihm sogenannten Viola pomposa, welche bey etwas mehr Länge und Höhe als eine Bratsche, zu der Tiefe und den vier Saiten des Violonzells, noch eine Quinte, e, hatte, und an den Arm gesetzt wurde; dies bequeme Instrument setzte den Spieler in Stand, die vorhabenden hohen und geschwinden Paßagien, leichter auszuführen."¹⁶

(The limited way in which the violoncello in Bach's time was handled compelled Bach to invent – for the quick bass passages in his works – the so-called viola pomposa, which was longer as well as higher than the viola and had another fifth, the e', added to the four lower strings of the violoncello, and was placed on the arm. This convenient instrument enabled the player to execute the high and rapid passages more easily.)

It is difficult to identify Gerber’s exact source for Bach’s apparent displeasure with the general standard of violoncello playing. However, we do have evidence of Bach’s own complaint about the shortage of good cellists. In his submission to the Leipzig Town Council, dated 23 August 1730, he states that ‘...die Viola, Violoncello und Violon aber alle Zeit (in Ermangelung tüchtigerer subjectorum) mit Schülern habe bestellen müßen’ (...in the absence

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of more capable players... the viola, violoncello and violone always had to be played by students).\(^{17}\)

In his 1802 lexicon Heinrich Christoph Koch (1749-1816) has entries on the viola pomposa, which is ‘ein Geigeninstrument von Joh. Seb. Bach’s Erfindung’ (a type of violin invented by Bach), as well as on the viola di spala or Schulter-viola (shoulder viola), which was used for bass parts until it fell from use because the violoncello was regarded as more suitable.\(^{18}\)

Let us now summarise what we learn from contemporary witnesses about those members of the violin family which may be regarded as between the viola and the cello. The fingering described by Bismantova (1694) for the D-G-d-a tuned violoncello da spalla (alla moderna) suggests an instrument smaller than the violoncello. Walther’s violoncello (1708) is tuned as the viola and is evidently small enough to be hooked onto the button of the player’s coat. Mattheson (1713) specifies the violoncello, the bassa viola and the viola di spala as small bass violins. Majer (1732, 1741) comments that many hold such instruments between their legs but his fingering clearly implies small instruments. On the other hand, Majer’s bassoon violin – as that of Leopold Mozart’s (1756) – appears to be a small cello played on the arm, while Adlung (1758) equates the violoncello with the viola da spala. Hiller (1766) reports about an instrument which he names as viola pomposa and credits Bach with its invention. Later (1784) Hiller credits Hoffmann with the actual building of the viola pomposa. Köhler (1776), Forkel (1782), Gerber (1790) and Koch (1802) all repeat the by now assumed Bach association with the five-stringed viola pomposa which is either held by a strap or played on the arm. However, it must be stressed that Bach himself never mentioned the viola pomposa in any of his scores. As far as is known, no contemporary witness has provided measurements for the instruments under discussion. Furthermore, it appears that none of the contemporary witnesses played any of these instruments, and Leopold Mozart was the only string player. Indeed, he was the only one to refer to size, albeit only vaguely, saying that the bassoon violin is somewhat different from the viola in size and stringing, and it is customary to play bass parts on it.

As seen, there is indisputable indication by contemporary witnesses – by use of terminology and reference to fingering and instrument hold – that the violin family did include a member or perhaps more members which in size would be between the viola and

\(^{17}\) BD, i, 62.
\(^{18}\) Heinrich Christoph Koch, Musikalisches Lexikon, Frankfurt, 1802, columns 1691 and 1693.
the cello. This instrument (or these instruments) could be played hooked to the player’s coat or played on the shoulder or between the legs. The tuning might be the same as that of the viola or the violoncello (although there might be an extra string on the top and Bismantova’s tuning differs slightly). One could play accompaniments and bass parts on such instruments but also, as Mattheson emphasises, ‘all manner of rapid things, variations, and ornaments with less effort than on the larger machines’. Now let us consider how modern writers have reacted to our contemporary witness accounts.

2.2.b: 20th century

After a hiatus of a hundred years, instruments of dimensions as well as of tunings between those of the viola and the cello are discussed again. However, conclusions drawn from earlier contemporary accounts vary. My survey of 20th-century authors is presented in a chronological order but it is separated into two sections. First I will present various views on the viola pomposa, the viola/violoncello da spalla and the violoncello piccolo; this will be followed by various views specifically on the F/G-tuned instrument.

i. Viola pomposa, viola/violoncello da spalla and violoncello piccolo

Four main topics emerge in this 20th-century discussion: 1. Bach’s association with small instruments, 2. confusion about the viola pomposa versus violoncello piccolo as well as other instruments, 3. tuning, 4. size, form and instrumental hold. Before summarizing the main contradictions, let us look at the various views.

In 1900, Belgian organologist and musical instrument curator Victor-Charles Mahillon (1841-1924) lists a viola pomposa by Johann Christian Hoffmann, c. 1720.19 Mahillon associates the instrument with Bach but notates c-g-d’-a-’e” tuning which is, significantly, one octave above what so far has been suggested. This seems to be, therefore, the first mention of tuning in the higher octave which inevitably makes the viola pomposa a five-stringed viola (with the additional e” string on top) rather than one which would have been suitable for Bach’s bass parts.

For Georg Kinsky (1882-1951) the viola da spalla was between the Tenorgeige – here probably a viola – and the violoncello piccolo both in form and in size and it was played on the arm.20 The bassoon violin was a larger form of the viola da spalla: this too was played on the arm as a viola but was tuned one octave lower as the violoncello. The viola pomposa – again credited to Bach – was nothing more than an enlarged viola da spalla with a fifth string.

19 Victor-Charles Mahillon, Catalogue descriptif et analytique du Musée Instrumental (Historique et Technique) du Conservatoire Royal de Musique de Bruxelles, 1900, 63-64.
The tuning was the same as on the violoncello – C-G-d-a – with the added fifth string e’ on the top, but it sounded one octave higher. Owing to its larger dimensions (including high ribs of up to c. 8-9 cm), the instrument sounded stronger and more rounded than a regular viola.\footnote{Ibid., 548-549.}

So, as Kinsky tells us, the viola pomposa and the bassoon violin were larger than the viola di spalla but they were tuned an octave apart. Presumably following in the footsteps of Paul de Wit, 1903,\footnote{See Chapter 3.2.b.} Kinsky uses the term ‘violoncello piccolo’ which previous writers on instruments of dimensions between those of the viola and the cello seemingly avoided.

For Curt Sachs (1881-1959) the viola da spalla is a processional bass instrument in the first half of the 18\textsuperscript{th} century while the viola pomposa is a small five-stringed violoncello (made on the instruction by Bach and tuned to C-G-d-a-e’) and identical with the violoncello piccolo.\footnote{Curt Sachs, \textit{Real-Lexikon der Musikinstrumente}, Berlin, 1913, 412.} 30 years later Sachs completely changes his view and regards the viola pomposa as a combination of the violin and viola: ‘the pomposa must have had the range of the violin, but with an additional note below.’\footnote{Sachs, \textit{The History of Musical Instruments}, New York, 1940, 367.}

Hugo Riemann (1849-1919) continues with Bach’s assumed invention of the viola pomposa, but provides a different slant to the violoncello piccolo versus viola pomposa discussion. He attributes the violoncello piccolo (‘mistakenly also called the viola pomposa’) rather than the viola pomposa to Bach and specifies that the instrument, tuned to C-G-d-a-e’, was between the viola and the cello both in size and in form.\footnote{Hugo Riemann, \textit{Musik Lexikon}, 1929, 1949.}

Bach’s presumed association with the viola pomposa was first challenged by Frank Thomas Arnold (1861-1940), known as F. T. Arnold, in a short but highly original German paper.\footnote{F.T.Arnold, ‘Die Viola pomposa’, \textit{ZMw}, xiii (1930/31), 141-145.} He argues that it is unlikely that Bach invented the viola pomposa. It is not mentioned in any of Bach’s scores; furthermore it is entirely impossible that an instrument large enough for the C-G-d-a-e’ tuning could be held with a ribbon over the shoulder and could thus be played on the arm. Arnold suggests that the viola pomposa had the same relationship to the viola as the five-stringed cello had to the normal violoncello. He adds that the viola pomposa was most probably a viola with an added e” string on the top, therefore very similar to the violon alto (invented by Woldemar) which was a violin but with an added c string on the bottom. However, Arnold allows the possibility that Bach invented the five-stringed piccolo cello.\footnote{Ibid., 141.}
Drawing from internal musical evidence, Francis William Galpin (1858-1945) concludes that the viola pomposa must have been tuned to d-g'-d'-g" and that Bach discovered (rather than invented) this instrument when he travelled to Leipzig. Elsewhere Galpin comments that the viola pomposa, a large viola played on the arm, was in existence before 1728 and it had an alto or mezzo-soprano pitch (rather than tenor or bass, as previously had been suggested by many writers). The violoncello piccolo was an entirely different instrument. Galpin offers the innovative and surely significant suggestion that, in the 18th century, three sizes of instruments were used between the regular viola and the regular violoncello: the viola pomposa was larger than the viola, the next size up was the violoncello piccolo and the largest of the three was the five-stringed violoncello. And, Galpin says, some of Bach’s violoncello piccolo parts might have been scored for the four-stringed violoncello piccolo tuned to G-d-a-e’. Galpin’s suggestion that the violetta obbligato part in the tenor aria in Bach’s cantata *Herr Gott dich loben wir* (BWV 16) was probably written for the pomposa may have merits.

Charles Sanford Terry (1864-1936) offers the opinion that Hiller, Forkel and Gerber must have meant the violoncello piccolo when they talked about the pomposa. He adds that ‘Manifestly such an instrument [the five-stringed violoncello piccolo] could only have been played between the knees.’

Heinrich Husmann (1908-1983), too, thinks that what Forkel and Gerber called the viola pomposa, Bach called the violoncello piccolo. On the other hand, contrary to Terry, he states that the violoncello piccolo is a small cello which was played on the arm. In addition, Husmann contributes an evidently new and intriguing proposition. He assumes that Mattheson’s small bass violins [including the viola da spalla] were tuned in fourths (as viols) and that Bach’s invention was the tuning in fifths. Thus the viola pomposa was a viola da spalla in scordatura.

In 1940 Sachs states the measurements and tuning of Bach’s violoncello piccolo although he offers no evidence:

Johann Sebastian Bach preferred, in solo pieces, a so-called violoncello piccolo, a hundred to a hundred and ten centimetres high and some thirty centimetres wide... It was

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28 Two duets for flute and viola pomposa or violin - the twentieth and twenty-first lessons - from Telemann’s *Der getreue Music-Meister*, Hamburg 1728; *Solo per la pomposa* by Cristian Giuseppe Lidarti (1730-1793).
31 This cantata is discussed in Chapter 4.
tuned like the usual cello and not a fifth higher, as some writers have claimed; the parts written for it in Bach’s scores require low C.\textsuperscript{34}

Sachs suggests that

The \textit{violoncello a cinque corde}, on the contrary, that Bach prescribed at about 1720 in the sixth of his suites for cello solo, was not necessarily a violoncello piccolo. But the fact that it would be hard to keep an e’ string from breaking on a large instrument suggests a small cello with five strings rather than the usual cello.\textsuperscript{35}

Sachs does not tell us how small this five-stringed cello is and how it differs (in measurement) from his violoncello piccolo.

It does not help to clarify the confusion that, in 1967, the editorial team of Riemann’s \textit{Musik Lexikon} implies that the violoncello piccolo is identical with the viola pomposa.\textsuperscript{36} The latter is specified as a C-G-d-a-e’ –tuned instrument played on the arm.\textsuperscript{37} Further in the entry various options are recited but do not negate the impact of the initial statement. Seven years later, Wilhelm Stauder describes the viola pomposa as a big viola or tenor viola.\textsuperscript{38}

Winfried Schrammek (1929-2017) blames Riemann’s \textit{Musik Lexikon} for perpetrating the idea that the viola pomposa and the violoncello piccolo were the same instrument.\textsuperscript{39} He states that the viola pomposa, with maximum 7.5 cm ribs, is played between the knees. Schrammek adds that we must differentiate between the viola pomposa and the violoncello piccolo, because organologically they differ.\textsuperscript{40}

Ulrich Drüner states that the violoncello piccolo was played between the knees.\textsuperscript{41} However, he suggests that Bach’s instrument could also be played on the arm by a violinist:

We can conclude: Bach’s invention consisted of combining the flat viola da spalla design with violoncello structure and thus improving the sound quality. This ‘minicello’ could be played on the arm, consequently – on those Sundays when good cellists were not available – the instrumental obbligato parts could be played by good violinists in the tenor range.\textsuperscript{42}

Drüner groups surviving old instruments into three separate categories, 1) the viola pomposa, 2) the ‘Bachschen’ (Bach) violoncello piccolo played on the arm and 3) the larger violoncello piccolo played between the knees. Drüner admits that the former two are somewhat related and are understandably often mistaken for each other. However, he says, it is difficult to

\textsuperscript{34} Sachs, \textit{History}, 362.
\textsuperscript{35} Ibid.
\textsuperscript{36} Hugo Riemann, \textit{Musik Lexikon}, Mainz, 1967, 1047.
\textsuperscript{37} Ibid., 1038.
\textsuperscript{38} Wilhelm Stauder, \textit{Einführung in die Instrumentkunde}, Wilhelmshaven, 1974, 86.
\textsuperscript{40} Ibid., 350.
\textsuperscript{42} Ibid., 101.
accept that the third category also gets confused with them, yet it existed long before the first two.

Referring to Schrammek (above), Laurence Dreyfus suggests that the viola pomposa and violoncello piccolo – although related to each other – are wholly distinct. Dreyfus also states that both instruments are distinct from the cello with five strings that is required for Bach’s Sixth Cello Suite, and that cellos with more than four strings were not exceptional. Referring to Walther (whom we discussed earlier), Dreyfus comments that ‘although the two instrumental types can be clearly differentiated in their construction, it makes most sense to conclude that Bach actually intended his solo parts labelled violoncello piccolo to be played on the viola pomposa’. He also suggests that ‘the height of the ribs of the viola pomposa must be considerably less (around 3 to 4 cm) so that it can be held on the arm’. Dreyfus mentions three cantatas (Nos. 6, 41 and 175) where these parts might have been played by violinists. But he also comments that ‘It may seem odd that any part called “violoncello” should be played on an arm-held instrument da braccio, yet Walther’s description of the shoulder viola, the viola da spalla, occurs under the entry Violoncello’.

Considering specifically Bach’s violoncello piccolo, Mark Mervyn Smith points out that we do not know how the violoncello was played in Bach’s time. It was not until 1741 that the first surviving violoncello method was published. Smith states that much of the earliest solo music for violoncello (dated 1687 to about 1717) was written at an unexpectedly high pitch, a pitch somewhat higher than that usual during the following twenty years. Smith suggests that the term ‘violoncello piccolo’ was used principally (but not solely) for violoncellos of near-viola-size, particularly in Germany. If the early high-pitch violoncello music was written for violoncellos with the top string a 4th or 5th higher than our present-day tuning, the left hand would not have needed to move as far along the string, and cellists could have played this music without moving the thumb from behind the neck of the violoncello. The earliest indisputable evidence of the use of the thumb on the string is not until 1736-39, when it is marked or implied in works by Lanzetti, Leo, Berteau and Barrière. Therefore, until at least 1736, cellists could have been expected to play easily only up to a 7th above the

44 Ibid., 257, n.80.
46 Ibid., 172-174.
47 Ibid., 258, n.86.
open string, with isolated notes up to an 8th or 9th above. Smith adds that the use of the higher notes on the violoncello was also restricted because the neck of the instrument was usually very thick near to the body and, as shown by many pictures, most cellists held the cello very low, often not raised off the ground at all. Smith argues that, from 1724 until the 20th century, the term ‘violoncello piccolo’ applied to violoncellos of large viola-size. He examines five instruments by Bach’s violin maker Hoffmann and speculates that, while it would have been possible to hold all five instruments under the chin, it seems likely that the larger instruments were alternatively held across the chest with the support of a ribbon. This is in accord with the method of holding the viola pomposa as described by Hiller. Smith examines other makers too, but limits his group to surviving instruments with body-length of c. 45-48 cm and with five strings. He concludes that these surviving violoncellos piccolo – together with the music for violoncello piccolo listed by Breitkopf, and the accounts of the instrument under its alternative name ‘viola pomposa’ – suggest that the violoncello piccolo with five strings was mainly a Saxon-Thuringian instrument, which originated from Bach and Hoffmann.

Gregory Barnett points out that ‘in some cases the shoulder-held violoncello da spalla was also known to Seicento musicians simply as “violoncello”, thereby disturbing the assumption that the term “violoncello” in a partbook of the period necessarily means the familiar cello and its playing technique that we recognise today.’ It transpires from Barnett’s paper, that the viola da spalla and the violoncello da spalla may be one and the same. However, he treats the instrument as a type of violoncello (rather than a viola). Barnett accepts Bismantova’s fingering which transferred violin fingering to the larger instrument, although clearly such a fingering was ‘difficult on the violoncello.’ This is puzzling as Bismantova’s 0 1 2 3 fingering to cover the interval of a fourth on the G and d strings, and – to a much greater extant – his 0 1 2 3 4 fingering to cover a fifth on the top (a) string would be not only difficult but totally impossible on a regular size cello. Barnett acknowledges that such difficulties are not tackled by modern cellists, but appears to accept their usage in Baroque times. He emphasizes that there is no difference between the violoncello da spalla and the violoncello: ‘The violoncello da spalla was ...a shoulder-held instrument of the late-seventeenth and early-eighteenth centuries, a novelty when Bismantova characterised it as “alla moderna”...There is little evidence in Italian or German sources to suggest that the

51 Ibid., 85.
physical characteristics of the shoulder-held instrument differed in any way from the modern violoncello; the distinction between the two instruments seems to lie only in the manner of holding them’. Barnett admits that ‘the smaller category of bass violin made it possible for players to hold their instrument horizontally at shoulder height’. However, he also emphasizes similarities with violin technique: ‘The violoncello da spalla demonstrates a long-lasting, violin-orientated technique among various approaches to the early violoncello...’ Barnett is right to draw attention to the relationship between the violoncello da spalla and the violin. However, the violoncello da spalla had to be small enough to cope with violin technique: otherwise the stretches between the left hand fingers would have been unmanageable.

Lambert Smit argues that if Bach composed the cello suites for the cello as we now know it, he would have gone beyond the note g’ – that is a seventh above the open ‘a’ string – which is the highest pitch in the first five of the six suites. It is unlikely that Bach would have kept to this upper limit as he generally made use of the entire compass of instruments. In his Sixth Suite Bach went up to g” but, as Smit suggests, he wrote it for the small five-stringed bass violin which was made at his request by Hoffmann in 1724. Smit experiments with Bach’s cello suites 1-5, using the Bismantova/Majer diatonic fingering on a small child’s cello – attached with a strap to his chest – as if playing a shoulder-held viola. Smit believes that this instrument is the truly authentic 18th-century violoncello and he finds that the fingers cannot reach beyond the pitch g’. Smit’s literally hands-on arguments regarding the first five Bach cello suites are logical (even if it is far from certain that the Sixth Suite was composed for an instrument made by Hoffmann in 1724).

Ulrich Prinz states that in the first decades of the 18th century the violoncello piccolo meant nothing else but a small violoncello. This, he adds, is not a child’s instrument and he refers to Picart’s 1701 copper engraving, where a small violoncello is played by an adult. Prinz rightly comments that at the turn of the 17th/18th centuries there is not a word about or reference to the violoncello piccolo from theorists and only sixteen years after his death is Bach first mentioned as the inventor of the viola pomposa. Prinz considers numerous theoretical writings, catalogues of music, musical evidence (such as notation of violoncello

52 Ibid., 90-91.
53 Ibid., 105.
55 Ulrich Prinz, Johann Sebastian Bach’s Instrumentarium, Stuttgart, 2005, 584.
56 See Picart’s engraving in Chapter 3.3.
piccolo parts) and a few surviving instruments. He then states that, so far, the exact identities of the violoncello piccolo and viola pomposa have not been clearly specified.  

Brent Wissick attaches importance and several functions to the violoncello da spalla, which he calls ‘a small cello strapped around the shoulders’. Like Smit, Wissick also points to Bismantova’s diatonic violin fingering chart for the violoncello da spalla. He writes:

It is not surprising at all to see long passages in Bononcini’s early sonatas requiring four fingers in rapid diatonic succession. This is hard to do on a big cello played “gamba” style, but falls under the hand on a small cello on the shoulder. Many small cellos do survive from that time and are often described as children’s instruments, but they were just as likely used for da spalla playing.

Dmitry Badiarov brings a new dimension to the discussion as ‘a performer on the violoncello piccolo da spalla as well as a maker of those instruments which were called violoncello, viola da spalla, viola pomposa, etc’. The term ‘violoncello piccolo da spalla’ seems to surface only in Badiarov’s terminology, as usually no more than one qualifier is added to the word ‘violoncello’. Badiarov argues that the division between the viola pomposa, violoncello piccolo and five-stringed violoncello piccolo is artificial. He also challenges the idea that the viola pomposa must have been played on the shoulder but must have had considerably lower ribs than a violoncello. Badiarov argues that this is not supported by practical experimentation with the high-rib instruments of the Hoffmann type. He adds that the height of ribs does not impede holding the instrument on the arm; instruments with ribs higher than 3-4 cm are quite convenient for playing on the arm or across the shoulder. Badiarov is confident that the terms ‘viola di fagott’ and ‘Fagottgeige’ were colloquial names for a smaller viola da spalla or violoncello and violoncello piccolo, while the viola pomposa is a colloquial term for the violoncello piccolo of a type made by Hoffmann. Badiarov explains that while Hoffmann’s violoncellos piccolo are not wider or longer than ordinary tenor violas, they have double the volume of air in their bodies due to their higher ribs, which is advantageous for tuning an octave lower. Due to their short vibrating string length, the C, G, and possibly d strings must be double-wound. Such strings and the unusually deep bodies are responsible for the bassoon-like sounds.

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57 Prinz, 600.
59 Ibid., 6.5.
61 Ibid., 126.
62 Ibid., 127.
According to Marc Vanscheeuwijck, it can no longer be assumed that the term ‘violoncello’ always meant an instrument which was tuned to C-G-d-a and played in gamba position.\(^{63}\) On the contrary, the term ‘violoncello’ is generic and denotes a small bass violin: its specific appearance can be a wide variety of instruments depending on time, area, and personal preference of the performer. Sometime in the late 18th century various types were gradually abandoned in favour of the instrument which is now known as the cello.

Vanscheeuwijck states that, from the 1760s, famed French cellists – such as the Duport brothers – and their contemporaries as well as followers determined what would eventually be adopted as the violoncello, thus reducing previous possibilities to only one type. Later Vanscheeuwijck points out that the 1762 Breitkopf catalogue lists 41 compositions for ‘violoncello piccolo, ô violoncello da braccia’, because Breitkopf considers the two terms to be equivalent.\(^{64}\) This means (to Vanscheeuwijck) that the violoncello piccolo was played da spalla. Vanscheeuwijck writes:

I have yet to find anyone who can tell me at what point a violoncello piccolo stops being piccolo and becomes a ‘normal’-sized cello... A violoncello in Leipzig might be the exact same thing as a viola da spalla elsewhere, whereas a violoncello in Hamburg might be a very different instrument from the violoncello in Cöthen... It would make sense to accept that since some violoncello piccolo parts are notated in treble clef and appear in the first violinist's part, these are meant for instruments played da spalla... If some of these violoncello piccolo parts are indeed to be played da spalla, does that imply that either all other pieces (written in alto, tenor and/or bass clef) for violoncello piccolo, or with a similar range, are by definition all to be played on a da spalla-held instrument, when there is evidence (though not much) of quite small instruments played da gamba?\(^{65}\)

As seen, modern writers draw contradictory conclusions from the available sources.

Let us summarise the main contradictions in four separate categories.

1. **Bach association**

Mahillon (1900) evidently trusts contemporary witnesses (from Hiller to Koch) and thus associates the c. 1720 Hoffmann viola pomposa in the Brussels collection, under his care, with Bach. This Bach association appears in several modern accounts: in Kinsky (1912), Sachs (1913), Schlosser (1922), Riemann (1929), Drüner (1987), Smith (1998) and Smit (2004). Arnold (1930) is the first modern writer to oppose Hiller’s account (of 1766) which states that Bach invented the viola pomposa. However, Arnold allows the possibility that Bach invented the five-stringed piccolo cello. Husmann (1936) believes that Bach’s invention consisted of tuning Mattheson’s viola da spalla in fifths, while Drüner (1987) suggests that

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\(^{63}\) Vanscheeuwijck, ‘In Search’.


\(^{65}\) Ibid., 187-188.
Bach only improved earlier inventions in order to create a better sound quality and more convenient playing facilities.

2. Viola pomposa versus violoncello piccolo and other instruments

Kinsky (1912) was the first of several writers to apply the term ‘violoncello piccolo’ to instruments larger than the viola but smaller than the cello. Modern writers offer contradictory views as to whether the viola pomposa and the violoncello piccolo were identical. Sachs (1913), Riemann (1929), Husmann (1936) and Badiarov (2007) regard the two instruments as one and the same while Arnold (1930), Galpin (1931), Schrammek (1975), Drüner (1987) and Dreyfuss (1987) separate them. Prinz (2005) admits that it is unclear what the viola pomposa and the violoncello piccolo were like. Indisputable clarity about other instruments – such as viola da spalla, violoncello da spalla and bassoon violin – is also lacking, although these are mentioned in some accounts including Sachs (1913), Barnett (1998), Wissick (2006), Badiarov (2007) and Vanscheeuwijck (2010).

3. Tuning

Mahillon (1900) is the first writer to notate c-g-d'-a'-e'' tuning for the viola pomposa. This is, significantly, one octave above what so far has been suggested. In a less than clear presentation, and without acknowledging Mahillon, Kinsky (1912) repeats Mahillon’s tuning. Nevertheless, since Sachs (1913), there seems to be a consensus about the C-G-d-a-e' tuning of both the viola pomposa and violoncello piccolo; see Schlosser (1922), Riemann (1929), Sachs (1930), (Terry 1932), Sachs (1940) – although here Sachs specifies C-G-d-a tuning for the violoncello piccolo – Riemann team (1967) and Stauder (1974). However, Galpin (1931) suggests the d-g-d'-g'-c'' tuning for the viola pomposa.

4. Size, form and instrument hold

According to Riemann (1929), the five-stringed violoncello piccolo (‘mistakenly also called as the viola pomposa’) was between the viola and the cello both in size and in form. Galpin (1931) believes that the viola pomposa was a large viola played on the arm but for Terry (1932), ‘manifestly such an instrument [the five-stringed violoncello piccolo] could only have been played between the knees.’ However, according to Husmann (1936) the violoncello piccolo is a small cello which was played on the arm. Drüner (1987) allows both playing positions: the violoncello piccolo was played between the knees but Bach’s instrument could be played also on the arm. Smith (1998) believes that, from 1724 onwards until the 20th century, the term ‘violoncello piccolo’ applied to violoncellos of viola-size: the larger instruments were held across the chest with the support of a ribbon. For Barnett (1998), the violoncello da spalla was a shoulder-held instrument, but its physical characteristics did not
differ from the modern violoncello; distinction between the two was determined by the manner of holding them. For Wissick (2006) the size of the instrument is a determining factor: the violoncello da spalla is a small cello on the shoulder. Prinz (2005) regards the violoncello piccolo in the first decades of the 18th century as a small violoncello. He emphasises that this is not a child’s instrument. For Vanscheeuwijck (2008), the term ‘violoncello’ is generic and denotes a small bass violin: its specific appearance can be a wide variety of instruments depending on time, area, and personal preference of the performer. Two years later, in 2010, Vanscheeuwijck is more specific: the violoncello piccolo was played da spalla, but there is also some evidence of quite small instruments played da gamba. Sachs (1940) states (without any evidence) that Bach preferred, in solo pieces, a so-called violoncello piccolo, 100-110 cm high and some 30 cm wide.

In spite of considerable contradictions among them, modern writers seem to be in agreement that in earlier times the violin family included at least one member – but possibly several members – between the viola and the violoncello. Now let us examine views on one particular member.

ii. F/G-based tenor/bass: the cello-type tenor violin (tenor cello)

The instrument of our focus surfaces in 20th-century literature but consensus among commentators is conspicuous by its absence.

Mahillon lists – without measurements – a ‘ténor de violon’ by Egidius Snoeck of Brussels, 1714, and specifies as well as notates (on the five-line stave) the G-d-a-e’ tuning for it. It is not clear whether the instrument is indeed tuned in such a way, or whether Mahillon thinks that it was or should be tuned like this. Nevertheless, the name ‘ténor de violon’ together with the description (or suggestion) for the G-d-a-e’ tuning implies the instrument under our investigation.

Arnold Dolmetsch (1858-1940) calls the instrument tenor as well as tenor violin:

The violins form a complete family of six different sizes, including the treble, our ordinary violin; the alto or haute-contre, our viola; the tenor, which has disappeared; the bass, our violoncello; the double-bass, which was never much used, being inferior to the violone; and, lastly, the violino piccolo, the smallest of all, tuned a fourth higher than the treble.

Dolmetsch points out that the instrument has not disappeared but it is used as a cello for children:

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66 Mahillon, 1912, 415.
The tenor violin is not a rare instrument. Like the violino piccolo, it is used nowadays for children, and being tuned much too low for its length of string, sounds still more wretched then the violino piccolo tuned as a treble.\textsuperscript{68} Dolmetsch makes a strong plea for reviving the tenor (‘tuned an octave below the treble’ to G-d-a-e’) and using it even in orchestral music.\textsuperscript{69}

Julius Schlosser catalogues instrument C.110 in the Kunsthistorisches Museum of Vienna as a ‘Violoncello Piccolo’, but he offers the view that this instrument should be tuned and played as the Tenorgeige (tenor violin): tuned an octave below the violin and held between the knees.\textsuperscript{70} Elsewhere Schlosser comments that, with its e’ string, the viola pomposa has foreshadowed the hitherto unresolved problem of the tenor violin.\textsuperscript{71}

Dolmetsch’s aspiration had dedicated and extensive support from Gerald Hayes\textsuperscript{72} and Robert Donington, who demonstrated his faith in Dolmetsch’s ideas via books, articles and practical demonstrations over a period of several decades. Distinguished composer and pianist Percy Grainger was also a devotee; he too firmly believed that the tenor violin was an important bridge between the viola and the cello. Grainger enthusiastically recommended the Dolmetsch festivals and workshops, where the complete family of violins – violin, viola, tenor and cello – was used.\textsuperscript{73}

In 1937 (and as late as in his 1974 revision, just one year before his death), Sir Jack Westrup discredits the idea that the tenor violin was used in Purcell’s time in England. Referring to Hayes (1930) and Holland (1932), Westrup comments:

\begin{quote}
Attempts have been made recently to show that consort music was written for the violin family and that Purcell’s pieces are illustrations of this practice. But the evidence is very meagre, and the proved examples so rare that they may be regarded as exceptions.\textsuperscript{74} …The theory that Purcell’s fantasias were written for a violin consort involves the assumption that the old tenor violin (tuned a fourth below the viola) was used...But no evidence has been produced to show that the tenor violin – the ‘true’ tenor, as it is called by enthusiasts – was normally used in England at this time.\textsuperscript{75}
\end{quote}

Three years later Westrup again argues against the tenor. Elaborating on Monteverdi’s Orfeo, he writes:

\begin{quote}
We may compare the score of the ‘Combattimento’, which is written for “quattro viole da brazzo, Soprano, Alto, Tenore et Basso”, and conclude that the inner parts in ‘Orfeo’ were played respectively by the viola and the obsolete tenor violin, which was tuned a
\end{quote}

\textsuperscript{68} Ibid., 456.
\textsuperscript{69} Ibid., 455-456.
\textsuperscript{70} Schlosser, Die Sammlung alter Musikinstrumente, Vienna, 1920, 69.
\textsuperscript{71} Schlosser, Unsere Musikinstrumente, 43.
\textsuperscript{72} Gerald Hayes, Musical Instruments and their Music, Oxford, 1930 (as well as several articles).
\textsuperscript{74} Jack Allan Westrup, Purcell, London, 1937, 224.
\textsuperscript{75} Ibid., 225.
fifth lower. This would please those who deplore the disappearance of the tenor violin and chortle every time it is mentioned in records of the past. Sachs allocates the Tenorgeige to violas but with G tuning (one octave below the violin) in his table for the violin family. Measurements are not provided but Sachs places his G-tuned tenor violin between his Altgeige (Viola) and the violoncello. Later Sachs also reports about a five-stringed instrument: ‘These instruments were tenor violins, intermediate between the viola and the violoncello and tuned to F c g d’ a’.’ Sachs also states that the F-c-g-d’ tenor violin was used between the end of the 16th and the middle of 18th centuries. ‘It had a deep body and must have been held like a cello. It was rare, however, and was finally given up; all modern attempts to revive it have been failures’. Sachs may be right about the disappearance of the F-c-g-d’ tenor violin, although the tuning could have moved up by a tone to G-d-a-e’ (as the B♭-F-c-g tuning of the cello – as Sachs himself mentions – alternated with the C-G-d-a tuning).

The tenor violin dispute is not without humour, although unintentionally. Arnold argues that the viola pomposa must have been a five-stringed tenor violin with F-c-g-d-a’ tuning. He cites several such instruments of larger than viola size, big enough for F tuning. Kinsky retorts, arguably bordering on the humorous, that the instruments discussed by Arnold should not be called tenor violins but five-stringed piccolo cellos of the old F-c-g-d’ tenor violin tuning with an added a’ string on the top (‘...genauer bezeichnet sind es fünfsatige Violoncelli piccoli in der Stimmung der alten Tenorgeige (F-c-g-d’) mit hinzugefügter a’-Sait...’).

Nicholas Bessaraboff specifies measurements and playing mode:

The tenor violin. A four-stringed instrument. A correctly proportioned tenor violin has a body length of about 52 cm, and the vibrating length of the strings is about 50 cm, or the size of a child’s cello. The instrument should be tuned an octave below the violin. The playing position and the fingering technique is the same as on the violoncello.

Boyden states:

One species of the tenor violin...was an instrument tuned upwards from F or G – that is, between the registers of the modern viola and cello. This type never attained the status of a principal member of the violin family. Its use was peripheral and sporadic and it was hardly noticed by the theorists after the middle of the 17th century.
However, Boyden also says that ‘...the F/G-tenor of older times was a small cello played between the knees.’\textsuperscript{85}

Anthony Baines contradicts himself. He publishes the 1613 Cassel inventory in which the instruments of the Hofkapelle include ‘1 large Tenorgeige with 4 strings, tuned upwards from low G or F.’\textsuperscript{86} But later Baines criticizes Sybil Marcuse, who ‘remains one of those upholders of that extraordinary notion of “an obsolete tenor violin” (lowest string F or G), even going so far as to identify it with Stradivari’s “tenore viola” and citing the “Tuscan” as an example of it.’\textsuperscript{87}

Ephraim Segerman comments that Hitzler’s F-c-g-d’ tenor violin is the only evidence for describing that tuning as tenor.\textsuperscript{88} (This is incorrect; see Chapter 2.1.b for Zacconi’s F tuning.) He takes it for granted that the term tenor means a viola and he argues that, without overspun strings (available only from the 1660s onwards), an all-gut F string on a viola would sound unacceptable. Segerman suggests that the obvious alternative is one of the Italian basses of about 24 inches (about 60 cm) stop-length performing a low-tenor function.\textsuperscript{89} He does not specify why an instrument of this size (with the body-length of about 65 cm) plays only low-tenor while, as Segerman states, the true bass is played only by the violone. Surely Banchieri’s G-tuned bass\textsuperscript{90} suggests flexibility about the tenor versus bass function of such instruments.

Peter Holman acknowledges the existence of the F-c-g-d’ tuned instrument but (in contrast to Segerman) argues that it was used as a bass, and not as an inner part:

The evidence of both the theoretical sources and the surviving music suggests very strongly that the F, c, g, d’ instrument was properly a small bass and that the inner parts of violin consort music were played by alto/tenor instruments of graded sizes but with the same tuning – that of the modern viola.\textsuperscript{91}

At this point my focus is the existence of the F/G-tuned instrument, not what it plays.

Nevertheless, it is of interest that at a later stage Holman is flexible with allocation of parts:

I use the viola da gamba and related instruments to make the point that instruments (the ‘hardware’) often remain essentially the same, while their function and the music written and arranged for them (‘the software’) changes radically. Thus, after about 1720 the gamba ceased to be a consort instrument or the bass instrument of mixed ensembles with

\textsuperscript{85} Ibid., 274.
\textsuperscript{86} Anthony Baines, ‘Two Cassel Inventories’, GSJ, iv (1951), 33.
\textsuperscript{89} The stop-length is the distance from the edge of the top of the instrument (where it joins the neck) to the sound hole that is to the notch in the F-holes where the bridge sits.
\textsuperscript{90} See Chapter 2.1.b.
its music written in the bass clef, becoming a solo instrument in the alto and tenor register with its music written mostly in the alto and treble clefs.\textsuperscript{92}

Holman here clearly talks about viols, but his hardware-software proposition can also be applied to the F/G-tuned tenor/bass instrument. As seen above, when contrasting Segerman’s argument, Holman acknowledges the existence of the F-c-g-d’ tuned instrument. Ten years later he also allows the possibility of the G-d-a-e’ bass instrument: ‘... small bass violins, particularly those that were used for playing walking along, must have had a higher tuning such as G-d-a-e’...’\textsuperscript{93}

Holman notes the list of fourteen instrumentalists in Penshurst in 1631 and suggests that contratenors, tenors and low tenors most probably play violas.\textsuperscript{94} While discussing ‘The Caroline Court Orchestra’ Holman again specifies the list of fourteen players divided into five categories that is into three trebles, two contratenors, three tenors, two low tenors and four basses and he suggests that the instruments playing the tenor and the low tenor are similar:

> By a warrant dated 20 February 1629/30 Stephen Nau was paid £34 for four instruments, a treble violin (£10), two tenors (£6 each), and a bass (£12)...John Heydon and Thomas Lupo were paid £6 each for buying a ‘tenor violin’ by warrants dated 17 April 1630 and 21 July 1632, which suggests that even though they played in separate sections of the band, the ‘tenors’ and ‘low tenors’, they both played the same type of instrument.\textsuperscript{95}

Holman’s supposition is logical, but – on the other hand – the two tenors could have been of different sizes. The identical prices charged for both tenors do not necessarily offer conclusive evidence. The price difference between the small treble (£10) and the large bass (£12) was only 20%. Hence, arguably, a relatively insignificant difference in size between tenor and low tenor might have warranted no difference in price. It is therefore possible that the low tenors included an F/G-tuned tenor. However, Holman argues convincingly and I will return to some of his arguments later. For now it is of significance that, as seen above, Holman acknowledged the existence of both the F-tuned and the G-tuned instrument.

In her analysis of Hans Mielich’s painting of Lassus and his group of chapel musicians, Nicole Schwindt suggests that one of the instruments – with an approximate body length of 55 cm – is the tenor violin. Schwindt adds that the lowest string might have been F or G and that the instrument could have played either tenor or bass.\textsuperscript{96}

\textsuperscript{92} Holman, \textit{Life After Death, The Viola da Gamba in Britain from Purcell to Dolmetsch}, Woodbridge, 2010, xix.
\textsuperscript{94} Holman, ‘The English Royal Violin Consort’, 59.
\textsuperscript{95} Holman, \textit{Four and Twenty Fiddlers}, 235.
In spite of varying opposition – from Westrup, Boyden and Baines – the past existence of the F/G-tuned cello-type instrument is acknowledged by 20th-century scholars, even if unreserved enthusiasm for it is offered only by Dolmetsch, Hayes, Donington and composer Percy Grainger. However, we need to look for further evidence. We need to check instrument sizes to see how the tenor fits into the violin family, we need to consider descriptions (perceptions) of the tenor in catalogues and iconography and, above all, we need to look for surviving tenor instruments. These issues are discussed in Chapter 3.
Chapter 3: Instruments

To place the F/G-tuned instrument of the violin family in context, first I will examine stringed instruments of various types and several sets of published measurements (3.1). I will follow with lists of instruments in inventories/catalogues (3.2), then with iconographic examples (3.3), and, last but not least, with surviving tenor instruments in museums and private possession (3.4).

3.1. Stringed Instruments and Measurements

3.1.a: Viols, violins and hybrids

The family of violins—rather than the earlier medieval fiddles and rebecs—seems to have been in use by 1511\(^1\) and was well established by the second half of the 16\(^{th}\) century.\(^2\) The viol was in evidence in Europe slightly earlier, towards the end of the 15\(^{th}\) century.\(^3\) In spite of the similarity in their names, violins and viols differ. In general, members of the violin family can be characterised as having rounded backs, f-shaped soundholes (f-holes) and four fretless strings tuned in fifths. In contrast, members of the viol family usually (although not always) have flat backs, C-shaped soundholes (C-holes) and six fretted strings tuned in a combination of fourths and thirds. Five-stringed violin family members and seven-stringed bass viols also exist but they are rarer than those described above.

My two tables, drawn from texts by Sachs and Planavsky, summarise comparisons between viols and violins.

Table 5: Viols and violins compared by Curt Sachs\(^4\)

<table>
<thead>
<tr>
<th>Viole da gamba</th>
<th>Viole da braccio</th>
</tr>
</thead>
<tbody>
<tr>
<td>flat back</td>
<td>bulging back</td>
</tr>
<tr>
<td>back sloped off at the upper end</td>
<td>back not sloped off</td>
</tr>
<tr>
<td>deep ribs</td>
<td>shallow ribs</td>
</tr>
<tr>
<td>sloping shoulders</td>
<td>round shoulders</td>
</tr>
<tr>
<td>edges of sound board and back not projecting</td>
<td>projecting edges</td>
</tr>
<tr>
<td>reinforcing crossbars inside</td>
<td>a reinforcing longitudinal bass-bar inside</td>
</tr>
<tr>
<td>C or flame-holes</td>
<td>f-holes</td>
</tr>
<tr>
<td>broad neck</td>
<td>narrow neck</td>
</tr>
<tr>
<td>gut frets</td>
<td>no frets</td>
</tr>
<tr>
<td>six or seven strings</td>
<td>four thick strings</td>
</tr>
<tr>
<td>sound pale and flat</td>
<td>sound round and full</td>
</tr>
</tbody>
</table>

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\(^3\) Ian Woodfield, ‘Viola’, *NGDMM*, 2001, xxvi, 663.
\(^4\) Sachs, *History*, 347.
Planyavsky’s last criterion, the manner of bowing, may be regarded as a slight digression from comparing actual instruments. In addition, at times, violoncellos might have been played with underhand bowing. However, it is Planyavsky’s first comparison which may not stand up to close scrutiny as, for instance, a large knee-held violoncello may be larger than a knee-held viola da gamba playing in the same tonal register. Exceptions and hybrid instruments also occur; the differences between viols and violins are not always clearly defined. Writing about an early Stradivari violoncello, dated 1667, the Hill brothers remark that ‘the master tried to combine the principal features of both viol and violoncello, for whilst retaining the flat viol back canting off at the top, he adopted the violoncello outline, form of sound-holes, and dimensions.’ Researching from the perspective of the viol, Myrna Herzog has examined surviving patterns and moulds of Stradivari’s viols. She reports that ‘the Stradivari workshop produced some 9 bass viols; and that all 9 had violin traits, such as pointed corners, f-holes (set farther apart than in his celli), ...some had arched backs with an upper fold while others were based on Amati models and were made with the help of their moulds.’ Ian Woodfield mentions ‘viols that are so profoundly influenced by the violin that it makes little sense to classify them in either of the major string families.’ Later he adds that ‘by the mid-16th century the cross-fertilisation between the viol and violin families was sometimes so marked that genuinely hybrid instruments were produced’. The double bass is generally regarded as a member of the violin family but it is tuned in fourths and its back is flat (although the upper section normally slopes towards the neck). Whether the double bass belongs to the viol or violin family or whether it is a hybrid between the two families is not part of this investigation. Nevertheless, it is worth noting two contrasting views. Eric

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6 Vanseheewfijck discusses bow hold issues throughout his article ‘In Search’.
10 Ibid., 137.
Halfpenny is certain that ‘the double bass of today is a violin and not a viol’. He argues that the flat back of the instrument and its tuning in fourths are necessary for the comfort of players and that the underhand bowing had to do with the ‘Dragonetti’ bow, not with bowing the viols. Planyavsky cites examples of double basses with viol as well as violin shapes and he also shows what he determines as a mixed form instrument. On balance, he does not seem to approve the violin family designation for the double bass. In the shortened English version of his standard text on the history of the double bass he remarks: ‘would one in all seriousness designate an instrument as a violin if it had gamba shaped shoulders?’

In spite of some physical similarities and, at times, also musically interchangeable roles with similar-sized members of the viol family, this examination will be restricted mainly to members of the violin family. Furthermore, our purpose is to examine those instruments of the violin family which in measurement – and, arguably, also in function – fall between what may be regarded as the regular full-sized viola and the regular full-sized cello. Several questions arise. Which measurements should we regard as those which quantify the regular full-sized viola and cello? Are in-between instruments clearly identifiable? Do we know what the smallest possible cello and the largest possible viola might be? To find answers to these questions, let us consider available evidence – as found in the relevant literature – regarding the issue of size for violas and cellos respectively.

3.1.b: Measurements

The primary aim here is to determine average sizes for regular violas and cellos but consideration will also be given to sizes between the viola and the cello.

Measurements have been taken by experts as well as by amateurs with a variety of methods and details. Some documents prioritise the overall length, while others omit this dimension altogether. Although the overall length might seem an important detail (and thus it is included in some publications), this measurement is misleading for several reasons and is therefore not considered reliable by violin scholars. As string-instrument expert Benjamin Hebbert explains, it is very difficult to obtain accurate overall length measurements. The difficulties are multilayered: the pegbox and scroll could be longer or shorter by a centimetre or so without any effect on the instrument itself; the endpin may or may not be included; and – most importantly – if the neck has been replaced on an instrument, the new neck need not

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13 Ibid., 41-44.
16 Email message from Hebbert, June 2010.
be of the original length and so the measurement becomes misleading. Hebbert is firmly of
the opinion that consideration of overall length is dangerous as well as unobtainable.
Stewart Pollens acknowledges that necks were often changed and measurements of
instruments have thus increased:

Because the “Soil” and other original Stradivari violin necks all have heel grafts, it is not
possible to establish their original lengths with precision...One significant change made
in the design of the modern violin and viola neck and fingerboard was the extension of
the neck foot beyond the upper surface of the top plate to provide what is termed
“overstand.” Today, this is generally between 6-8 mm. in violins and violas, and 20-22
mm. in cellos.\(^{17}\)

As far as measurements go, the most important measurement for luthiers and scholars in the
field is the length of back, which is often referred to as the length of body. Indeed, while
various other dimensions may or may not be measured, the length of back/body appears to be
constant: often it is the only measurement provided in publications and oral presentations. As
our examination of instruments between the viola and cello aims to establish whether such
instruments were intended to be played on the arm (directly under the chin or in some other
position) or between the legs, another vital measurement to be considered must be the height
of ribs. Thus we will consider these two measurements – length of body and height of ribs –
throughout the discussion. Coincidentally, Thomas Drescher considers the same two
measurements for violoncellos.\(^ {18}\) However, as Benjamin Hebbert notes, it is possible to
change the rib-height of an instrument. This can happen if woodworm gets into the blocks
and linings, or when an instrument is adapted for a new use. There are numerous treble viols
that were turned into violas, often called tenor violins in England, by either introducing a
second fold at the bottom of the back, or by cutting the ribs to a viola height.\(^ {19}\)

Professional players and teachers of the viola and violoncello respectively seem to
assume the following measurements as ‘regular’ or average:
Full-sized viola: length of body c. 40 cm, height of ribs maximum 4 cm.
Full-sized cello: length of body 75 cm, height of ribs 12 cm.
Taking a more comprehensive view, Boyden notes that the body of the viola may be ‘from
2.5 to over 10 cm longer than the violin’s (which is standardized at an average 35.5 cm)’.\(^ {20}\)
Drescher gives thirteen examples which show that body lengths of violoncellos start with c.
71 cm and can go up to 80.3 cm, while rib height alternates between 11 cm and 13 cm.

\(^{19}\) Email message from Hebbert, June 2010.
However, one of Drescher’s examples – made by F. Straub, Friedenweiler, 1689 – has 81.6 cm body length and 15.7 cm rib height.\textsuperscript{21} Klaus Marx accepts 75 to 76 cm as the standard length for the body of the cello.\textsuperscript{22}

Let us now survey twenty relevant publications to see if measurements provided by them would support the assumption for the average sizes of violas and cellos as well as the conclusions by Boyden, Drescher and Marx. For easier overview, separate tables have been created (with violas and cellos) for each publication. The names of instrument makers retain their forms as printed in the individual publications but all measurements are shown in centimetres, regardless of whether they originally appear in inches, centimetres or millimetres. These tables of violas and cellos, showing the length of body and the height of ribs of respective instruments, are presented in chronological order of their cited publications. Within each table the smallest instrument is listed first, followed by the other examples in order of increase. In fifteen out of the twenty publications the measurement of overall length is conspicuous by its absence (thus implying the length of body as the more reliable measurement).

Tables i.-xx: Measurements of 87 violas and 138 violoncellos in twenty publications

\begin{table}[h]
\centering
\begin{tabular}{|c|c|c|c|c|c|}
\hline
\textbf{instrument} & \textbf{maker} & \textbf{place} & \textbf{date} & \textbf{body (cm)} & \textbf{ribs (cm)} & \textbf{page} \\
\hline
viola & Stainer &  & 1660 & 40.64 & 4.59-4.76 & 311 \\
\hline
viola & Stradivari &  & 1672 & 41.11 & 3.33 & 311 \\
viola & Stradivari & The Macdonald & 1701 & 41.11 & 3.64-3.81 & 311 \\
\hline
\end{tabular}
\end{table}

In their comprehensive study, the Hill brothers present tables with data for 50 violins (1 by Maggini, 4 – including small as well as long forms – by Amati and 45 by Stradivari), 10 ‘violas of larger size’ (1 by Gasparo da Salò, 3 by the Amati brothers, 1 by Stainer, 1 by Andrea Guarnerius and 4 by Stradivari) and 19 cellos. The authors discuss small form, small pattern, typical long pattern and large size; they indicate a variation of possibilities in sizes. Their examples of violas range from about 40 cm of body length to 48 cm while their cello examples represent body sizes from about 73 cm to 80 cm. Clearly, the variation in size was formidable among instruments by the great masters.

\textsuperscript{21} Drescher.

\textsuperscript{22} Marx, NGDMM, 856; NGDMI, 806.
<table>
<thead>
<tr>
<th>Instrument</th>
<th>Maker</th>
<th>Year</th>
<th>Length</th>
<th>Width</th>
<th>Thickness</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>viola</td>
<td>A. and H. Amati</td>
<td>1616</td>
<td>41.27</td>
<td>3.17-3.33</td>
<td>311</td>
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<td>3.64-3.96</td>
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<td>3.81-3.96</td>
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<td>45.24</td>
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<td>1690</td>
<td>47.93</td>
<td>3.96-4.27</td>
<td>311</td>
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<tr>
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<td></td>
<td>73.34</td>
<td>10.95-11.26</td>
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</tr>
<tr>
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<td>73.66</td>
<td>11.26-11.89</td>
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<td>74.29</td>
<td>11.43</td>
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<td>period 1730</td>
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<tr>
<td>violoncello</td>
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<td>1730</td>
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<td>1720</td>
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<td>12.38-12.70</td>
<td>313</td>
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</tr>
<tr>
<td>violoncello</td>
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<td>1713</td>
<td>76.03</td>
<td>12.06-12.70</td>
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<td>76.83</td>
<td>11.11-11.43</td>
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<td>1667</td>
<td>76.99</td>
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<td>77.47</td>
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<td>1701</td>
<td>79.05</td>
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<td>313</td>
<td></td>
</tr>
</tbody>
</table>
The authors provide an overview of the life and work of five violin makers of the Cremonese Guarneri family (including the father, two sons and two grandsons). In five separate appendixes the authors supply measurements of instruments made by Andrea Guarneri, Pietro Guarneri of Mantua, Giuseppe Guarneri (son of Andrea), Giuseppe Guarneri del Gesù and Pietro Guarneri of Venice. They present data of altogether 51 violins, 1 viola and 15 violoncellos. As in their Stradivari volume, the authors again note various sizes: ‘...we see that prior to 1600 it was an established practice to make two kinds of violins, the one varying in length from 14 to 14½ inches, the other from 13 to 13¾ and the widths of both varying correspondingly.’ The difference between the lower end of the small violin (13 inches, 33 cm) and upper end of the larger format (14½ inches, 36.8 cm) is significant. The 1.5 inches (3.8 cm) difference in the body-length of violins might have survived into later centuries, possibly resulting in even greater differences among violas and violoncellos.

<table>
<thead>
<tr>
<th>instrument</th>
<th>maker</th>
<th>place</th>
<th>date</th>
<th>body (cm)</th>
<th>ribs (cm)</th>
<th>page</th>
</tr>
</thead>
<tbody>
<tr>
<td>viola</td>
<td>Andrea Guarneri</td>
<td>Cremona</td>
<td>1676</td>
<td>41.43</td>
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<td>violoncello</td>
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<th>body (cm)</th>
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</table>

iii.

Azzolina provides detailed descriptions and photos of 105 Italian instruments of the violin family from the 18th and 19th centuries. He specifies measurements for length of body, upper/lower widths and diapason but height of ribs are not provided. Neither the eleven viola examples nor the four cellos differ hugely from each other in their length of bodies: the difference is only about 3 cm between the smallest and largest violas and cellos respectively. The measurements are around what is assumed to be standard regular size (that is 40 cm for viola and 75 cm for cello).

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24 Diapason here means the distance between the top of the body and the bridge.
<table>
<thead>
<tr>
<th>Instrument</th>
<th>Maker</th>
<th>Origin</th>
<th>Year</th>
<th>Length</th>
<th>Case No.</th>
</tr>
</thead>
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<td>1843</td>
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<td>Mantova</td>
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<td>89</td>
</tr>
<tr>
<td>viola</td>
<td>Joseph (Giuseppe) Rocca</td>
<td>Genova</td>
<td>1853</td>
<td>40</td>
<td>32</td>
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<tr>
<td>viola</td>
<td>Marengo Romano Rinaldi</td>
<td>Turin</td>
<td>1900</td>
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<tr>
<td>viola</td>
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<td>Milan</td>
<td>1854</td>
<td>40.6</td>
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<tr>
<td>viola</td>
<td>Antonio Pedrinelli</td>
<td>Crespano</td>
<td>1818</td>
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<td>57</td>
</tr>
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<td>violoncello</td>
<td>Andrea Postacchini</td>
<td>Fermo</td>
<td>1855</td>
<td>72.9</td>
<td>90</td>
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<tr>
<td>violoncello</td>
<td>Joseph (Giuseppe) Rocca</td>
<td>Genova</td>
<td>1852</td>
<td>74.5</td>
<td>33</td>
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<td>violoncello</td>
<td>Giovan Battista de Lorenzi</td>
<td>Vicenza</td>
<td>1860</td>
<td>75.3</td>
<td>58</td>
</tr>
</tbody>
</table>

iv.

The Hill collection of instruments includes bowed instruments, bows, plucked and keyboard instruments. There are seven examples from the viol family but No. 7 may be regarded as a hybrid as it is a ‘bass viol with certain features of cello’ by the brothers Amati, 1611. The violin family is represented by eleven instruments including six violins – one each by Andrea Amati (1564), Antonius and Hieronymus Amati (1618), Nicola Amati (1649), Jacob Stainer (1672) and two by Antonio Stradivari (1683, 1716 ‘Le Messie’) – a lira da braccio (Giovanni Maria of Brescia, c. 1525), a lira-viola (Gasparo da Salò, Brescia, 1561) and three large

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²⁵ This instrument is discussed in Chapter 3.4.a.
violas. The large ‘Charles IX’ viola by Andrea Amati is one of his 38 instruments – twelve small violins, twelve large violins, six tenors, and eight basses – possibly made for King Charles IX of France.²⁶

<table>
<thead>
<tr>
<th>instrument</th>
<th>maker</th>
<th>place</th>
<th>date</th>
<th>body (cm)</th>
<th>ribs (cm)</th>
<th>page</th>
<th>Illustration</th>
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<tbody>
<tr>
<td>viola (no. 12)</td>
<td>Gasparo da Salò</td>
<td>Brescia</td>
<td>late 16th century</td>
<td>44.4</td>
<td>3.8</td>
<td>19</td>
<td>12</td>
</tr>
<tr>
<td>viola (no. 13)</td>
<td>Antonius and Hieronymus the ‘brothers’ Amati</td>
<td>Cremona</td>
<td>1592</td>
<td>45.4</td>
<td>3.8-4</td>
<td>20</td>
<td>13</td>
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<tr>
<td>viola ‘Charles IX’ (no. 11)</td>
<td>Andrea Amati</td>
<td>Cremona</td>
<td>1574</td>
<td>47</td>
<td>3.8-4</td>
<td>18-19</td>
<td>11</td>
</tr>
</tbody>
</table>

²⁶ Boyden, History, 35-36.


²⁸ Ibid., 739.

²⁹ Boyden, Catalogue, 23.


The index of instruments includes 18 violas, 63 cellos and several hundred violins.²⁷ Goodkind lists six small violins separately: 1683 Cipriani Potter ¾ size, 1684 Soames 13¾ inches (c. 35 cm), 1694 Fry ¾ size, 1712 Fountaine ½ size, 1720 Gillott ½ size, 1736 Skinner ¾ size.²⁸ The Potter is in the Ashmolean Hill Collection, hence it appears in Boyden’s catalogue shown above. Boyden says that ‘this violin is an early example of Stradivari’s work, a beautifully inlaid violin of small pattern, perhaps for a child, and if so, for a beloved or wealthy one... The original neck has been lengthened’.²⁹ As seen, violins were made in a variety of sizes from the outset; we do not know if the smaller violins were made for children. (Kevin Coates suggests that the ‘Charles IX’ small Andrea Amati violins would have played the upper-treble parts in the royal concerts.³⁰) Although listing the six small violins with minimal measurements (as shown above), Goodkind only provides a scale of measurements within which all Stradivari instruments fit.

<table>
<thead>
<tr>
<th>instrument(s)</th>
<th>maker</th>
<th>place</th>
<th>date</th>
<th>body (cm)</th>
<th>ribs (cm)</th>
<th>page</th>
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</thead>
<tbody>
<tr>
<td>viola(s)</td>
<td>Stradivari</td>
<td>Cremona</td>
<td>16./17.</td>
<td>40.9-48.1</td>
<td>3.3-4.3</td>
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<tr>
<td>violoncello(s)</td>
<td>Stradivari</td>
<td>Cremona</td>
<td>16./17.</td>
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</table>

²⁶ Boyden, History, 35-36.


²⁸ Ibid., 739.

²⁹ Boyden, Catalogue, 23.

The eight volumes tackle 289 violins – 36, 28, 47, 25, 35, 40, 42 and 36 respectively – as well as violas and cellos. As specified in the Introduction to volume II, the publication describes all instruments with principal dimensions; that is with the length of body, the upper-, middle-, and lower-width and the length of the table top on the right as well as on the left side. Results of detailed studies of label, wood and varnish are also shown.

vi.
Alte Meistergeigen, i. Venetian School

<table>
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<tr>
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<th>ribs (cm)</th>
<th>page</th>
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<td>Venice</td>
<td>c. 1750</td>
<td>38.50</td>
<td>3.60-3.80</td>
<td>163-166</td>
</tr>
<tr>
<td>viola</td>
<td>Petrus Guarnerius</td>
<td>Venice</td>
<td>mid-18th century</td>
<td>39.75</td>
<td>2.95-3.35</td>
<td>120-125</td>
</tr>
<tr>
<td>viola</td>
<td>Domenico Busan</td>
<td>Venice</td>
<td>1782</td>
<td>40.40</td>
<td>3.70</td>
<td>201-203</td>
</tr>
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<td>viola</td>
<td>Giorgio Seraphin</td>
<td>Venice</td>
<td>1740-1750</td>
<td>40.70</td>
<td>not specified</td>
<td>31-33</td>
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<td>Antonius Pandolfi</td>
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<td>3.60-3.70</td>
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<tr>
<td>violoncello</td>
<td>Sanctus Seraphin</td>
<td>Udine</td>
<td>c. 1700</td>
<td>70.70</td>
<td>10.70-11.50</td>
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<td>violoncello</td>
<td>Petrus II Guarnerius</td>
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<td>1735</td>
<td>73</td>
<td>11.10-11.80</td>
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<td>violoncello</td>
<td>Domenico Montagnana</td>
<td>Venice</td>
<td>middle of 18th century</td>
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<td>11.40-11.70</td>
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<td>Carlo Antonio Tononi</td>
<td>Venice</td>
<td>1745-1750</td>
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<td>10.60-11.10</td>
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<td>Venice</td>
<td>1742</td>
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<td>Michele Deconet</td>
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<td>second half of 18th century</td>
<td>74.70</td>
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<td>Venice</td>
<td>1740-1750</td>
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<td>11.20-11.80</td>
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vii.
Alte Meistergeigen, ii. The Schools of Milan, Florence and Genova

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<th>ribs (cm)</th>
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<td>viola</td>
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<td>Milan</td>
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<td>38.80</td>
<td>3.20-3.40</td>
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31 Arnold Sprenger, Alte Meistergeigen, Frankfurt am Main, 1977-82, ii, 9-10.
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<td>40.70-3.90</td>
<td>173-177</td>
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<tr>
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<td>Milan</td>
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<td>61-64</td>
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<td>Florence</td>
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<td>71.70-11.00</td>
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<td>violoncello</td>
<td>Lorenzo Arcangioi</td>
<td>Florence</td>
<td>middle of 19th century</td>
<td>72.15-11.10</td>
<td>199-202</td>
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<tr>
<td>violoncello</td>
<td>Lorenzo and Tommaso Carcassi</td>
<td>Florence</td>
<td>1779</td>
<td>73.25-12.00</td>
<td>145-148</td>
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<td>Milan</td>
<td>c. 1700</td>
<td>73.50-10.40</td>
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<td>c. 1740</td>
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<td>c. 1760</td>
<td>74.30-11.60</td>
<td>113-116</td>
</tr>
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<td>1750-1760</td>
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<td>c. 1800</td>
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<td>Cremona</td>
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<td>74</td>
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<td>Cremona</td>
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<td>74</td>
<td>11.00-11.80</td>
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<td>74</td>
<td>11.30-12.05</td>
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<td>Nicolaus Amati</td>
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<td>second half of 17th century</td>
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### Alte Meistergeigen, iv. Antonius Stradivarius

<table>
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<td>Cremona</td>
<td>1672</td>
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<td>3.35-3.60</td>
<td>399-402</td>
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<td>Stradivarius</td>
<td>Cremona</td>
<td>1717</td>
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<td>11.40-11.80</td>
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<td>Cremona</td>
<td>1684</td>
<td>76.15</td>
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### Alte Meistergeigen, v. Neapolitan School

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<th>date</th>
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<td>Naples</td>
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<td>41.45</td>
<td>3.70-3.85</td>
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<td>1820-1830</td>
<td>73.30</td>
<td>10.60-11.60</td>
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<td>middle of 19th century</td>
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<td>Naples</td>
<td>c. 1820</td>
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<td>11.50-12.20</td>
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<td>75</td>
<td>11.00</td>
<td>155-158</td>
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<td>Joseph Gagliano</td>
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<td>c. 1800</td>
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<td>11.70-11.90</td>
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<td>Raffaele and Antonio Gagliano</td>
<td>Naples</td>
<td>1855</td>
<td>75.25</td>
<td>11.50-12.00</td>
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### Alte Meistergeigen, vi. The Schools of Rome, Verona, Brescia and Mantua

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xii.

*Alte Meistergeigen*. vii. Violin Builders of the Guadagnini Family and the Turin School

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83
### Alte Meistergeigen, viii. The French School and German Masters

<table>
<thead>
<tr>
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<td>Bozen</td>
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<td>Lyon</td>
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xiv.

Six viols, three liras da braccio, six violins (including one viola and one cello), two violas da’amore, two pochettes, six lutes, three mandolins (one mandore, two mandolins), two citterns and three guitars are analysed. Referring to a ‘Charles IX’ Amati violin, Coates comments that ‘the neck of this Amati, like that of so many other fiddles, has been lengthened and repositioned according to modern practice.’

### Instrument Dimensions

<table>
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<th>date</th>
<th>body</th>
<th>ribs</th>
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<td>London</td>
<td>1718</td>
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xv.

I lifted seventeen violas and seven cellos from Stradner’s table. As we will see later (in Chapter 3.4.a), I challenge Stradner’s designation for his small violoncello. Having examined 44 historical instruments, Stradner assigns tunings for them. He allocates F-c-g-d’ tuning to

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32 Coates, 67.
the tenor violas and to the small violoncello, while the largest violoncello is tuned to B♭-F-c-g. It is of note that the strings attached to the small violoncello (which is housed in the Kunsthistorisches Museum, Vienna) are only for display purposes and do not indicate reliable tuning.34

<table>
<thead>
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<th>maker</th>
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<th>date</th>
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<th>ribs (cm)</th>
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<td>1796</td>
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<td>Hallein</td>
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<td>17..</td>
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34 Email message from museum curator Rudolf Hopfner, May 2010.
20 violins (including a ‘long pattern’ Stradivari violin with 36.2 cm body length), four violas and two cellos are discussed; all from the collection at the Royal Academy of Music. Rattray thinks that a player can adapt to a large instrument: ‘The powerful sound of the [Antonio and Girolamo Amati] viola is both penetrating and masculine. In 1982 the violist Paul Silverthorne took up the challenge of adapting to the size of the instrument, and having explored and developed its tonal possibilities, the viola became an integral part of his performing. This combination has led to several new works, including compositions by Richard Rodney Bennett, *After Ariadne*; Elisabeth Lutyens, *Echo of the Wind* for solo viola; and Robert Saxton, *Viola Concerto*.35 However, Paul Silverthorne is a rather tall gentleman with conveniently long arms. It may be possible that players with shorter arms adapted to large violas by playing them either ‘da spalla’ or between the knees. Regarding violin and viola sizes, Boydenger’s suggestion (that the viola may be from 2.5 to over 10 cm longer than the violin) is well demonstrated by Rattray. The body of the Antonio and Girolamo Amati violin of 1629 is 35.5 cm long, while (with 45.10 cm body length) the viola of 1620 by the same makers is almost 10 cm longer.

<table>
<thead>
<tr>
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<th>maker</th>
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<th>ribs (cm)</th>
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<td>Cremona</td>
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<td>3.90-3.95</td>
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<td>Cremona</td>
<td>1620</td>
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<td>1726</td>
<td>76</td>
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xvii.

The volume commemorates the exhibition, which was held between 26 August and 7 October 1987, in celebration of the 250\textsuperscript{th} anniversary of the death of Stradivari. About 600 violins, violas and cellos survive by Stradivari. This book tackles 30 violins, 5 violas and 5 cellos. In one of the two introductory essays Elena Ferrari Barassi refers to a Stradivari viola da gamba, the preparations of which are ‘documented by two models for the fingerboard and tailpiece, as well as a handwritten note on the drawing of a neck of modern dimensions for *violoncello ordinari*’.\textsuperscript{36} One can only speculate whether the specification ‘ordinary’ distinguishes this drawing from those for viola da gambas or for violoncellos of different sizes/functions. However, evidently there was room for variations. Measurements of the instruments for Charles Beare’s volume were taken with callipers (thus not over the arching, which could show slightly different results).

<table>
<thead>
<tr>
<th>Instrument</th>
<th>maker</th>
<th>place</th>
<th>date</th>
<th>body (cm)</th>
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xviii.


The London exhibition of 180 instruments and bows by makers in the British Isles included 16 violas and 15 violoncellos. Of particular interest is the small violoncello supposedly made by the inventor John Joseph Merlin (London, 1735-1803), who was a friend of music historian Charles Burney (1726-1814) as well as of the painter Thomas Gainsborough (1727-88).\(^{37}\) A 19\(^{th}\)-century letter, written in about 1840, states that the John Joseph Merlin instrument was actually made by John Carter for Merlin. Carter, an assistant to William Forster, was not a freeman and was therefore not able to trade under his own name.\(^{38}\) (We will return to this instrument further in this chapter.)

<table>
<thead>
<tr>
<th>instrument</th>
<th>maker</th>
<th>place</th>
<th>date</th>
<th>body (cm)</th>
<th>ribs (cm)</th>
<th>page</th>
</tr>
</thead>
<tbody>
<tr>
<td>viola</td>
<td>Jacob Ford</td>
<td></td>
<td>c. 1785</td>
<td>37.90</td>
<td>3.80-3.83</td>
<td>174-5</td>
</tr>
<tr>
<td>viola</td>
<td>Vincenzo Panormo</td>
<td>Dublin period</td>
<td>c.1789</td>
<td>38.40</td>
<td>3.73-3.75</td>
<td>268-9</td>
</tr>
<tr>
<td>viola</td>
<td>Thomas Kennedy</td>
<td></td>
<td>c. 1813</td>
<td>38.20</td>
<td>3.55-3.60</td>
<td>234-5</td>
</tr>
<tr>
<td>viola</td>
<td>Benjamin Banks</td>
<td></td>
<td>c. 1785</td>
<td>38.65</td>
<td>3.48</td>
<td>124-5</td>
</tr>
<tr>
<td>viola</td>
<td>Bernhard Simon Fendt II</td>
<td></td>
<td>c. 1840</td>
<td>38.80</td>
<td>3.57-3.67</td>
<td>170-1</td>
</tr>
<tr>
<td>viola</td>
<td>Bernhard Simon Fendt I</td>
<td></td>
<td>c. 1805</td>
<td>39.50</td>
<td>3.28-3.40</td>
<td>166-7</td>
</tr>
<tr>
<td>viola</td>
<td>Simon Andrew Forster</td>
<td></td>
<td>1839</td>
<td>39.50</td>
<td>3.60-3.65</td>
<td>184-5</td>
</tr>
<tr>
<td>viola</td>
<td>Joseph Hill</td>
<td></td>
<td>1774</td>
<td>39.90</td>
<td>3.71-3.73</td>
<td>208-9</td>
</tr>
<tr>
<td>viola</td>
<td>Henry Jay</td>
<td></td>
<td>1766</td>
<td>40.70</td>
<td>3.54-3.60</td>
<td>226-7</td>
</tr>
<tr>
<td>viola</td>
<td>Peter Walmsley</td>
<td></td>
<td>1740</td>
<td>40.70</td>
<td>3.55-3.76</td>
<td>318-9</td>
</tr>
<tr>
<td>viola</td>
<td>William Baker</td>
<td></td>
<td>c. 1685</td>
<td>41.10</td>
<td>4.05</td>
<td>118-9</td>
</tr>
<tr>
<td>viola</td>
<td>Arthur and John Betts</td>
<td></td>
<td>1851</td>
<td>41.40</td>
<td>3.58-3.70</td>
<td>140-1</td>
</tr>
<tr>
<td>viola</td>
<td>Daniel Parker</td>
<td></td>
<td>1715</td>
<td>41.50</td>
<td>3.10/3.13/3.73</td>
<td>278-9</td>
</tr>
</tbody>
</table>


\(^{38}\) Ibid., 44, 256-7.
Mosconi discusses eleven Cremonese instruments: nine violins (Andrea Amati c. 1566, Nicolò Amati 1658, Stradivari 1669, Giuseppe Guarneri filius Andrea 1689, Stradivari 1715, Stradivari 1727, Giuseppe Guarneri del Gesù 1734, Enrico Ceruti 1868 and Simone Fernando Sacconi 1941), one viola and one cello. Details about the viola and the cello are seen below.

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Maker/Owner</th>
<th>Year</th>
<th>Length</th>
<th>Width</th>
<th>Height</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>viola</td>
<td>Barak Norman</td>
<td>c. 1705</td>
<td>41.65</td>
<td>3.77</td>
<td>262-3</td>
<td></td>
</tr>
<tr>
<td>viola</td>
<td>Daniel Parker</td>
<td>c. 1720</td>
<td>42.95</td>
<td>3.61-3.84</td>
<td>282-3</td>
<td></td>
</tr>
<tr>
<td>viola</td>
<td>John Grice</td>
<td>1728</td>
<td>44.98</td>
<td>4.40</td>
<td>194-5</td>
<td></td>
</tr>
<tr>
<td>violoncello</td>
<td>John Joseph Merlin</td>
<td>c. 1780</td>
<td>64.40</td>
<td>8.70</td>
<td>44, 256-7</td>
<td></td>
</tr>
<tr>
<td>violoncello</td>
<td>Barak Norman</td>
<td>1716</td>
<td>71.55</td>
<td>11.10-11.40</td>
<td>264-5</td>
<td></td>
</tr>
<tr>
<td>violoncello</td>
<td>James and Henry Banks</td>
<td>c. 1790</td>
<td>72.95</td>
<td>11.59-11.65</td>
<td>128-9</td>
<td></td>
</tr>
<tr>
<td>violoncello</td>
<td>Samuel Gilkes</td>
<td>c. 1820</td>
<td>73.00</td>
<td>11.50-11.60</td>
<td>192-3</td>
<td></td>
</tr>
<tr>
<td>violoncello</td>
<td>William Forster II</td>
<td>1794</td>
<td>73.32</td>
<td>11.66</td>
<td>180-1</td>
<td></td>
</tr>
<tr>
<td>violoncello</td>
<td>William Forster II</td>
<td>1782</td>
<td>73.40</td>
<td>11.79-11.85</td>
<td>176-7</td>
<td></td>
</tr>
<tr>
<td>violoncello</td>
<td>William Forster IV</td>
<td>1814</td>
<td>73.47</td>
<td>11.85-11.93</td>
<td>182-3</td>
<td></td>
</tr>
<tr>
<td>violoncello</td>
<td>Thomas Kennedy</td>
<td>1813</td>
<td>73.60</td>
<td>11.50-11.65</td>
<td>232-3</td>
<td></td>
</tr>
<tr>
<td>violoncello</td>
<td>Henry Lockey Hill</td>
<td>1810</td>
<td>73.70</td>
<td>11.30</td>
<td>214-15</td>
<td></td>
</tr>
<tr>
<td>violoncello</td>
<td>Benjamin Banks</td>
<td>c. 1790</td>
<td>73.70</td>
<td>11.5-11.53</td>
<td>126-7</td>
<td></td>
</tr>
<tr>
<td>violoncello</td>
<td>Joseph Hill</td>
<td>1772</td>
<td>75.00</td>
<td>11.55-11.35</td>
<td>210-11</td>
<td></td>
</tr>
<tr>
<td>violoncello</td>
<td>Edward Withers</td>
<td>c. 1850</td>
<td>74.60</td>
<td>11.75-12.60</td>
<td>326-7</td>
<td></td>
</tr>
<tr>
<td>violoncello</td>
<td>Thomas Dodd</td>
<td>c. 1800</td>
<td>75.20</td>
<td>11.55-11.77</td>
<td>158-9</td>
<td></td>
</tr>
<tr>
<td>violoncello</td>
<td>Arthur Betts</td>
<td>c. 1825</td>
<td>75.20</td>
<td>12.20</td>
<td>138-9</td>
<td></td>
</tr>
<tr>
<td>violoncello</td>
<td>Charles Harris II</td>
<td>c. 1820</td>
<td>76.70</td>
<td>11.20-11.40</td>
<td>204-5</td>
<td></td>
</tr>
</tbody>
</table>


Cacciatori examines 21 instruments: 13 violins, 5 violas and 3 cellos. 6 of the violins are of small format (with back lengths of 34, 34.1, 34.1, 34.2 and 34.4 cm respectively) while 7 violins conform to the assumed regular pattern (with back lengths of 35.1, 35.1, 35.3, 35.3, 35.4, 35.4 and 35.6 cm respectively). Of the 5 violas and 3 cellos under examination only one instrument – the ‘Charles IX’ viola in the Ashmolean Hill collection – has kept its original size, the other 7 instruments were reduced. Unfortunately, as in all publications in this survey, original sizes are not mentioned. But here, at least, some description is provided about the assumed methods of reduction for six of the seven reduced instruments.

<table>
<thead>
<tr>
<th>instrument</th>
<th>maker</th>
<th>place</th>
<th>date</th>
<th>body (cm)</th>
<th>ribs (cm)</th>
<th>page</th>
</tr>
</thead>
<tbody>
<tr>
<td>viola (“Stauffer”)</td>
<td>Antonio and Girolamo Amati</td>
<td>Cremona</td>
<td>1615</td>
<td>41.10</td>
<td>3.16-3.35</td>
<td>59-66</td>
</tr>
<tr>
<td>violoncello (“Cristiani”)</td>
<td>Antonio Stradivari</td>
<td>Cremona</td>
<td>1700</td>
<td>76.90</td>
<td>11.70-12.20</td>
<td>101-107</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>instrument</th>
<th>maker</th>
<th>place</th>
<th>date</th>
<th>body (cm)</th>
<th>ribs (cm)</th>
<th>page</th>
</tr>
</thead>
<tbody>
<tr>
<td>violin reduced (“violetta”)</td>
<td>attributed to the brothers Amati</td>
<td>Cremona</td>
<td>false label: 1649</td>
<td>39.5</td>
<td>3.19-3.41</td>
<td>232-235 253</td>
</tr>
<tr>
<td>tenor viola reduced</td>
<td>Andrea Amati</td>
<td>Cremona</td>
<td>c. 1560</td>
<td>40.8</td>
<td>3.71-3.99</td>
<td>238-245 253</td>
</tr>
<tr>
<td>tenor viola reduced</td>
<td>Andrea Amati</td>
<td>Cremona</td>
<td></td>
<td>41.9</td>
<td>3.70-3.89</td>
<td>126-131 253</td>
</tr>
<tr>
<td>tenor viola reduced</td>
<td>Andrea Amati</td>
<td>Cremona</td>
<td></td>
<td>43.21</td>
<td>3.62-3.84</td>
<td>134-137 253</td>
</tr>
<tr>
<td>tenor viola (“Charles IX”)</td>
<td>Andrea Amati</td>
<td>Cremona</td>
<td>1574</td>
<td>47.1</td>
<td>3.99-4.13</td>
<td>178-185 253</td>
</tr>
<tr>
<td>violoncello reduced</td>
<td>Andrea Amati</td>
<td>Cremona</td>
<td></td>
<td>74</td>
<td>12.4-12.9</td>
<td>148-151 253</td>
</tr>
<tr>
<td>violoncello reduced (“Charles IX”)</td>
<td>Andrea Amati</td>
<td>Cremona</td>
<td>1566</td>
<td>75.1</td>
<td>11.25-11.75</td>
<td>188-193 253</td>
</tr>
<tr>
<td>violoncello reduced (“The King”)</td>
<td>Andrea Amati</td>
<td>Cremona</td>
<td>after 1538</td>
<td>75.6</td>
<td>11.54-12.21</td>
<td>140-145 253</td>
</tr>
</tbody>
</table>

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39 See Chapter 3.4.a.
The 20 publications surveyed above include entries for 87 violas and 138 violoncellos. Seven violas and five violoncellos, listed chronologically below, are likely to have been duplicated although their details are not shown as identical.

Violas
Amati 1574: tables iv and xx
Amati 1592: tables i and iv
Stradivari 1672: tables i, ix and xvii
Stradivari 1690: tables i and xvii
Stradivari 1690 (larger): tables i and xvii
Gasparo da Salò: tables i and iv
Grancino c. 1690/1700: tables vii and xvi

Violoncellos
Stradivari ‘De Munck’: tables i and xvii
Stradivari ‘Batta’: tables i and xvii
Stradivari ‘Gore-Booth’: tables i and xvii
Stradivari ‘Christiani’: tables xvii and xix
Giuseppe Guarneri 1708: tables ii and viii

From our survey we can conclude that members of the violin family have been made in different sizes. Among our examples the shortest viola back is 37.7 cm while the lowest viola rib is 3.2 cm high. Both measurements, belonging to different violas, appear in table xv. Although the biggest viola back measures 48.1 cm (table v) and the highest viola rib is 5.4 cm (table xv), such large violas are in the minority. Not including two very small cellos, instruments in size between the viola and the cello, the smallest cello body is 70.35 cm (table xii) while the lowest ribs measure 10.50 cm (table vii). Our largest cello has an 80.64 cm body; the highest ribs measure 15.24 cm (table ii). We can concur with the assumption that the average full-sized viola has a body length of c. 40 cm with 4 cm high ribs, and the body of the average full-sized cello is 75 cm long while its ribs are 12 cm high. However, it is impossible to determine what the maximum length of the back of violas and violoncellos was from the outset. Several instruments have been cut down from larger originals, unfortunately without leaving any documentation of their original sizes. Violas could go up to 48 cm while violoncellos to 80 cm. It is also evident that smaller models (than 48 cm for violas and 80 cm for violoncellos) were favoured, most probably on account of their easier handling. It is unlikely to be just a coincidence that two out of only three Cremonese instruments known to have survived in original condition are the Stradivari “Medici” viola (1690) and a viola by Andrea Guarneri (1664), both with 48 cm backs. (The latter does not appear in any of the twenty publications discussed above. 41) Unless played in a different manner from how violas

were supposed to be played (on the arm), such large instruments could have proved impossible to tackle: they survived without any usage and therefore without any damage to them. At the other end of the scale we can safely accept that smaller violas started from just below 38 cm. But what was the smallest size for violoncellos? With the exception of two instruments, our tables indicate c. 70 cm for the smallest body. The John Joseph Merlin instrument with its 64.40 cm body length (table xviii) begs the question: is this a unique violoncello or were there other types of instruments between the very large 48 cm viola and the 70 cm small violoncello? As reported by Milnes, the commission for the Merlin instrument might have come from the instrument’s first owner, Sir Edward Walpole, who called the instrument a ‘Pentachord’. In its original state this pentachord had, as its fifth string, an additional top string tuned to d’. By the 20th century this instrument was changed into a four-stringed violoncello.) Milnes adds that ‘Walpole, a pupil of Cervetto, already owned a similar small five-string cello, which was played in public by C. F. Abel in 1759.’

Intriguingly, Peter Holman reports that the inventor of the pentachord was Walpole. Holman describes both instruments mentioned by Milnes but, significantly, in his report Walpole is the inventor, not only an owner.

…the pentachord was a five-string violoncello. Its inventor was Sir Edward Walpole: his younger brother Horace stated that ‘he invented a most touching instrument, which from the number of strings, he called a pentachord. James Cervetto wrote in the dedication to his Six Solos for the Violoncello and a Bass, Op.3 (1777) that Sir Edward was ‘the sole Inventor of the Pentachord’…

…A pentachord made in about 1775 is still in existence, though it is now an ordinary four-string violoncello. It is stamped ‘I. Merlin London’ (the inventor and instrument maker John Joseph Merlin…) though it is said to have been made by John Carter, an associate of William Forster.44

The slight discrepancy between data reported by Milnes and Holman respectively shows that we cannot be absolutely sure about the history and usage of such (and other in-between) instruments.

The twenty publications examined above deal mainly, although not exclusively, with Italian instruments. Altogether 215 instruments are included; among them five large violas and five small cellos (as seen in chronological order below).

<table>
<thead>
<tr>
<th>Violas with body length larger than 40cm</th>
</tr>
</thead>
<tbody>
<tr>
<td>maker</td>
</tr>
<tr>
<td>Andrea Amati</td>
</tr>
<tr>
<td>Amati brothers</td>
</tr>
</tbody>
</table>

42 Milnes, The British Violin, 256.  
43 Ibid.  
44 Holman, Life after Death, 174-75.
Judging by the data above, larger than 40cm violas and smaller than 75cm cellos were in evidence mostly in Italy but also in Germany, Austria and England. To see if any national/regional centres for tenor instruments between 45cm and 70 cm can be determined, we need to look for further evidence. Let us look at lists of instruments in inventories and catalogues even though data in such lists may not be reliable.
3.2. Lists of Instruments

When looking for evidence of instruments between the viola and the violoncello, inventories and museum catalogues with entries relating to possibly relevant instruments must be considered, even though the whereabouts of such instruments or the terminology applied to them are not clear. The problem with such lists is that any or all of the entries, whether in inventories or catalogues, may be unreliable. In most cases we do not know how the entries were created and who created them. We cannot be sure if the terminology applied to any particular instrument, even if supposedly clear, is accurate. Nevertheless, information in such lists demonstrates perception of the listed instruments and thus we cannot ignore them.

Six inventories and ten catalogues will be discussed. The instruments listed have not been available for inspection for a variety of reasons. Some may be lost, some were destroyed and some may be hidden in safe rooms of museums. These inventories and catalogues do not necessarily constitute a full list of relevant instruments of uncertain whereabouts. However, they indicate instruments of dimensions between those of the viola and the cello.

3.2.a: Inventories

I am presenting the inventories in chronological order; all six were compiled in the 17th or 18th centuries. Between them they represent four countries: Germany (with three inventories), Italy, England and Spain. Two inventories list instruments belonging to royal households (Cassel and Köthen); the third (from Leipzig) lists Bach’s estate on his death. The Italian inventory deals with musicians in Venice, but also specifies their instruments. The English inventory lists all musical instruments belonging to the collection of the English aristocrat Sir Samuel Hellier, while the Spanish example contains Boccherini’s belongings in 1787.

Table 7: Instruments from six inventories between 1613 and 1787

<table>
<thead>
<tr>
<th>Date</th>
<th>Location</th>
<th>Tuning</th>
<th>Strings</th>
<th>Body length</th>
<th>Terminology</th>
</tr>
</thead>
<tbody>
<tr>
<td>1613/1638</td>
<td>Cassel/Marburg</td>
<td>from F or G</td>
<td>4</td>
<td></td>
<td>Tenorgeige</td>
</tr>
<tr>
<td>1750</td>
<td>Leipzig</td>
<td></td>
<td></td>
<td></td>
<td>Bassetgen</td>
</tr>
<tr>
<td>17th/18th cent.</td>
<td>Venice</td>
<td></td>
<td></td>
<td></td>
<td>viola da spalla</td>
</tr>
<tr>
<td>1780-70</td>
<td>Wombourne</td>
<td></td>
<td></td>
<td></td>
<td>small violoncello</td>
</tr>
<tr>
<td>1773</td>
<td>Köthen</td>
<td>4/5</td>
<td></td>
<td></td>
<td>violoncello piccolo</td>
</tr>
<tr>
<td>1787</td>
<td>Madrid</td>
<td></td>
<td></td>
<td></td>
<td>small violoncello</td>
</tr>
</tbody>
</table>

Our six inventories do not provide all the information needed for evaluation. Measurements are missing and tuning is specified only in one instance. However, circumstances surrounding these instruments and the varied terminology applied imply the possibility of F/G-tuned tenor instruments and thus they merit investigation.
i. Cassel, Germany, 1613
An inventory from the Cassel Court of Landgrave Moritz, dated 1613, lists as item 30 ‘Eine grosse Tenorgeige mit 4 Seitten aus dem G oder F unden gestimmet’, that is, one large tenor violin with four strings, tuned upwards from G or F.¹ A later inventory (listing the estate of Wilhelm V, the son and heir of Landgrave Moritz), dated 1638, includes possibly the same instrument again, but this time without referring to any tuning (and employing different spelling): ‘Eine grosse Tenor geige mit vier seiten’.² These manuscript inventories are now housed in the Marburg state archives.³ We do not have any measurements for the instrument and we do not know what happened to it in later years. Nevertheless, the 1613 entry is significant. If the inventory is accurate, it proves that the instrument under our investigation was known in Germany in the early 17th century.

ii. Leipzig, Germany, 1750
It is not beyond possibility that such an instrument as the Tenorgeige mentioned in the Cassel inventory above was also in Bach’s possession. Bach’s own 19 instruments – listed in an inventory taken at the time of his death in 1750⁴ – included nine stringed instruments: 2 violins, 1 piccolo violin, 3 violas, 1 bassettgen and 2 cellos (1. Stainerische Violine, 1. Schlechtere Violine, 1. dito Piccolo, 1. Braccie, 1. dito, 1. dito, 1. Bassettgen, 1. Violoncello, 1. dito).⁵ As seen, the bassettgen is listed between the viola and cello entries. Although the piccolo violin is listed after the two violins, it is unlikely that the bassettgen – listed after the violas – is a piccolo viola, which would have had to be a small viola with higher tuning than the regular viola. Arguably, the word ‘bassettgen’ may indicate a lower register. It is tempting to propose that the bassettgen was a viola pomposa or a violoncello piccolo or, indeed, a tenor violin similar to the Cassel tenor. It is hard to define the exact nature of these instrument types but it is possible that the bassettgen might have functioned as a four or five-stringed large viola, a four or five-stringed small cello, or a small cello tuned either to F or to G. Any of these versions could have been used for Bach’s violoncello piccolo parts, which sometimes were clearly designated but other times were not specified. It is unlikely that Bach’s nine stringed instruments did not include an instrument suitable for performing his violoncello piccolo parts.⁶

¹ Zulauf, 117.
² Ibid., 134. (Items are not numbered.)
³ Email message from Konrad Wiedemann of Kassel and Dr. Langkabel of Marburg, July 2009; Marburg archives inventory reference: 4 b, Landgräfliche Hofhaltung, No.465 (1613) and No.281 (1638).
⁴ BD, ii, 490-498.
⁵ Ibid., 492-493.
⁶ Bach’s use of violoncello piccolo is discussed in Chapters 2.2.b. and 4.
iii. Venice, Italy, 17th and 18th centuries

Selfridge-Field publishes a list of instrumentalists at the Basilica of San Marco, Venice, during the 17th and 18th centuries. At the end of the 17th century the musicians included Caldara, Tonini, Moro and Bononcini as viola da spalla players. Viola, cello and violone players also appear in the list, thus the specification of the viola da spalla is likely to indicate an instrument in its own right. Indeed, Caldara is listed as a player of the viola da spalla, the violoncino and the contralto while Tonini, Moro and Bononcini play only the viola da spalla. This latter may be a big viola or a small variant of the cello, supported by a strap across the chest of the player. However, it could also be played between the knees as cellos were played. The knee position would have made it easier for Caldara to alternate between the viola da spalla and the violoncino (violoncello); his viola da spalla might have functioned as a cello-type tenor violin.

iv. Wombourne, Staffordshire, England, 1768-70

In 1964, Maurice Byrne and a research team from the Galpin Society found an inventory of instruments belonging to Sir Samuel Hellier (1736-1784). In their extensive discussion of Hellier’s instruments, Catherine Frew and Arnold Myers estimate the date of the inventory as somewhere between January 1768 and February 1770. The document, in Hellier’s handwriting, was found among some 300 volumes of music constituting the Shaw-Hellier Collection. It was still stored, alongside several 18th-century musical instruments, in the estate of Wodehouse – near the village of Wombourne, Staffordshire – which once belonged to and was managed by Sir Samuel. At the time of the Galpin research team’s discovery (1964), the estate was owned by Miss Mary Shaw-Hellier. Sir Samuel was a non-practising barrister with a degree of Master of Arts from Oxford (1758) and he was, above all, passionate about music. Hellier played the violin and harpsichord. He purchased a large amount of music and also assembled instruments to create a Handelian orchestra. Hellier’s violins included one made by Amati (1646) and one by Stradivari (1679), the latter now known as the famous ‘Hellier’ Strad. The stringed instruments in his inventory – that is, in his Handelian orchestra – consist of four violins, one tenor violin (which, in this instance, surely must mean the viola), one small violoncello, two violoncellos and a double bass. The question inevitably

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7 Selfridge-Field, 292-308.
8 Ibid., 304.
9 See Chapter 2.2.b.i.
10 Caldara’s compositions are discussed in Chapter 4.
arises: what was the function of the small violoncello? Hellier had no children, and none of his other instruments is represented by smaller versions. In the absence of any evidence to the contrary, consideration should be given to the possibility that this small violoncello belonging to Hellier’s Handelian orchestra might have been used with F or G tuning.

v. Köthen Court, Germany, 1773

As shown by Bunge, the Köthen Court inventory of 9 October 1773 includes ‘Ein Violon Cello Piculo mit 5 Seiten von J.C. Hoffmann 1731’ (a five-stringed violoncello piccolo by Johann Christian Hoffmann, 1731) and ‘Ein Violon Cello Pic. mit 4 Seiten von J.H. Ruppert, 1724’ (a four-stringed violoncello piccolo by Johann Heinrich Ruppert, 1724). 13 A later undated inventory seems to include the same instruments, that is ‘Ein Violoncello Piccolo mit 5 Seiten von Hoffmann’ and ‘Ein Violoncello Pic. mit 4 Seiten von Ruppert, 1724’14 while another inventory – evidently also undated – lists ‘1 Violoncello Piccolo mit 5 Saiten von Hoffmann, 1 desgl. mit 4 Saiten von Ruppert 1724’. 15 In 1998 Mark Mervyn Smith reported that a modernised Hoffmann viola da pomposa, dated 1732 and housed in the Museum of Musical Instruments at the University of Leipzig, might have been made in 1731.16

According to Smith, museum director Eszter Fontana felt certain that the original date of 1731 was later changed into 1732.17 Smith proposes that this Hoffmann pomposa may be identical with Köthen Court’s 1731 Hoffmann violoncello piccolo. If we are dealing with one and the same instrument, various listings of it provide illuminating reading. Kinsky explains that it was changed into a viola in the 19th century but later it was changed back into a viola pomposa. 18 Drüner also notes that, according to R. Eras,19 in the 19th century the instrument was changed into a four-stringed viola but later it was re-instated into its five-stringed form.20 However (adds Drüner), according to W. Schrammek,21 the original form was for four strings. Smith personally examined the instrument and reports that it has been modernised but, by analysis of its design, it is possible to reconstruct its original form on paper: the position of the holes for the tuning pegs shows that there were originally five pegs, not four.22

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14 Ibid., 40 (Nos. 20 and 21).
15 Ibid., 42; the spelling here is Saiten (previously Seiten) for strings.
17 Ibid.
18 Kinsky, Musikhistorisches Museum, 555.
19 Rudolf Eras, violin maker/musicologist; curator at the Markneukirchen Instrument Museum, 1940-1942.
20 Drüner, 110 (No.8).
Notwithstanding the variations in these comments about the 1731 Hoffmann, it seems certain that – as shown in the 1773 as well as in later Köthen inventories – the Hoffmann and Ruppert violoncellos piccolo were part of the instrument collection at the Köthen Court in the 18th century.

vi. Madrid, Spain, 1787

Unfortunately Boccherini (1743-1805) has not provided measurements for his violoncellos in his inventory of personal belongings dated 26 April 1787. He lists ‘Ittem un Violon de Estayner con su Caja en mil y quinienttos Reales 1 @ 500’ (A violoncello by Stainer with its case, valued at 500 Reales) and ‘Ittem un Violon Chico con su Caja en doscientos Reales @ 200’ (A small violoncello with its case, valued at 200 Reales). 23 It is possible that the difference in value may well indicate a substantial difference in size.

As seen, four of the six inventories refer to instruments which are neither violas nor violoncellos. The remaining two, the Wombourne and Madrid examples, specify small violoncellos although their function is not clear. However, it is possible that these two instruments too were somewhere between the viola and the violoncello both in size and in tonal register. Outside the framework of these inventories, documentation suggests that similar instruments were used at the English court in the early 17th century. Murray Lefkowitz lists the “King’s musicians for the violins” for the 1634 performances of Shirley’s Triumph of Peace. 24 The list includes players of treble violin, tenor violin, countertenor violin, low tenor violin and bass violin. Arguably the countertenor and/or low tenor may be regarded as between the viola and violoncello. The six inventories (and Lefkowitz’s 1634 list) indicate that such in-between instruments might have been in use in England, Germany, Italy and Spain during the 17th and 18th centuries.

3.2.b: Museum catalogues

Ten catalogues, here discussed, list musical instruments apparently belonging to museums, but in some instances also to private collections or temporary exhibitions. Countries represented include Belgium (1 entry), Britain (1 entry), Germany (4 entries), Italy (2 entries) and the United States (2 entries). Clarity is often conspicuous by its absence. However, within the ten catalogues, over forty instruments indicate sizes between the standard viola and the standard cello by descriptions of various kinds. Below follows my table with details of

23 Archivo Histórico de Protocolos de Madrid (AHPM), no. 20.908, fols. 101-109; Tortella, Boccherini: un músico italiano, 265-267.
thirty instruments where lengths of bodies are specified. The order in the table follows the order of countries in my subsequent discussion. Columns show places of the museums, dates/centuries when the instruments were made, relevant instrument makers/countries of origin, length of bodies and terminology.

Table 8: Instruments in size between violas and cellos in museum catalogues

<table>
<thead>
<tr>
<th>Catalogue</th>
<th>Date</th>
<th>Made in/by</th>
<th>Body length (cm)</th>
<th>Terminology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Britain</td>
<td>18(^{th}) cent.</td>
<td>Italy (?)</td>
<td>53</td>
<td>tenor violin</td>
</tr>
<tr>
<td>Leipzig</td>
<td>1741</td>
<td>Leipzig/Hoffmann</td>
<td>45.5</td>
<td>violoncello piccolo</td>
</tr>
<tr>
<td>Leipzig</td>
<td>1759</td>
<td>Klingentahl/Hoyer</td>
<td>59.5</td>
<td></td>
</tr>
<tr>
<td>Leipzig</td>
<td></td>
<td>Sweden</td>
<td>67</td>
<td>small cello/piccolo</td>
</tr>
<tr>
<td>Leipzig</td>
<td>1732</td>
<td>Leipzig/Hoffmann</td>
<td>45.5</td>
<td>viola pomposa</td>
</tr>
<tr>
<td>Leipzig</td>
<td>18(^{th}) cent.</td>
<td>Klingentahl/Klinger</td>
<td>50</td>
<td>viola pomposa</td>
</tr>
<tr>
<td>Leipzig</td>
<td>18(^{th}) cent.</td>
<td>Borstendorf/Mosch</td>
<td>46</td>
<td>viola pomposa</td>
</tr>
<tr>
<td>Leipzig</td>
<td>18(^{th}) cent.</td>
<td>Leipzig/Hoffmann</td>
<td>59.5</td>
<td>violoncello piccolo</td>
</tr>
<tr>
<td>Leipzig</td>
<td>18(^{th}) cent.</td>
<td>Italy</td>
<td>58</td>
<td>violoncello piccolo</td>
</tr>
<tr>
<td>Leipzig</td>
<td>19(^{th}) cent.</td>
<td>Bohemia</td>
<td>54.5</td>
<td>violoncello piccolo</td>
</tr>
<tr>
<td>Halle</td>
<td>18(^{th}) cent.</td>
<td>Poland</td>
<td>55.4</td>
<td>Tenorgeige tuned to Gdae'</td>
</tr>
<tr>
<td>Halle</td>
<td>1735</td>
<td>Munich/Alletsee</td>
<td>47.8</td>
<td>viola, Tenorgeige</td>
</tr>
<tr>
<td>Halle</td>
<td>1753</td>
<td>Rome/Pollusca</td>
<td>46</td>
<td>viola pomposa</td>
</tr>
<tr>
<td>Berlin</td>
<td>1678</td>
<td>J.Chr. Zäncker</td>
<td>47.3</td>
<td>viola da spalla</td>
</tr>
<tr>
<td>Berlin</td>
<td>1754</td>
<td>Wighalm/Nuremberg</td>
<td>68</td>
<td>small model</td>
</tr>
<tr>
<td>Berlin</td>
<td>18(^{th}) cent.</td>
<td></td>
<td>57.3</td>
<td>small model</td>
</tr>
<tr>
<td>Berlin</td>
<td>1780</td>
<td>Reichel/Neukirchen</td>
<td>49.4</td>
<td>violoncello piccolo</td>
</tr>
<tr>
<td>Berlin</td>
<td>18(^{th}) cent.</td>
<td>Germany</td>
<td>45.9</td>
<td>violoncello piccolo</td>
</tr>
<tr>
<td>Berlin</td>
<td>c.1800</td>
<td>Germany</td>
<td>47.2</td>
<td>violoncello piccolo</td>
</tr>
<tr>
<td>Berlin</td>
<td>18(^{th}) cent.</td>
<td>Reigeld/Neukirchen</td>
<td>63</td>
<td>small model</td>
</tr>
<tr>
<td>Milan</td>
<td>1580?</td>
<td>Gasparo Da Saló?</td>
<td>59 or 60</td>
<td>violoncello piccolo</td>
</tr>
<tr>
<td>Milan</td>
<td>1674</td>
<td>Guarneri/?Cremona?</td>
<td>66</td>
<td>violoncello piccolo</td>
</tr>
<tr>
<td>Milan</td>
<td>1914</td>
<td>Zorzi/Florence</td>
<td>54.7</td>
<td>controviolino tuned to Gdae'</td>
</tr>
<tr>
<td>Florence</td>
<td>1900</td>
<td>Zorzi/Florence</td>
<td>54.6</td>
<td>controviolino/tenor tuned to Gdae'</td>
</tr>
<tr>
<td>Florence</td>
<td>1902</td>
<td>Zorzi/Florence</td>
<td>54.5</td>
<td>controviolino/tenor tuned to Gdae'</td>
</tr>
<tr>
<td>Florence</td>
<td>1904</td>
<td>Zorzi/Florence</td>
<td>53.5</td>
<td>controviolino/tenor tuned to Gdae'</td>
</tr>
<tr>
<td>Florence</td>
<td>1904</td>
<td>Zorzi/Florence</td>
<td>53.5</td>
<td>controviolino/tenor tuned to Gdae'</td>
</tr>
<tr>
<td>Florence</td>
<td>1908</td>
<td>Zorzi/Florence</td>
<td>52.6</td>
<td>controviolino/tenor tuned to Gdae'</td>
</tr>
<tr>
<td>Florence</td>
<td>1910</td>
<td>Zorzi/Florence</td>
<td>52.5</td>
<td>controviolino/tenor tuned to Gdae'</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>1731/34</td>
<td>Hoffmann/Leipzig</td>
<td>45</td>
<td>viola pomposa</td>
</tr>
</tbody>
</table>
Before drawing any conclusion from the instruments listed above, let us look at relevant but problematic descriptions in the ten catalogues under examination.

BELGIUM

i. Antwerp

The catalogue for the music instruments at the Museum Vleeshuis is neither fully informative nor consistent.\(^{25}\) Thus it is not clear what the measurements are for a violoncello, Mittenwald (?), Klotz (?), 17\(^{th}\) century with a Stainer label of 1666.\(^{26}\) The overall length of 115cm indicates that the instrument is likely to be of relevance for our investigation but, without exact body-length and rib-height, no conclusion can be drawn. Enquiries to the museum have yielded no response while the author of the catalogue, long retired from the museum, does not have the required information.\(^{27}\)

BRITAIN

ii. Galpin Society

The *British Musical Instruments, August 7-30, 1951* – the catalogue of an exhibition organised by the Galpin Society – specifies an instrument as a ‘Tenor violin, 18\(^{th}\) century, maker unknown: body length 21 in., tuned an octave lower than the violin. Possibly Italian. Lent by Mrs Arnold Dolmetsch.’\(^{28}\) It is possible that this instrument is identical with the tenor violin now housed in the Horniman Museum although there the instrument’s nationality is supposed to be English, rather than ‘possibly Italian’. There is also a very slight discrepancy regarding the body-length: the 21 inches specified in this Galpin catalogue would correspond with 53.34 cm while Horniman’s notes specify 54 cm. (In October 2012 I myself measured 52.5/53.5 cm without/with rims). However, as this instrument is part of Horniman’s Dolmetsch Collection, it is very likely that the tenor violin specified as ‘lent by Mrs Arnold Dolmetsch’ in the Galpin exhibition catalogue is identical with the tenor violin currently in the Horniman Museum.\(^{29}\)

GERMANY

iii. Leipzig

The Museum for Musical Instruments at the University of Leipzig has a vast collection of European instruments, including about 300 stringed instruments from the 16\(^{th}\) to the 20\(^{th}\)

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\(^{26}\) Ibid., 141 (No.411, VH 61.10.2).

\(^{27}\) Email message from Jeannine Lambrechts-Douillez, May 2011.


\(^{29}\) See Chapter 3.4.a.
However, it appears to be impossible to verify the string collection as access to these instruments is either very restricted or is not available. The most recent catalogue for the collection of stringed instruments is by Kinsky and it dates from a hundred years ago, when many of these instruments were still in Cologne.\(^\text{30}\) (The museum’s recent online catalogue draws data from Kinsky.\(^\text{31}\)) In fact, there are two catalogues of this collection, both prepared in the early 20\(^{\text{th}}\) century. Paul de Wit’s catalogue of 1903 precedes Kinsky’s by almost ten years but it cannot be ignored.\(^\text{32}\) De Wit believed that the viola pomposa in his collection was the only known example,\(^\text{33}\) but nine years later Kinsky reported additional examples. Made by Johann Christian Hoffmann, Leipzig, 1741, de Wit’s viola pomposa measures 45.5 cm in body-length, and the ribs are 8.75 cm high. (These measurements are supplied by Kinsky,\(^\text{34}\) as de Wit provides only total lengths throughout.) De Wit remarks that, because of its form and size, this viola pomposa has to be played in knee position: either on the knees or between the knees. De Wit’s collection includes four violoncellos piccolo. The instrument by Andreas Hoyer, Klingenthal, 1759 has a body-length of 59.5 cm while the ribs measure 10.25 cm.\(^\text{35}\) A Swedish violoncello piccolo (which appears as a small violoncello in Kinsky) is supposed to be the work of an amateur maker. Nevertheless, its 67 cm body-length and 6.5 cm high ribs are of interest.\(^\text{36}\) De Wit describes two further violoncellos piccolo. Both are of good quality – one in the Hoffmann style, the other a Stainer model (with the name Klinger shown at the back) – but these examples cannot be identified with full confidence in Kinsky’s catalogue. Nevertheless, de Wit states that the Klinger instrument – possibly an enlarged pomposa – must be played between the knees as its dimensions would make it impossible to play it under the chin.\(^\text{37}\)

Kinsky’s three Tenorgeige are large violas. But under ‘diverse violas’ (Verschiedenartige Bratschen) he lists a Violon-Tenor with the label ‘B. Dubois, Paris, 1833’.\(^\text{38}\) Body-length is only 43.5 cm – thus only 3.5 cm above the average viola – but, significantly, the ribs are 8.25 cm high (thus more than doubling rib-heights of average

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\(^\text{30}\) http://nmf.uni-leipzig.de/dt/dasmuseum/europ_Musikinstr.php.
\(^\text{31}\) Georg Kinsky, *Musikhistorisches Museum von Wilhelm Heyer in Cöln*, ii, Cologne, 1912. The collection was acquired for the University of Leipzig in 1926.
\(^\text{32}\) Email message from retired museum director Eszter Fontana, February 2018.
\(^\text{33}\) Paul de Wit, *Katalog des Musikhistorischen Museums*, Leipzig, 1903.
\(^\text{34}\) Ibid., 99 (No.267).
\(^\text{35}\) Kinsky, 555 (No.919).
\(^\text{36}\) De Wit, 110 (No.315); Kinsky, 565 (No.933).
\(^\text{37}\) De Wit, 110 (No.316); Kinsky, 566 (No.936).
\(^\text{38}\) De Wit, 110 (Nos.318/319).
\(^\text{39}\) Kinsky, 545-546 (No.914).
violas). Surprisingly, Kinsky reports two tunings for it: a fifth below the viola (which surely means F-c-g-d’) as well as an octave below the violin (surely meaning G-d-a-e’).

Kinsky’s catalogue includes four viola pomposas: by Johann Christian Hoffmann, Leipzig, 1732 and 1741 respectively, by Klinger (possibly Christian Gottlieb Klinger of Klingenthal) and by Johann Traugott Mosch, Borstendorf near Augustenburg. As mentioned earlier, the 1732 Hoffmann may be identical with the 1731 Hoffmann in the Köthen Court inventory of 1773 and the 1741 Hoffmann is included in de Witt. Kinsky places the Klinger in the mid-18th century, the Mosch in the second half of the 18th century. All four pomposas are strung with five strings; three of the four could probably qualify as very large violas if they did not have their high ribs. Body-length and rib measurements for the four instruments are as follows: Hoffmann 1732, 45.5/9 cm; Hoffmann 1741, 45.5/8.75 cm; Klinger, 50/9.5 cm; Mosch, 46/8.25 cm. The Klinger is of particular interest, as its size clearly places it between the regular viola and regular violoncello. It is possible that de Wit’s No. 319 Klinger violoncello piccolo, which de Wit describes as possibly an enlarged viola pomposa, may be identical with this viola pomposa. However, there is more than 10 cm difference between de Wit’s 99 cm and Kinsky’s 87.5 cm overall length.

Like Paul de Wit, Kinsky also catalogues four instruments as violoncellos piccolo. Kinsky’s Hoyer instrument of 1759 is identical with that of de Wit’s. It is possible that Kinsky’s No. 932 entry is identical with de Wit’s Hoffmann-style No. 318 violoncello piccolo, as Kinsky raises the possibility of the instrument being the work of Johann Christian Hoffmann, Leipzig, from the first half of the 18th century. However, de Wit’s measurement for the total length (108 cm) does not match that of Kinsky (103 cm). Furthermore, although Kinsky classifies this instrument as a violoncello piccolo, he is uncertain: he suggests that this is an interesting transitional type between the alto viola da gamba and the violoncello. Kinsky’s description (as that of de Wit) includes some viol-type features. At any event, Kinsky’s measurements for 59.5 cm body-length and 11 cm ribs are of note. It is impossible to determine, if Kinsky’s remaining two violoncellos piccolo have anything to do with any of de Wit’s instruments. Nevertheless, the size of Kinsky’s remaining violoncellos piccolo, from the 18th and 19th centuries respectively, is of importance: a 58 cm body with 9 cm ribs (No. 934, Italian) and a 54.5 cm body with 8.5 cm ribs (No. 935, Bohemian). Kinsky shows the photo of the four-stringed Italian violoncello piccolo but, in his text, he does not mention the

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40 Kinsky, 555-556 (Nos.918-921).
41 De Wit, 110 (No.315); Kinsky, 565 (No.933).
42 De Wit, 110; Kinsky, 565.
number of strings on any of his violoncellos piccolo. As only one photo represents this group, it is possible that all four examples have four strings. iv. Händel Haus, Halle

Three instruments of relevance need to be discussed here.

A Polish Tenorgeige with a body-length of 55.4 cm is specified in both available catalogues describing the instruments of the Händel Haus in Halle. The Händel Haus catalogue places the instrument – with its 6.1-6.2 cm rib-height (and G-d-a-e’ tuning) – to the first half of the 18th century, while Heyde narrows the period to the beginning of the 18th century. He adds that instruments of this old-type form had been documented in neighbouring Saxony already in the 16th century, but were no longer built in the 19th century.

A 47.8 cm instrument made by Paul Alletsee, Munich, 1735, is also mentioned in both catalogues. However, it is described as a viola with 3.8-3.9 cm rib-height in 1972 but as a tenor violin in 1983. Heyde places Alletsee (who died in Munich in 1738) among the best Bavarian lute and violin makers. Listed for exhibition during 2014, this instrument was specified as a tenor violin on the Händel Haus’s website. Their specification casted doubt about the authenticity of the Alletsee label but it did not have any problem with the tenor violin description. This entry followed immediately after a viola, therefore any confusion about terminology between viola and tenor violin can be ruled out.

The 1972 catalogue incorporates a five-stringed viola da pomposa – with C-G-d-a-e’ tuning – by Antonio POLLUSCA, Rom, 1753. Measurements are specified as 46 cm for the body and 4.5 cm for the ribs. The whereabouts of this instrument are unclear, enquiries to the museum have yielded no response.

v. Berlin

According to Irmgard Otto, her catalogue of stringed instruments in the Musikinstrumenten-Museum is fully inclusive up to the end of 1972. Instrument curator Annette Otterstedt...
writes that this catalogue is still valid as ‘since then, we didn't acquire more instruments of this type’.\(^\text{52}\) Out of the eighteen cello-type instruments, we need to consider seven.

Instrument No. 4517 is described as a viola da spalla by Johann Christian Zänker, 1678, in a violoncello form.\(^\text{53}\) With its 47.3 cm body and 6.5 cm ribs this instrument is closer to a viola than to a cello. A violoncello labelled as by Leopoldus Widhalm, Norimbergae (Nuremberg), 1754, is described as a Stainer-type small model, the equivalent of a modern three-quarter size cello.\(^\text{54}\) With its 68 cm body-length and 11.3 cm rib heights, the three-quarter size is a possibility, but so is a different function (with different tuning) from that of a regular cello. An 18th-century cello, possibly Italian and possibly from Milan, had two previous false labels removed: ‘Antonius & Hieronymus Fr. Amati/Cremonen Andrea fil. F. 1630’ and ‘Jacobus Stainer in Absam/prope Oenipontum 17’.\(^\text{55}\) Described as a small, graceful and well-proportioned model, the instrument was purchased by the museum in 1951. With its 57.3 cm body and 8.9 cm ribs, this instrument is firmly in the cello-type tenor violin range.

The catalogue specifies three instruments as violoncellos piccolo. The first, purchased by the museum in 1952, is by Johann Adam Reichel, Neukirchen, 1780.\(^\text{56}\) With its 49.4 cm body and 7.8 cm ribs, the qualification as piccolo cello is acceptable although on the small side. Drüner, who saw the instrument, reports four strings.\(^\text{57}\) The other two violoncellos piccolo are set up with five strings, although earlier they had only four. Both instruments are German. The first, with a 45.9 cm body and 7.2 cm ribs, dates from the end of the 18th century,\(^\text{58}\) while the second, with the slightly larger dimensions of a 47.2 cm body and 7.7 cm ribs, is dated c. 1800 and was purchased by the museum, as the Reichel example above, in 1952.\(^\text{59}\) The latter is referred to as a small model, while the smaller instrument is described as a graceful and clear copy of a Stainer model. Another instrument is specified as a small violoncello as well as a small model; it is labelled as by Johann Adam Reigeld, Neukirchen, 17”” and measures 63cm for body, 8.6 cm for ribs.\(^\text{60}\)

It is clear that small models or violoncellos piccolo were not unusual in 18th-century Germany. This Berlin catalogue alone describes seven such instruments.

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\(^{52}\) Email message, April 2010.
\(^{54}\) Ibid., No.4264, 252-53.
\(^{55}\) Ibid., No.4226, 256.
\(^{56}\) Ibid., No.4241, 257.
\(^{57}\) Drüner, 111/20; email message, May 2011.
\(^{58}\) Otto, *Katalog*, No.2479, 258; Drüner, 109/3.
\(^{60}\) Otto, *Katalog*, No.4168, 263.
vi. Nuremberg

Van der Meer compiled his guide to the collection of historical musical instruments in the German National Museum, Nuremberg for the general public.\textsuperscript{61} He lists six instruments of possible relevance to our topic but he does not provide measurements. The six instruments include a South-German tenor viola,\textsuperscript{62} another 17\textsuperscript{th}-century tenor viola,\textsuperscript{63} a Polish viola pomposa from the first half of the 18\textsuperscript{th} century,\textsuperscript{64} the four-stringed violoncello piccolo by Andreas Jais, Tölz, 1713 and the apparently viola da gamba turned five-stringed violoncello piccolo also by Andreas Jais, Tölz, 1724.\textsuperscript{65} (There is no mention of any viola da gamba origin in notes currently held by the museum.\textsuperscript{66}) The sixth instrument, catalogued as MI 313, is described as a viola da spalla or a bassoon violin by Leopold Widhalm, Nuremberg, 1747.\textsuperscript{67} (The same instrument is a viola in current museum notes.\textsuperscript{68}) Such conflicting data reveal some of the problems when identifying relevant instruments from catalogues.

ITALY

vii. Milan

Natale and Franco Gallini’s catalogue of the museum of musical instruments includes three instruments which are of interest to our investigation.\textsuperscript{69} The section on the Brescia School includes a violoncello by Gasparo da Salò, c. 1580.\textsuperscript{70} Described as a wonderful instrument (“stupendo strumento”), the body-length of 60 cm and c. 9 cm high ribs (with 9.5 cm height at the bottom and 8.7 cm at the top) suggest an early example of a good quality instrument between the viola and the cello in size. However, a photo of the instrument (XIX) shows a short cello spike which is unlikely to have been there in c. 1580. In the museum’s more recent catalogue, compiled by Andrea Gatti, this same instrument is a ‘violoncello piccolo’ from the Italian School by an unknown maker with a 58.9/59.4 cm body and 8.6/9.1 cm ribs.\textsuperscript{71}

The Gallini catalogue describes an example from the Cremona School as a violoncello – although with the qualification that it is in the form of a violoncello piccolo – which is

\textsuperscript{62} Ibid., 13, MIR 832; MIR indicates musical instruments from the collection of museum founder Wilhelm Rück.
\textsuperscript{63} Ibid., 24, MIR 837.
\textsuperscript{64} Ibid., 36, MIR 836.
\textsuperscript{65} Ibid., 36, MIR 838, 843.
\textsuperscript{66} See Chapter 3.4.a.
\textsuperscript{67} Meer, 1976, 55.
\textsuperscript{68} See Chapter 3.4.a.
\textsuperscript{70} Ibid., 38-39, No.42.
\textsuperscript{71} Andrea Gatti, \textit{Museo degli Strumenti Musicali}. Milan, 1998; 156 and 158, No.168, inv.n.42.
attributed to Andrea Guarneri, 1674. It measures 66.3 cm in body and 11.2 cm (bottom) / 10.4 cm (top) in ribs. Gatti describes this instrument as a violoncello piccolo with a 66.2 cm body-length and with 10.2/10.4 cm ribs by an unknown maker of the Italian School. In their section on the School of Turin, the Gallinis show a contra violin (controversiolo) by Valentino de Zorzi, Florence, 1914. The body is 54.7 cm and the ribs measure 5.7 cm (top)/5.9 cm (bottom). The four strings are tuned to G-d-a-e', one octave below the violin. As shown in a photograph (XLIII), the instrument seems to be equipped for a cello-spike. Thus, in spite of its relatively narrow ribs, one can assume that the instrument was supposed to be played between the knees as a cello. In Gatti’s photo, this instrument appears without a cello-spike holder and Gatti provides measurements of a 53.4/53.6 body with 5.85/5.95 cm ribs. The difference between the Gallini and Gatti measurements is about 1 cm in body which may account for the spike holder. On the other hand, the discrepancy of up to 1 cm is also evident in the Gasparo da Salò and Andrea Guarneri instruments discussed above. There are other types of differences too: these not only cause confusion but also raise concern about the credibility of catalogues in general. For instance, Gallini’s late 18th-century four-stringed viola da gamba is an early 20th-century violoncello piccolo in Gatti, who includes a photo showing a guitar-shaped, four-stringed instrument with f-holes and a cello-spike. Gallini’s 18th-century three-stringed bassetto di viola, described as a viola da gamba type, is specified as a 19th-century violoncello piccolo by Gatti who, nevertheless, shows the photo of a gamba-shaped instrument with three strings and f-holes. Admittedly, some instruments are difficult to specify and thus to catalogue. However, the discrepancies between Gallini and Gatti are baffling. Furthermore – for reasons unknown – Gatti specifies violoncellos even up to 73 cm in body-length as violoncellos piccolo, yet such size comfortably belongs to regular violoncellos, even if on the smaller scale.

Florence

In his 1969 catalogue of musical instruments at the museum of the Luigi Cherubini Conservatoire, Gai provides the historical background for the tenor as well as an extensive and detailed description of six contra violins by Valentino de Zorzi of Florence. Although

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72 Gallini, 46, No.55.
73 Gatti, 158-159, No.169, inv.n.55.
74 Gallini, 77, No.119.
75 Gatti, 143-145, No.50, inv.n.119.
76 Gallini, 18, No.7; Gatti, 160, No.172, inv.n.7.
77 Gallini, 18, No.8; Gatti, 160, No.171, inv.n.8.
78 Gatti, 165-166, Nos.176-179.
my focus is not on 20\textsuperscript{th}-century instruments, these Zorzi examples are included because they seem to have been made to replace lost tenors from earlier times. The six instruments – also referred to as tenore\textsuperscript{80} – were made in 1900 (No. 26), 1902 (No. 27), 1904 (Nos. 28 and 29), 1908 (No. 30) and 1910 (No. 31) respectively. Their body-lengths measure 54.6, 54.5, 53.5, 53.5, 52.6 and 52.5 cm while their ribs are 6.2/6.8, 6/6.3, 6.1/6.3, 6/6.3, 5.9/6.1 and 5.9/6.1 cm high. The instruments seem to be similar to Zorzi’s 1914 contra violin which, as discussed, is supposed to be in the museum for musical instruments in Milan. The tuning for all examples is G-d-a-e'.\textsuperscript{81} It is of note that de Zorzi (Venice, 1837-1916) appears to have made at least seven contra violins between 1900 and 1914, that is during the last decade and a half of his long life. Who played these instruments and what repertoire did they play? In due course, this topic may be discussed in a separate publication.

UNITED STATES

ix. Massachusetts

*The Belle Skinner Collection of Old Musical Instruments* – ‘a descriptive catalogue compiled under the direction of William Skinner’ – presents an instrument as an early 18\textsuperscript{th}-century, Italian viola da braccio or tenor viol.\textsuperscript{82} The shape is unique, while the sound-holes could be interpreted as C-holes gone wrong. According to the catalogue’s description ‘this viola has an urn-shaped and curved body...it is a very curious instrument of large pattern, with rose under the finger-board and flaming-sword sound-holes.’ With c. 43 cm length of body and c. 7 cm height of ribs, this instrument is only slightly larger (but higher) than the average viola. However, it was repaired by a certain R. Wolf, a cellist, in 1883. Inside the instrument there is a repair note: ‘Repariert R. Wolf Violoncellist (1883)’. We do not know if Wolf played this instrument and whether he played it as a cello. Showing a four-stringed set-up, the catalogue entry does not refer to any tuning although, with only four strings, the tenor viol description is negated.

x. Los Angeles

In Erich Lachmann’s collection there is an instrument, which the catalogue describes as a viola da pomposa by Johann Christian Hoffmann, Leipzig, 1731.\textsuperscript{83} Supposedly in original state, this instrument with its f-holes and violin corners is clearly a member of the violin family. Reportedly tuned to C-G-d-a-e’, the c. 43.5 cm body-length and c. 8.25 cm ribs are

\textsuperscript{80} Ibid., 84.
\textsuperscript{81} Ibid.
\textsuperscript{83} Erich Lachmann, *Collection of Historical Stringed Musical Instruments*, Los Angeles, 1950, 46.
slightly smaller than the Hoffmann instrument possibly still in the Leipzig museum (and catalogued by Kinsky as No.918). Earlier we discussed the possibility of the latter instrument originating from the Köthen Court. But could it be Lachmann’s 1731 Hoffman viola da pomposa, rather than Kinsky’s Leipzig example, which originates from Köthen? We may not find the answer but it seems that Lachmann’s 1731 Hoffman viola da pomposa may now be in the University of California’s Berkeley collection where it was seen (by Robert Portillo) in 1991. Badiarov lists an instrument labelled Joh. Christian Hoffmann, Leipzig, 1734, classified as a viola pomposa. He allocates it to the University of California, Berkeley, and acknowledges a former student at Berkeley for information. Measurements given by Badiarov (45 cm body, 9 cm ribs) – possibly taken by the former Berkeley student – differ from those by Lachmann, and there is discrepancy regarding the date too. With two different sets of measurements and dates, one could assume that Berkeley houses two viola pomposas. But they have only one, although Berkeley curators are unable to take measurements.

Clearly, we cannot rely on catalogues. Their measurements and terminology contain contradictions and thus confusion. However, they show perception which cannot be ignored.

Four of our ten catalogues deal with German collections. In addition, examples from the United States (Massachusetts and Los Angeles) also originate from German collectors. German examples dominate and strongly indicate the use of instruments mid-way between the viola and cello in Germany. However, our English and Italian catalogues point towards a wider, European use. Indeed, our inventory and catalogue examples indicate that there must have been instruments mid-way between the viola and cello which were in use in Europe during the Baroque as well as earlier and later times. Will this possibility be supported by iconographical perceptions? Let us look at the available evidence.

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84 Email correspondence with Antonio Lysy and Robert Portillo, June 2011.
86 Email correspondence with Jim Coates, Operations Manager, Music Department, Berkeley, June 2011.
3.3. Iconography

A thorough investigation into instruments of dimensions between the viola and the cello must include iconography. Here the term ‘iconography’ simply means a visual representation although, in the broader terms of art history, iconography deals with the way something is represented and its possible meanings to a viewer. Admittedly, iconographical evidence of musical instruments may not be reliable on a simple descriptive level. On the contrary: at times paintings can be misleading and inaccurate, thus creating considerable limits and risks when using iconographical evidence (for instance, for determining crucial proportions). My iconographical examination often depends on estimating sizes of instruments illustrated; this is a hazardous task full of potential pitfalls – not least because of the question of perspective and distance from the painter. Nevertheless, such a method remains an essential guide to what instruments might have looked like or, to be more precise, what kind of perceptions existed about them. What follows here, therefore, is a description of musical instruments in visual representations, seen through the eyes of a musician (rather than through the eyes of an artist or an art historian) and some thoughts on the perception thus gained.

I will present 34 iconographical examples for those members of the violin family which are larger than the viola but smaller than the violoncello. As demonstrated earlier, the average size of a viola’s body can be assumed to be 40 cm while cellos tend to be 75 cm in body length: they do not go under 70 cm. In my iconographical examples I will be looking for images of instruments which could be interpreted as those representing body sizes between about 45 cm and 70 cm. Playing mode will be noted but depending on the size of any particular instrument and that of any particular player, instruments larger than the viola but smaller than the cello could in theory be played under the chin or on the shoulder (in ‘da spalla’ mode) or between the legs. The number of strings on any particular instrument will be observed where possible but – owing to the nature of iconography – tuning cannot be considered. I will proceed in chronological order.

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1 Chapter 3.1.b.
In the course of the violin’s evolution from its ancestors (including the rebec), certain hybrid types appeared. As reported by Kinsky, this woodcut showing four sizes of instruments – apparently played by Plato, Aristotle, Galen and Hippocrates – appeared in Symphonia, Platonis cum Aristotele: Galeni cum Hippocrate by Symphorianus Camperius, Paris, 1516.²

² Kinsky, Musikhistorisches Museum, 505 and 510 fn.2.
The body outline of the instruments resembles the early violin although the circles approximately in the middle of the instruments represent the rosette (seen in mediaeval and renaissance instruments). Neither C-holes, nor violin-type f-holes are indicated. The four sizes of instruments are played in three ways: the soprano instrument is held under the chin, the tenor and alto are on the lap – thus perhaps (but not necessarily) indicating the viol playing mode – and the bass appears to be held between the knees. It is tempting to consider that the violin-shaped bass, slightly larger than the tenor in this woodcut, could be the earliest iconographical representation of the instrument between the viola and the violoncello. But we see only the shape and the back of the instrument. However, it is reasonable to assume that violins of various sizes were made around the publication of this 1516 woodcut. It is true that the first known violin maker – Andrea Amati of Cremona (c.1505-c.1578) – started work slightly later, but the violin was depicted in a fresco by Garofalo (in the Palazzo di Ludovico il Moro, Ferrara) already sometime between 1505 and 1508.³

2. Gaudenzio Ferrari, Saronno fresco (1534-36)

By common consent, the first known iconographic evidence for three sizes of the violin family – violin, viola and cello – appears in a fresco painted by Ferrari (c.1475-January 1546) in the cupola of the ‘Saronno Cathedral’.\(^4\) The fresco is assigned to the Saronno Cathedral in far too many publications to list here, but Mary Remnant clarifies that, in reality, a Saronno Cathedral does not exist (although it often shows up in incorrectly translated English texts).\(^5\) Other locations mentioned in connection with this often-cited fresco include the Santa Maria delle Grazie, Saronno\(^6\) and a church named Le Madonna dei Miracoli, otherwise known as Il Santuario di Saronno\(^7\) or Santa Maria dei Miracoli, Saronno.\(^8\) Variousy referred to in the English literature as Angel Musicians or Choir of Angels or similar, there seems to be no doubt that the fresco is in Saronno, and Ferrari depicts angels making music. Dimitry Markevitch comments that the angel playing a primitive type of cello (with reversed f-holes) is our best proof for the emergence of the cello before 1535.\(^9\) Bonta states that comparison of the size of the instrument with that of the player shows that this bass violin – as Bonta terms violoncellos made before 1665 – is much smaller than violoncellos of today.\(^10\) Bonta is right but we need to take a closer look. If we measure the viola and the bass violin in Ferrari’s fresco (for instance, in Gill’s copy) we get the proportion of 2:3 (with the viola’s body measuring 2 cm while the bass measures 3 cm). If we assume a 40 cm body-length for the viola, the 2:3 proportions make the bass 60 cm. As seen,\(^11\) a 60 cm body eminently qualifies for an instrument which is larger than the viola but smaller than the violoncello. If the Saronno fresco is the first iconographic representation of the violin family (although here the violin is played pizzicato) – and if there is no iconographical occurrence of the bass of the family earlier than 1534 – then, significantly, the first appearance of the bass is not a violoncello (or bass violin) but the instrument under our investigation. Thus, as reasonable to expect, this instrument would have emerged in the order of treble – alto – tenor (– bass), rather than jumping two sizes from alto to bass: it would have been the size of a tenor, even if it was playing bass in appropriate circumstances.

\(^4\) Boyden, History, plate. 2; Remnant, Musical Instruments, 60-61; Gill, 14-15; Grout/Palisca, plate vii; etc.
\(^7\) Remnant, ‘Gaudenzio Ferrari’, 151.
\(^8\) Holman, Four and Twenty Fiddlers, 2.
\(^9\) Dimitry Markevitch, Cello Story, 15.
\(^10\) Bonta, ‘Corelli’s Heritage’, 228.
\(^11\) Chapter 3.1.b.
3. Bonifacio Veronese, *Dives and Lazarus* (1540)

The bowed stringed instrument played in *Dives and Lazarus* (that is, in *Il ricco Epulone* or *Il ricco Epulone e Lazzaro*) by Bonifacio Veronese (1487-1557), is hard to determine. This painting, housed in the Gallerie dell’ Accademia, Venice\(^\text{12}\) and reproduced by Sauerlandt,\(^\text{13}\) shows three musicians playing in the portico of a country house. The lady musician plays a small lute; the gentleman in the background is shown with a recorder. One could argue that the combination of the lute and recorder would require a viol for the third instrument. But neither the player’s posture nor the shape of the instrument convinces whether the instrument is a viol, a member of the violin family or a hybrid. Its body size is roughly double that of the lute; it rests on the floor and is held between the knees of the player who sits on a chair. The size of the instrument, compared to the player as well as to the lute, suggests a small bass (be it a viol, violin or hybrid) which is larger than the viola but smaller than the violoncello.

\(^{12}\) Catalogue number 291, confirmed by Gallerie dell’ Accademia, January 2011.
\(^{13}\) Max Sauerlandt, *Die Musik in fünf Jahrhunderten der europäischen Malerei, etwa 1450-1850*, Leipzig, 1922, 78.
Emanuel Winternitz presents a detail from the outside façade fresco (titled *Assumption of the Virgin*) of Madonna di Loreto in Roccapietra.\(^4\) He attributes the fresco to an anonymous

painter, school of Gaudenzio Ferrari, in the middle of the 16th century. Vanscheeuwijck presents the same detail from the fresco but notes that it is attributed to Luini around 1540-42 (thus slightly earlier than the middle of the century).15 Winternitz has no doubt that the instrument played by the angel on the right belongs not only to the violin family, but specifically to the tenor size. Under his illustration, he specifies the instrument as tenor violin and compares it to the Saronno fresco’s bass (which he also terms as tenor violin).

5. Hans Mielich, Lasso codex (c.1565-1570)

Mielich (1516-1573) illuminated the codex which contains Orlando di Lasso’s Penitential Psalms.16 One of these Mielich’s miniatures, showing Lasso surrounded by his musicians and singers at the court of the Duke of Bavaria, is reproduced in many publications.17 We see only the top half of an interesting instrument – played ‘da spalla’, with four strings and f-holes – as the bottom half is behind a bass player. The side of the upper body rests on the virginal from where Lasso directs his ensemble of about twenty singers and fifteen instrumentalists. The musician playing this instrument is obscured by those around him but we see his left hand fingers on the fingerboard. He stands in front of a man playing a large viola. The instrument played in ‘da spalla’ mode is much larger than the viola but evidently small enough to be played in this mode. We do not know if this particular instrument was played between the knees on some other occasions. However, as suggested by Nicole Schwindt,18 we may need to consider the tenor violin as part of Lasso’s instrumental ensemble.

16 Orlando di Lasso, Die sieben Bußpsalmen mit der Motette Laudes Domini, ii, manuscript in Bayerische Staatsbibliothek [Bavarian State Library], Munich, Mus.ms. A II; confirmed by BSB, March 2011.
17 Boyden, History, plate 15; Maurice W. Riley, The History of the Viola, Ann Arbor, 1980, 98; Meer, Musikinstrumente, 1983, 80; Grout/Palisca, plate vi; etc.
18 See Chapter 2.2.b.
In the Palastarchitektur mit Musizierenden (Imaginary Palace with a Musical Company), the Dutch Renaissance architect and painter Hans Vredeman de Vries (1527-1606?) depicts a small violoncello-like instrument held vertically on a stool by the player – fourth, bottom left corner – who stands but bends down to his instrument while playing. (This type of playing is seen in the often published print by Picart, 1701, and will be discussed later). The only person
standing upright among the musicians appears to be two and half times taller than the body of the violoncello-like instrument. This indicates that the man is either exceptionally tall or the instrument’s size is of relevance to our investigation. As the player himself bends down to play – although the instrument is placed on a stool – we can assume the latter. The 135x174 cm oil on canvas painting was initially in the gallery of Rudolf II in Prague. It is now displayed (in a 154.3x191.7x7.5 cm frame) in the Kunsthistorisches Museum of Vienna and is reproduced in the catalogue of an itinerant exhibition.

7. Ludovico Caracci, *The Glory of the Angels* (early 17th century)
Mary Remnant publishes twice a detail (that is, an angelic orchestra) from *The Glory of the Angels* by Ludovico Caracci (1555-1619) in the Church of San Paolo, Bologna. In both books she specifies the single stringed instrument (among bass trombone, shawm, cornett, recorder, harp and lute) as a tenor violin. We cannot see the tenor violinist angel fully. However, the instrument is violin shaped with f-holes and appears to be a third of the size of the trombone: thus this stringed instrument may indeed qualify for the tenor violin description.

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21 Spelling in Oxford Art Online is Carracci.
8. Jan Brueghel the Elder, *Boda campestre* (c.1612)

In his *Boda campestre* (Rustic Wedding), Jan Brueghel the Elder (1568-1625) places a group of three string players almost in the centre of his 84x126 cm oil on canvas painting which depicts a large crowd around the village church. The three musicians play violin, viola and a very small cello played in ‘da spalla’ mode. Of the three musicians, the ‘da spalla’ player receives the most attention while he in turn appears to be looking directly at the painter. The

In *Bacchanale/The Golden Age* by van Haarlem (1562-1638), approximately twenty persons – including four nude women – are seen in a grove or garden. In the top right hand corner of the painting (which is oil on canvas, 157x193.5 cm) there are three musicians: a violinist, a flautist and a cellist. The four-stringed cello seems about twice the size of the violin but it is only marginally longer than the flute. Furthermore, the nude woman in the right-hand bottom corner seems to be three times bigger than the cello. If we take 70 cm as the smallest possible length for the body of a violoncello, then this woman must be nearly 7 ft (about 210 cm) tall which is an unlikely height. Therefore these proportions and the playing position indicate the possibility of a small violoncello (measuring less than 70 cm). The player uses the underhand bow-hold, which is usual for viol playing, but the instrument is clearly shaped as a member of the violin family. Although the painter’s full name is Cornelis Corneliszoon van Haarlem, he is usually referred to as Cornelis van Haarlem. The painting is displayed in the

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10. Gerrit van Honthorst, *Concerto* (1610-1620)

Bonta mentions this painting by Honthorst (1592-1656) as an example for the small bass violin. The *Concerto*, painted during Honthorst’s Italian stay 1610-1620, is supposed to be in the Galleria Borghese, Rome, and is reproduced by Bonta. The painter shows five pegs but only four strings. In spite of this error, the violin shape and the f-holes place the instrument firmly with the violin family. Although the player is sitting and bending down, the scroll of the pegbox hardly reaches his shoulder. The instrument is likely to be small and, most probably, should be held higher between the knees.

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25 Inventory number 2062, confirmed by the museum in email January 2011.
26 Ferino-Pagden, 225.
27 Bonta, ‘Corelli’s Heritage’, pl. 7.
Daniel Rabel’s design for a theatrical dress in the *Ballet des fées des forêt de Saint Germain* (Dance of the fairies at the Forest of Saint Germain) is supposed to have been traced by
Badiarov who publishes it. He comments that the ribs of the instrument are low, but the string-length suggests that this is a bass. Indeed, the body of the instrument in relation to the player seems large enough for tenor/bass function. The number of strings (and tuning pegs) is difficult to determine but the violin shape and f-holes are clear. The ‘da spalla’ mode of playing and the overhand bow-hold indicate a member of the violin family.

12. Abraham Bosse’s illustrations to Gaultier’s *La Rhétorique* (c.1652), first example

Denis Gaultier was a composer and lute player. His collection of music titled *La Rhétorique des Dieux* (The Rhetoric of the Gods) was compiled between 1648 and 1652 and included engravings by Le Sueur, Abraham Bosse and Robert de Nanteuil. Bosse’s engraving for Mode XI. includes (as second from the left) what one might call a ‘da spalla’ player. Compared to the violins – one of which is first from the left and two are placed on the far right – his instrument is smaller than a violoncello which should be at least twice the size of

28 Badiarov, 139.
the violin. The strings and pegs (both of which look like numbering six), the C-holes and the frets might discourage us from regarding the instrument as a member of the violin family. However, the violins too are fretted and have C-holes. All these instruments have violin shapes and are played with overhand bowing.

13. Bosse, *La Rhétorique* (c.1652), second example

For Mode XII, our ‘da spalla’ player is second from the right; this time, the player’s instrument has four strings and is played with overhand bowing. In spite of some inaccuracies, the ‘da spalla’ playing mode – that is, an instrument too big to play under the chin – is firmly established. The manuscript of Gaultier’s *La Rhétorique des Dieux* forms part of the collection of the Kupferstichkabinett (Museum of drawings, prints and fine manuscripts) of the National Museums in Berlin.\(^{30}\)


Art historian Andrew Graham Dixon quotes F. M. Tassi,\(^{31}\) an 18th-century author, while writing about Evaristo Baschenis (Bergamo, 1617-1677): ‘That in which he truly succeeded was a most unusual manner that he himself invented which was his alone … he painted every sort of instrument of sound with incredible naturalness and truth, and he succeeded in this

\(^{30}\) MS 78C12, Staatliche Museen, Preussischer Kulturbesitz, Berlin; confirmed in February 2011.

\(^{31}\) possibly Francesco Maria Tassi (1710-1782).
with a perfection that has never been equalled.’ Dixon adds that ‘Baschenis was a keen amateur musician and a connoisseur of fine stringed instruments. His art pays indirect tribute to the work of the great Lombard instrument-makers at work in his lifetime, who included Niccolo Amati and his pupils Andrea Guarneri and Antonio Stradivarius’. Clearly, Baschenis was closely acquainted with stringed instruments and he painted many of them. If he painted a cello which looks too small to be a cello, then it is likely that he depicted an instrument in size between the viola and the cello (rather than that he made a mistake in sizes). In his *Natura morta con strumenti musicali, globo e sfera armillare* (Still life with musical instruments, globe and armillary) Baschenis paints – among other objects – a violin, a guitar and what could be regarded as a violoncello. However, the violoncello is smaller than what may be expected; its body length appears to be less than double that of the violin. The 78x118 cm canvas painting is displayed in the Kunsthistorisches Museum of Vienna.33

15. Bartolomeo Bettera, *Strumenti musicali* (1660)
Like Baschenis, Bartolomeo Bettera (Bergamo 1639-Milan after 1688) as well as his son Bonaventura Bettera (Bergamo 1663-1718) painted many still-lifes with musical instruments. Donington publishes a painting by Bartolomeo Bettera and subtitles it as ‘Guitarra Battente, Lute, Trumpet, Tenor Violin and bow’.34 The 72x95 cm oil on canvas painting is displayed as *Strumenti musicali, sopra un tavolo* (Musical Instruments on a Table) in the Accademia

33 Inv.-Nr. GG_9148; https://www.khm.at/objektdb/detail/114.
Carrara, Bergamo.\textsuperscript{35} Compared to the lute, trumpet and the violin, the instrument specified by Donington as tenor violin is too big to represent a violin or viola and is too small for a violoncello. We cannot be sure of the exact proportion of measurements as the tenor violin is further back in the painting and is slightly obscured by the lute. However, the impression is that the tenor violin is about one and half times bigger than the violin. This proportion places Donington’s tenor violin between the viola and the cello. In Rosci’s publication of paintings by Baschenis and Bettera more than fifty deal with musical instruments.\textsuperscript{36} Apart from our Donington example, three more Bettera still-lifes (with musical instruments) appear to contain tenor violins.\textsuperscript{37} Although it is not clear whether father Bartolomeo or son Bonaventura is the painter, it is unlikely that these instruments are too small for violoncellos or too large for violas out of carelessness. On the contrary, great care seems to have been taken to be accurate.

16. Stefan (Stephan) Kessler, \textit{The Prodigal Son} (1662)

Remnant publishes a black and white photo of a painting by Kessler (1622-1700) and subtitles it as ‘Musicians at a feast, playing violin, spinet, violin piccolo, lute, tenor violin and bass violin. Detail from \textit{The Prodigal Son squanders his Inheritance}, by Stefan Kessler, 1662, Innsbruck, Collection of Dr Hans Graf Trapp.’\textsuperscript{38} On Remnant’s photo – which she herself took on a visit to an exhibition\textsuperscript{39} – the first man from the right plays a bass violin in the Baroque knee-hold. The second man from the right is partially hidden behind the bass

\textsuperscript{35} Inv.761 – 1873.
\textsuperscript{37} Ibid., 157, 158 and 160.
\textsuperscript{38} Remnant, 1978, 209.
\textsuperscript{39} Information obtained via a phone conversation and a personal meeting with Remnant, February 2011.
violin player but he appears to be playing a large viola or small cello in ‘da spalla’ mode. Arguably, rather than naming it as a tenor violin, Remnant could have specified this instrument as a viola da spalla or violoncello da spalla. However, if held between the knees, this small instrument could indeed qualify for the (cello-type) tenor violin. Kessler produced several – at least three – cycles of paintings illustrating the story of the Prodigal Son.40 Remnant’s example comes from the Innsbruck cycle, but there are many musical instruments depicted in the other cycles too.

17. Stefan Kessler, *Verlorener Sohn* (c.1660)
There are ten musicians in the *Verlorener Sohn unter Kurtisanen/Allegorie des Sommers* (The Prodigal Son among the Courtesans/Allegory of the Summer), Wroclaw cycle. A man plays an instrument which may be either a cello-shaped bass viol or a small bass violin. A woman and a man walking in the centre appear to be more than three times taller than the body of the instrument. This means that the instrument must be smaller than a bass violin (the body of which would need to be a minimum of 70 cm long), or the woman and the man walking in the centre must be at least 7 ft (about 210 cm) tall. However, it seems reasonable to consider this instrument to be shorter than 70 cm, thus assuming the man and woman to be well below 210 cm and the instrument as a small type, in size between that of the viola and the cello.

18. Stefan Kessler, *Festbankett* (c.1660-65)
Another cycle, containing five paintings titled *Der verlorene Sohn* (The Prodigal Son), is shown in the catalogue of a Kessler exhibition, 2005. Three of the five paintings include

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42 Andergassen/Stampfer, 274-279.
musicians. On the left side of *Festbankett im Freien* (Festive Banquet Outdoors),\(^{43}\) there seem to be eight to ten musicians, including one bass viol player playing an instrument with at least five strings; behind him is either a smaller viol (with four pegs) or a tenor violin. All five paintings are reported to be 164.5 cm high and 233 cm wide (in 196.5x265 cm frames). Possibly a more accurate description of the musicians and instruments could be determined from the original paintings (the whereabouts of which are not clear). Nevertheless, the woman and the man walking in the centre of *Festbankett im Freien* seem to be the same people as those walking in the centre of the courtesan scene of the Wroclaw cycle. However, the musicians change from scene to scene, from cycle to cycle.

19. Stefan Kessler, detail from *Lockere Gesellschaft* (1662)

The painting published by Remnant in black and white (seen above as image 16) appears in the Andergassen/Stampfer 2005 catalogue too, but this time it is a reproduction of the whole (rather than just a part), in colour, under the title *Lockere Gesellschaft* (Unchaste Company).\(^{44}\) In the upper right side of the painting six musicians (including Remnant’s tenor violinist, second from the right) entertain some twenty guests. Together with the other three

\(^{43}\) Ibid., 276.
\(^{44}\) Ibid., 154.
paintings of the Innsbruck cycle, this 72 cm high and 170 cm wide oil on canvas painting hangs in the Trapp Palace, Innsbruck.\(^{45}\)

20. Giovanni Antonio Pistocchi, Bononcini sketch (c.1670)

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\(^{45}\) Confirmed by Count Trapp, February 2011.
The inside front cover of the *Violino Primo* part of Giovanni Maria Bononcini’s Op.3 sonatas⁴⁶– belonging to a set of parts housed in the Bologna library – displays a crude ink sketch showing three musicians, one of whom is likely to be Corelli, who became a member of the Bolognese Accademia Filarmonica in 1670.⁴⁷ The author of the drawings, Giovanni Antonio Pistocchi (himself a violinist in the Bolognese church of San Petronio during the latter part of the 17th century) names the Corelli figure as “Archangelo” on the sketch. Another figure named is Bononcini, that is the composer, who was a violinist but – judging by this drawing – also a viola da spalla (or violoncello da spalla) player. The instrument shown with Bononcini is at least twice the size of the violin on the same sketch. Perhaps the sketch was drawn in jest but surely Bononcini’s instrument is too large to be a violin or viola (although, surprisingly, Talbot says that the instrument which Bononcini plays here is ‘clearly a violin’⁴⁸).


According to a short article (by an anonymous author) on Andrea Celesti (Venice 1637-?1712),⁴⁹ the most distinguished works of Celesti’s early period are two large lunettes that show three scenes: *Benedict III Visiting St Zacharias*, *A Doge Presented with the Body of a Saint*, and the *Virtues Surrounding a Doge Holding the Model of St Zacharias* (c. 1684, Venice, S Zaccaria). The five-stringed violin-shaped instrument in the first of these paintings

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⁴⁷ Talbot, ‘Pistocchi Sketches Corelli (and Others)’, *Studi Corelliani*, v, Florence, 1996, 441.
⁴⁸ Ibid.
⁴⁹ *DoA*, 137.
shown by Badiarov as well as Vanscheeuwijck, although specified by the latter as from 1672\textsuperscript{50} – has C-holes but overhand bowing is employed. Notwithstanding the C-holes, the image is clearly that of an instrument from the violin family (whether from 1672 or 1684), which is too large to be played under the chin or on the arm but is, nevertheless, manageable in a different playing position.

22. Carlo Buffagnotti, violoncello illustration (c.1687-92)

A shoulder-held instrument illustrates the violoncello on the first page of the violoncello part-book of Giuseppe Torelli’s \textit{Concertino per camera a violino, e violoncello}, Op.4 (Bologna, c.1687-92).\textsuperscript{51} This cannot be ignorance on the part of the engraver, Carlo Buffagnotti. As seen in the membership records of the Accademia Filarmonica di Bologna, Buffagnotti was a violoncellist.\textsuperscript{52} This violoncello is small enough to hold on the shoulder (but could be held

\textsuperscript{50} Badiarov, 137; Vanscheeuwijck, ‘In Search’, 11.
\textsuperscript{51} Barnett, 95; Badiarov, 136.
between the knees too). Buffagnotti’s illustration presents an instrument which in size is between the viola and the cello.


In his *Spiegel van het menselijk Bedrijf* (Reflections on Handcrafts), the Dutch artist, engraver and poet Jan Luyken (1649-1712) paid a charming tribute to musicians and instrument makers. He included an engraving, which shows a musician playing a lute while looking at another instrument. The latter is violin-shaped with four strings and f-holes. Compared to the size of the musician as well as of the lute, it seems to be an instrument of dimensions between those of the viola and the violoncello.

24. Woodcut (17th century)

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Holman presents a ‘Woodcut used for English seventeenth-century broadside ballads, showing a duet team, late Elizabethan to judge from the costumes.’\textsuperscript{54} Neither the shapes nor the soundholes are helpful in determining the instruments but the playing mode (including overhand bowing) and the sizes of the instruments (as well as those of the players) suggest a violin and a small violoncello da spalla. Holman refers to the latter as a viola by suggesting similarities with ‘two pairs of musicians, each consisting of a violin and a viola, who accompany dancing in Joris Hoefnagel’s painting’\textsuperscript{55}. Indeed, the larger instrument could be perceived as a viola. However, in modern terminology, an instrument of this size played in this mode could also be called a very small violoncello. In either case, the engraving suggests our in-between size.

25. Francesco Antonio Meloni, Corelli illustration (1700)

The instrument apparently causing an argument between two putti on the frontispiece of the first edition of Corelli’s celebrated set of 12 violin sonatas is of interest.\textsuperscript{56} This frontispiece was designed by the painter Meloni (1676-1713) and engraved by Giovanni Girolamo Frezza (1659-?1741), both of Rome; here it is presented by Stefano La Via.\textsuperscript{57} In the bottom right corner a violin lies on the floor and a violoncello is held by a putto. Another putto appears to try to grab the instrument but without success. Both putti hold on to the cello. One of the putti seems to have possession and a determined face. The other is lower down, touches the bottom

\textsuperscript{55} Ibid.
\textsuperscript{56} Corelli, \textit{Sonate a violino e violone o cimbalo}, Op.5, printed by Gasparo Pietra Santa, Rome, 1700.
end of the fingerboard and seems to have a pleading face. The violin immediately in front of
them gets no attention from either of the putti. Both instruments are violin-shaped, with f-
holes and with four unfretted strings. Details of both instruments appear to be well observed;
therefore the ratio of measurements is of importance. The violoncello is only about a third
bigger than the violin, making the former a type in size between the viola and the cello.

26. Bernard Picart, engraving (1701)

Picart’s print depicting a very large viola or very small violoncello has been published by
several authors.58 Paraphrasing Prin (2005), Thomas Braatz writes that

A copper engraving of a Violoncello piccolo player depicted by Bernard Picart, 1701,
shows a man in Baroque clothing with a wig holding and playing the instrument placed
upright on a cushioned chair (not between the legs like a violoncello nor arm-held like a
viola or a viola pomposa). The instrument appears to be larger than a viola but smaller
than a cello. This instrument was in use during the first decades of the 18th century. It
was certainly not a child-size violoncello, but one played by an adult in the manner
depicted in the engraving.59

It is unlikely that such instruments were played only in the manner as depicted by Picart.
Most probably this was only one of several playing modes. One should also question

58 Alexander Buchner, Musical Instruments, Prague, 1973, 33; Riley, 96; Badian, 134; Vanscheeuwijk,
‘Recent Re-evaluations’, 183; etc.
whether such instruments were used only in the first decades of the 18th century. However, as Picart’s print clearly shows, violin-type instruments of such sizes were known in 1701. Furthermore, the Prinz/Braatz comment about such small instruments played by adults – rather than by children – is of note: as far as known, there is no iconographical evidence of children playing such instruments.

27. Francesco Trevisani, Corelli frontispiece (1714)

Compared to the size of the lady playing the lute, and, indeed, compared to the size of the lute itself, the instrument looking like a violoncello on the frontispiece of the first edition of Corelli’s twelve concerti grossi (Op.6) is too small to be a regular violoncello. This may be
carelessness on the part of Italian painter Francesco Trevisani (1656-1746) but one could argue that Corelli might have used such an instrument for some of these concerti grossi (published by Roger of Amsterdam, 1714). The frontispiece is re-presented by Stefano La Via.⁶⁰

28. Leonardo Sconzani, miniature from Insignia, Bologna (1722)

There are interesting proportions to consider on this miniature. The angel on the left plays the larger instrument, the body of which measures a third of the size of human bodies in the painting. This is the same ratio as a tenor instrument (between the viola and the cello) compared to an adult (although, for the little angel, this instrument is more like a large bass). The angel on the right plays ‘da spalla’ because, evidently, the instrument is too large for this little angel to play under the chin. Its body length measures a fourth of the human bodies on the painting, thus the ratio of measurements is similar to a regular 40 cm viola compared to an adult. The larger instrument on the painting is about a third bigger than the smaller, which is the same ratio as between a viola and a tenor. Admittedly a small violin and a large viola would have the same relationship of proportions but the image of the smaller instrument here

⁶⁰ La Via, fig.10.
does not seem to indicate a violin (as the image of the larger instrument certainly does not indicate a viola). It seems, therefore, that Sconzani painted a viola (for the smaller instrument) and a tenor. The miniature is included in a series called *Insignia*. This particular piece celebrates the performance of the opera *Ormisda*, with libretto by Apostolo Zeno and music by Giuseppe Maria Orlandini, at Bologna's Teatro Malvezzi (May 1722).

29. Cornelis Troost, portrait (1736)

The instrument appearing in the portrait of a music lover from the Van der Mersch family by the Dutch painter Cornelis Troost (1697-1750) could be regarded as a violoncello. But the man portrayed is at least twice as tall sitting than the body of the instrument. This ratio makes the violoncello small enough to consider its function. The 72 cm high and 57 cm wide painting is in the Rijksmuseum of Amsterdam.

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61 Archivio di Stato di Bologna, Anziani Consoli, *Insignia*, vol.13, c.35a, "III bimestre 1722".
62 Confirmed by Bologna State Archives, November 2010.
63 Inv. SK-A-3948.
Das Konzert by Platzer (1704-1761) is housed in the German Museum of Nuremberg. The 58 cm high and 84.4 cm wide oil on copper painting (in a 71 cm high and 98 cm wide frame) depicts a concert in the stairway of a palace. The violoncello is too small to be regarded as a regular violoncello. The player holds the instrument between his knees. The relationship between his body and that of his instrument indicates that the instrument is undersized. Furthermore, the length of the flute played at the concert is exactly the same as the length of the violoncello’s body. As a flute is unlikely to be longer than 67 cm, the violoncello on this painting may be undersized or fulfils a different instrumental function (than a violoncello).


The painting Elegant Company making music in an interior shows another cello-type instrument: it stands on a stool and is too small to be a regular violoncello for an adult.

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64 Germanisches Nationalmuseum, inventory number Gm1329, confirmed in March 2011.
32. *Concert Italian* (c.1752-54)

Janet K. Page presents this intriguing engraving, apparently from Paris, and Barnett repeats it.⁶⁶ Five musicians are shown and named: no lesser persons than Scarlatti (harpsichord), Tartini (possibly viola), Sammartini (oboe or recorder), Locatelli (violin) and Lanzetti. The latter is likely to be Salvatore Lanzetti (c.1710-c.1780), who was ‘one of the most innovative cellists of his era, advancing many aspects of cello technique.’⁶⁷ It is of particular interest that, on this engraving, Lanzetti is shown playing (or posing with) a violoncello da spalla rather than a regular violoncello on which he was supposed to be a virtuoso.

33. *Scroll of Esther* (c.1751)

The *Scroll of Esther*, a detail of which was shown in an exhibition in Autumn 1989-Winter 1990 in the New York Jewish Museum, is attributed to the mid-18th century in Northern
Italy.\textsuperscript{68} Localisation and dating were determined by comparison with an illuminated marriage contract written in Mantua in 1751 and with another Esther scroll in Padua. The instrument in the painting has the shape of the violin (rather than the viol), it has f-holes and four strings; it is clearly a member of the violin family. It is held between the knees and seems smaller than a regular violoncello.

34. John (Johann) Zoffany, \textit{La Scartocciata} (1778)

Sauerlandt presents a black and white reproduction of \textit{La Scartocciata} by Zoffani (1733-1810).\textsuperscript{69} In the centre of a group of musicians the cellist plays what must be a small instrument, otherwise he could not hold it as well as play it almost horizontally. Zoffany

\textsuperscript{68} Vivian B. Mann, \textit{Gardens and Ghettos: the Art of Jewish Life in Italy}, Berkeley, 1989; 200, 236, 237.

cannot be accused of ignorance about musicians or musical instruments. Indeed, violoncellos appear in several of his paintings. His portrait of Giacobbe (Giacomo) Cervetto (1680-1783), the long-lived celebrated cellist, bears witness to the musical circles in which Zoffany moved. The 125x98.5 cm oil on canvas painting – dated as c.1768-70 by Đurić-Speare – is in a private collection but it was seen at an auction of ‘Important British Pictures’ in 2003. Below see some of Zoffany’s paintings depicting regular cellos.

34.a. Zoffany, Gore family (c.1775)

The portrait of the Gore family with George, 3rd Earl Cowper, might have been commissioned in 1775 by Charles Gore – who is seen playing the cello – to mark the wedding of his youngest daughter, Hannah Anne Gore to 3rd Earl Cowper. Cellist and cello, the latter of which is accurate in all details, are in the centre. The 97.8x78.7 cm oil on canvas painting is in Yale.

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71 Sotheby’s sale, 12th June 2003, London.

72 Yale Centre for British Art, Paul Mellon Collection; accession number B1977.14.87, confirmed in March 2011.
34.b. Zoffany, Sharp family (c. 1779-1781)
The violoncello is in the lower left side on the portrait of the Sharp family. The 125x115 cm oil on canvas painting is in a private collection but currently on loan to the National Portrait Gallery, London.\(^{73}\)

34.c. Zoffany, Self-portray (c. 1779-1780)
The cello is in the centre in Zoffany’s self-portrait (as a painter) with his daughter Maria Theresa and possibly with Giacobbe (Giacomo) Cervetto – whose portrait Zoffany painted about ten years earlier – and his cellist son James Cervetto. The 193x164.5 cm oil on canvas painting is in Yale.\(^{74}\)

\(^{73}\) NPG L169, displayed in room 12.
\(^{74}\) Yale Centre for British Art, Paul Mellon Collection, accession number B1977.14.88; confirmed in March 2011.
34.d. Zoffany, Young family (c.1770)
The cello is again in the centre in the portrait of the family of Sir William Young. Indeed, Sir William himself is shown playing it. The painting is oil on canvas with 167.8x114.3 cm dimensions; it can be seen in Liverpool.75

75 Walker Art Gallery, Liverpool, accession number WAG2395.
As seen above, it is clear that Zoffany was well acquainted with the violoncello. Thus his horizontally held and played instrument in *La Scartocciata* is unlikely to be a mistake. Most probably this instrument is deliberately small to portray the ‘da spalla’ playing mode accurately.

Our 34 iconographical examples of what may be perceived as instruments of sizes between those of the viola and the cello cover the period from the early 16th to the late 18th century. The examples include engravings, woodcuts and paintings from several European countries/painters. It is possible, although by no means certain, that additional research could identify more iconographical examples from further afield.

If we can accept that most of the illustrations are reasonably accurate (based on other details in the pictures), then the 34 examples (of ‘in-between’ instruments) appear to show that these instruments were by no means rarities. Even allowing for possibilities of artistic errors, these examples indicate that such small ‘cellos’ were quite common. It is of note that angel musicians appear only in seven (that is, in a fifth) of our examples. Mostly real instruments for real people seem to be portrayed. Some painters, such as Baschenis – who was very experienced in painting musical instruments and was himself an amateur musician – carefully focus on instruments even without players. Others – like Zoffani, who was evidently well acquainted with many musicians including cellists – observe the players and
their instruments with equal attention. Thirteen of the pictures show some variation of ‘da spalla’ playing mode; three have their small instruments on stools while played by standing adult musicians. More than half of the images show the knee-hold playing mode which indicates the cello-type tenor violin. Significantly, none of the images shows children playing any of the instruments. It may be possible that some children played small cellos over the centuries, as they do now, but our iconographical evidence refutes the possible argument that the small instruments under our investigation were merely children’s cellos.

Having looked for relevant instruments in inventories, catalogues and iconography, let us now examine surviving instruments which – owing to their sizes – might have been intended or used for the F/G-tuned tenor/bass.
3.4. Surviving Instruments

Relevant surviving instruments in museums as well as in private ownership will be discussed although it is by no means certain that our examples – with body lengths of minimum 45 cm or maximum 70 cm – constitute a full list of such instruments. There may well be museums where staff are unaware of possessing such instruments, even if they are keeping them safe in their store rooms. Because of the nature of privacy, locating relevant instruments in private possession is as much due to luck as to diligent research. Up-to-date findings include 45 confirmed instruments in museums, and a further 10 in private possession. The available data on individual instruments vary – ranging from less than minimal to a sufficient amount – therefore meaningful comparison may not always be possible. Measurements can be taken in a variety of ways (thus producing slightly different results) and, inevitably, errors too may occur. I myself measured as many relevant surviving instruments as it was possible. However, I also had to rely on colleagues and museum curators who took measurements, often specifically at my request.

Notwithstanding the pitfalls of likely errors, the fifty-five instruments discussed below may offer a useful starting point for investigating possible usage (as discussed in Chapter 4) and may provide some insight into the rise and fall of our tenor instrument.

3.4.a: Museums (considered by countries)

Museums with instrument collections ought to be the most obvious places in which to examine surviving old stringed instruments but information about – let alone access to – such instruments is difficult to obtain. While there may be further relevant instruments in museum collections, it is to be hoped that the present findings will allow pertinent conclusions to be drawn. For ease of overview, museums will be discussed according to alphabetical order of the relevant countries, namely Austria, Belgium, France, Germany, Holland, Hungary, Italy, Spain, UK and USA. Further subdivision follows, when appropriate, in alphabetical order of cities and towns within the individual countries.

Austria (Vienna)

In Vienna museums I found two relevant instruments.

The Estensian Baroque manuscript collection in the Österreichische Nationalbibliothek houses several compositions which might have been intended to include the cello-type tenor violin.¹ At the same time, the collection of old musical instruments in the Kunsthistorisches Museum houses what might well have been such an instrument. The

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¹ These compositions are discussed in Chapter 4.
instruments in this collection have their origins in Habsburg holdings, while the Estensian manuscript collection, too, was a Habsburg project. A direct connection between the Estensian manuscripts and the above mentioned instrument cannot be proved but, equally, it cannot be ruled out. Deemed as an eighteenth-century German instrument, its body is 56 cm long and its ribs are 7.6-7.8 cm high. Schlosser catalogues it as violoncello piccolo (C.110) but he offers the view that it should be tuned and played as the Tenorgeige: tuned an octave below the violin and held between the knees.\(^2\) As current instrument curator Rudolf Hopfner explains, the up-to-date inventory number of this instrument is SAM 103.\(^3\) Hopfner adds that ‘the strings, which now are attached to the instrument, are only for display purposes. Therefore I can’t give you any reliable information regarding the strings.’\(^4\) The current catalogue number is not the only change to the previous catalogue entry: Schlosser’s violoncello piccolo or tenor violin is now identified as ‘Violoncello, small model’.\(^5\) The variation in terminology is problematic but the measurements are reliable: I myself measured this instrument.

The so-called Grillparzer-Violoncello is the property of the Grillparzer-Gesellschaft.\(^6\) It is held in the Wien Museum. The length of body is 46.5 cm; the height of ribs is 6.5 cm. It is very well preserved – evidently it was rarely played – and is displayed in the reconstructed Grillparzer room. It is far from certain that Franz Grillparzer ever played this instrument. As told by Stradner,\(^7\) in 1921 it belonged to Heinrich Grünfeld who, at that time, was professor of violoncello at the Berlin Musikakademie. In a handwritten note Grünfeld stated that


(This is the half-size violoncello on which the poet Grillparzer had tuition as a six-year old. He left it to the Fröhlich sisters, who left it to a friend called Lederer in Vienna. Mr Lederer greatly appreciated my artistry and presented me with the instrument twenty years ago. Heinrich Grünfeld, Berlin, May 1921.)

Interestingly, the instrument eventually made its way to the Furtwänglers. In 1975 it was donated to the Grillparzer-Gesellschaft by the Vienna Rotary Club, who purchased it for this specific reason from Frau Zitla von Furtwängler, the widow of conductor Wilhelm

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\(^2\) Schlosser, *Die Sammlung*, 69.

\(^3\) SAM: Sammlung alter Musikinstrumente.

\(^4\) Email message from Hopfner, May 2010.

\(^5\) Email message from Hopfner, November 2010.

\(^6\) Confirmed by directors Prof. Dr. Johann Hüttner (February 2010) and Prof. Dr. Robert Pichl (August 2010).

\(^7\) Gerhard Stradner, ‘Das Grillparzer-Violoncello’, *Jahrbuch der Grillparzer-Gesellschaft*, iii/19, 1996.

\(^8\) Ibid., 10.
Furtwängler. She, in turn, wrote that she was delighted to return the instrument to its home where it belonged. Evidently this instrument had some excellent homes. However, we do not know why the instrument was held by a succession of eminent adults, whether the child Grillparzer really played on it (as stated by Grünfeld) or if the instrument fulfilled a different function from that of a cello.

Belgium (Brussels)

The Musée des Instruments de Musique of Brussels houses four instruments of interest. As seen below, measurements (given by Baines, Drüner, Badiarov and the museum) slightly differ but all four instruments fall between the categories of the viola and the cello.

Table 9: Brussels museum

<table>
<thead>
<tr>
<th>Maker</th>
<th>Made in</th>
<th>Date</th>
<th>Body (cm)</th>
<th>Ribs (cm)</th>
<th>Strings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Johann Christian Hoffmann</td>
<td>Leipzig</td>
<td>c.1720</td>
<td>45.6 or 45.7</td>
<td>6.6 or 6-7 or 7.5</td>
<td>5</td>
</tr>
<tr>
<td>Egidius Snoeck</td>
<td>Brussels</td>
<td>c.1714</td>
<td>45 or 45.6</td>
<td>5.6 or 7-8</td>
<td>4</td>
</tr>
<tr>
<td>Darche Charles Claude François</td>
<td>Brussels</td>
<td>c.1860</td>
<td>copy of Snoeck above</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Gasparo da Saló</td>
<td>Brescia</td>
<td>16th/17th cent.</td>
<td>53.3</td>
<td>5.5</td>
<td></td>
</tr>
</tbody>
</table>

The instrument by Johann Christian Hoffmann is catalogued as a five-stringed viola pomposa. Museum notes specify the rib height as 7.5 cm but body-length is not shown. Drüner, who calls the instrument a violoncello piccolo, records a body-length of 45.6 cm and rib-height of 7.7 cm, while Baines specifies a 45.7 cm body-length with ribs between 6 and 7cm high. Although there is slight variation in the measurements, all indicate an instrument too big to play under the chin.

The four-stringed Snoeck instrument is catalogued as violon ténor, viola pomposa and viola da spalla and is specified with a body length of 45.6 cm and ribs of 5.6 cm by the museum. However, Badiarov in 2007 proposes a 45 cm body-length with c. 7-8 cm high ribs. This is baffling partly because of the big difference in ribs measurements but also because – according to museum notes – Badiarov examined this instrument only in January 2008, a year after he published his measurements.

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9 Inventory no. 1445.
10 Drüner, 110.
12 Inventory number 2853.
13 Badiarov, 145.
The four-stringed instrument by Darche Charles Claude François is catalogued as violon ténor, petit violoncello and viola da spalla.\textsuperscript{14} It is an exact copy of the Snoeck above, so it is not clear why it is catalogued slightly differently.

Baines lists the Gasparo da Saló instrument as a large viola da braccio while the museum catalogues it as viole taille, viole tenor and viole alto.\textsuperscript{15} Instrument curator Ceulemans is not certain about the instrument’s authenticity.\textsuperscript{16} However, Charles Beare, a leading world authority in stringed-instrument evaluation, confirms that the instrument is by Gasparo da Saló (1540-1609) and that it was with his violin firm in London from 1967 to 1979 for repair and custody.\textsuperscript{17} The importance of this instrument cannot be underestimated: it confirms that – already in the 16\textsuperscript{th} century – great violin makers created instruments filling the gap between the viola and the cello.

France (Paris)

There are seven interesting instruments in the Musée de la musique, Paris. These can be seen online,\textsuperscript{18} but, in addition, the Musée allowed me full access to them even though they had to be transported from their store rooms.\textsuperscript{19}

The table below summarizes details of these instruments: the first shown is the smallest in body; the others follow according to increase in size.

Table 10: Paris museum

<table>
<thead>
<tr>
<th>Description</th>
<th>Catalogue number</th>
<th>Maker</th>
<th>Made in</th>
<th>Date</th>
<th>Body (cm)</th>
<th>Ribs (cm)</th>
<th>Strings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Violon-ténor</td>
<td><em>E.2037</em></td>
<td>Europe</td>
<td>18\textsuperscript{th} century</td>
<td>46</td>
<td>5</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Viola pomposa</td>
<td><em>E. 980.2.495</em></td>
<td>Germany</td>
<td>18\textsuperscript{th} century</td>
<td>48</td>
<td>7-7.5</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Ténor de violon</td>
<td><em>E.980.2.471</em></td>
<td>France</td>
<td>18\textsuperscript{th} century</td>
<td>50</td>
<td>8</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Ténor de violon</td>
<td><em>E.980.2.470</em></td>
<td>Europe</td>
<td>18\textsuperscript{th} century</td>
<td>53</td>
<td>7</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Ténor</td>
<td><em>E.980.2.439</em></td>
<td>France</td>
<td>18\textsuperscript{th} century</td>
<td>53</td>
<td>c. 8</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Violon ténor “viola tenor”</td>
<td><em>E.2513</em></td>
<td>Ramón Parramón</td>
<td>Barcelona</td>
<td>1933</td>
<td>53.5</td>
<td>almost 9</td>
<td>4</td>
</tr>
<tr>
<td>Ténor, Dubois type</td>
<td><em>E.980.2.438</em></td>
<td>Mirecourt</td>
<td>19\textsuperscript{th} century</td>
<td>58.5</td>
<td>8-8.5</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

\textsuperscript{14} Inventory number 2854.
\textsuperscript{15} Baines, European, 9, illustration 12; inventory number 1415.
\textsuperscript{16} Email message from Ceulemans, April 2010.
\textsuperscript{17} Email message from Beare, May 2010.
\textsuperscript{18} http://mediatheque.cite-musique.fr/musee.
\textsuperscript{19} I am indebted to Thierry Maniguet and his colleagues for a long day with these instruments on 18th May 2011.
None of these instruments is on display; they are in store rooms with their bridges, tail pieces, strings and pegs packed separately. Many are in bad condition although several are of true quality. The 18th-century European Ténor de violon (*E.980.2.470*) has a lovely floral motive on its back and – significantly – the inscription ‘Gasparo da Salò, In Brescia’ inside the instrument. So perhaps this instrument is not from the 18th century (but from earlier) and perhaps it is indeed by the great Gasparo da Salò. The 18th-century European Violon-ténor (*E.2037*) might have been played in either knee-held or arm-held position: the very wide lower part (50 cm across) combined with a 46cm long body and 5cm ribs could allow for both possibilities. The other instruments were probably knee-held or played ‘da spalla’ with the support of a strap. It is of concern that these instruments are no longer in playing set-up.

Germany (Cologne, Eisenach, Marneukirchen, Nuremberg)

Presumably there are more German museums with relevant instruments than the four indicated above. However, in spite of strenuous efforts, it has not been possible to obtain information from other museums.

The Museum of Cologne (Kölnisches Stadtmuseum) has three instruments whose measurements are between those of the viola and the cello. All three instruments are stored off site and are unavailable to the public. However, personal inspection is feasible by appointment. Below follow the details obtained from the museum:

No.50: violoncello piccolo, tuned in fifths, probably from Saxony, around the end of the 18th century, length of body 51-52 cm, height of ribs 7.7 cm.

No.51: small violoncello, possible from Tirol, c.1800, back 54-56cm, ribs 8.2 cm.

No.54: small violoncello, false label for Stainer, Absam, 1687, back 59-60 cm, ribs 8.5-9 cm.

All three instruments have four strings.

Bach’s own instruments are presumed to have been lost but the Bachhaus in Eisenach holds instruments from Bach’s time. When assembling its collection, the Bachhaus took note of the Köthen Court inventory of 1773. As Bach was in Köthen between 1717 and 1723 and as violin maker Johann Christian Hoffmann of Leipzig supposedly built the viola pomposa (or was it a five-stringed violoncello piccolo?) at Bach’s request, it is entirely appropriate that the Eisenach Bachhaus looks after a four-stringed as well as a five-stringed violoncello piccolo as follows.

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21 Email message from museum restaurateur Andrea Habel-Schablitzky, July 2011.

22 Email correspondence with Uwe Fischer, instrument custodian, Bachhaus, March-May 2010.

23 See Chapter 3.2.a.
1. five-stringed violoncello piccolo, earlier described as viola pomposa,\textsuperscript{24} middle of the 18\textsuperscript{th} century, possibly Polish or German, body-length 45.5 cm, ribs 8 cm.
2. four-stringed violoncello piccolo, probably German, c.1770, body length 57.3 cm, ribs 10.9 cm.

The Museum of Musical Instruments (Musikinstrumenten-Museum) in Markneukirchen welcomes researchers and allows access to requested instruments.\textsuperscript{25} However, if one is unable to make the trip to Markneukirchen, assessment of their instruments can be problematic. Six of their instruments are of interest for our investigation but the museum’s extensive written records do not specify the number of strings and tunings.

Table 11: Markneukirchen museum

<table>
<thead>
<tr>
<th>Description</th>
<th>Catalogue number</th>
<th>Maker</th>
<th>Made in</th>
<th>Date</th>
<th>Body (cm)</th>
<th>Ribs (cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viola pomposa</td>
<td>2343</td>
<td>Ernst Reingold Schmidt</td>
<td>Markneukirchen</td>
<td>c. 1920</td>
<td>45.4</td>
<td>8.2/8.35/8.45</td>
</tr>
<tr>
<td>Viola pomposa</td>
<td>0900</td>
<td>Poland?</td>
<td>Middle of 19\textsuperscript{th} century</td>
<td>45.8-46.1</td>
<td>4.85/5</td>
<td></td>
</tr>
<tr>
<td>Viola pomposa</td>
<td>2611</td>
<td>Johannes Robert Adler</td>
<td>Markneukirchen</td>
<td>Middle of 20\textsuperscript{th} century</td>
<td>47</td>
<td>6.95/7/7.5</td>
</tr>
<tr>
<td>Viola pomposa</td>
<td>1267</td>
<td>Poland</td>
<td>19\textsuperscript{th} century</td>
<td>46.7-47.1</td>
<td>4.35/4.4</td>
<td></td>
</tr>
<tr>
<td>Viola alta</td>
<td>4436</td>
<td>August Wunderlich</td>
<td>Markneukirchen</td>
<td>c. 1940</td>
<td>47-47.5</td>
<td>4/4.5</td>
</tr>
<tr>
<td>Violoncello piccolo</td>
<td>1703</td>
<td>Johann Christian Hammig II (jun)</td>
<td>Markneukirchen</td>
<td>1793</td>
<td>59.3-59.9</td>
<td>9.7/9.8</td>
</tr>
</tbody>
</table>

As shown above, four instruments are catalogued as viola pomposas, the fifth is a violoncello piccolo while the sixth is a viola alta. Without data about strings and tuning, it is difficult to tell why the viola pomposas are not just very large violas. It is also unclear why the viola alta gets a special name: its body is larger than the bodies of any of the pomposas and its ribs are a touch higher than those of pomposa No.1267. If it is accurate, the date 1793 for the violoncello piccolo confirms the existence of such instruments in classical times.

\textsuperscript{24} Edward Buhle, \textit{Verzeichnis der Sammlung alter Musikinstrumente im Bachhaus zu Eisenach}, Leipzig, 1913, 17; Herbert Heyde, \textit{Historische Musikinstrumente im Bachhaus Eisenach}, Eisenach, 1976, 102; Drüner (111) groups it with Bach-type violoncellos piccolo.

\textsuperscript{25} Email correspondence with director Heidrun Eichler, May-June 2011.
Van der Meer lists several instruments of possible relevance at the Germanisches Nationalmuseum in Nuremberg, but he does not provide measurements. However, in 2012, museum curator Frank P. Bär provided copies of extensive archive material with detailed descriptions; he confirmed that instruments in his list were housed in the museum. Of the instruments listed by Bär, two are of importance for us:

MIR 838; four-stringed violoncello piccolo, Andreas Jais, Tölz, 1713, original label, body 57.7, rib 9.6, four strings tuned to G-D-a-e'.

MIR 843; five-stringed violoncello piccolo, Andreas Jais, Tölz, 1724, original label, body 70.3, rib 12.7/13.1.

Holland (The Hague)
The cellist Carel van Leeuwen Boomkamp (1906-2000) had a ‘violoncello piccolo a quattro corde’ in his collection. It was made, in 1676, by the highly regarded Jan Boumeester (1629-1681) of Amsterdam. Leeuwen Boomkamp measured the length of the body as 53 cm and the rib-height as 9.7 cm. He wrote that

> It is difficult to determine the nature and the tuning of this instrument. It must have had a tuning between that of the viola and that of the violoncello. The measurements on the other hand are such that the instrument can only have been played between the knees.

While referring to Renaissance and Baroque theorists – such as Zacconi, Hizler, Praetorius and Banchieri – Leeuwen Boomkamp considers F- and G-based tunings. On balance he opts for the G tuning and quotes a concerto by Sammartini as an example. As the violoncello piccolo plays the violin part an octave lower, Leeuwen Boomkamp argues that the tuning of the two instruments also needs to be exactly an octave apart. (This concerto is not listed in NGDMM. However, it heads the solo concerto section in MGG’s Sammartini entry and it was published by Eulenburg in London in 1956.) Mindful that Bach wrote his sixth violoncello suite for a ‘violoncello a cinque corde’ but he also specified a violoncello piccolo for some of his cantatas, Leeuwen Boomkamp named his instrument a ‘violoncello piccolo a quattro corde’. It is now housed in the Gemeentemuseum, The Hague.

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26 See Chapter 3.2.b.
27 Email correspondence, July 2012.
28 Cellist with the Netherlands String Quartet, principal cellist of the Concertgebouw Orchestra, teacher of Anner Bylsma.
30 Ibid., 20.
31 Giovanni Battista Sammartini, Concerto for Violoncello Piccolo or Violin, Strings and Continuo in C Major.
32 MGG, Personenteil, 2005, xiv, column 894.
33 Email message from curator Onno Mensink, July 2010 and curator Frans Peterse, November 2010.
indicate the length of body as 52.8 cm – thus 0.2 cm below Boomkamp’s measurement – but the height of the ribs is not noted.

Hungary (Budapest)

György Gábry, musicologist and instrument curator of the Magyar Nemzeti Múzeum (Hungarian National Museum), identifies an instrument from the second half of the 18th century as a tenor viola da gamba. However, he writes:

It is a very carefully wrought instrument, with a lion’s head at the top of the neck. This instrument with only four strings shows an interesting transition to the violoncello. It was presented to the museum by the famous Hungarian violinist Ede Reményi in the 1870s.  

This instrument is still in the Hungarian National Museum. I measured its length of back as 61.5 cm – Gábry gives 63.5 cm, but he may have included the sharpened peak on the top of the back – and the height of the ribs as 11 cm. Although made for four strings, the instrument has C-holes (rather than the more customary f-holes for members of the violin family). It is not clear whether, as Gábry says, ‘this is an interesting transition to the violoncello’ or whether, at some point, the original neck was replaced and the tenor viola da gamba was changed into a violoncello. As it is now, and has been for at least some 150 years, this fretless four-stringed tenor viola da gamba could only be played as a cello-type instrument.

Italy (Florence)

The celebrated ‘Medici’ tenor viola, made by Stradivari in 1690, is now housed in the Cherubini Conservatory’s Collection, at the Accademia Gallery of Florence. The museum’s detailed measurements slightly differ from specifications elsewhere in the literature (including those by Charles Beare: see Chapter 3.1.b) but all measurements specify the length of body as in the vicinity of 48 cm.

Spain (Barcelona)

Two instruments are specified as viola tenors in the catalogue of the Museu de la Música de Barcelona. Both instruments are still housed in the museum (as MDMB 478 and MDMB 762 respectively).  

No. 306; unknown maker, France, 18th/19th century, body 48 cm, ribs 8.3 cm, four strings. This instrument may be regarded as a very large but probably unplayable viola.

No. 307; Ramón Parramón, Barcelona, 1933, body 55 cm, ribs 7.8, four strings. Because of its body-length, it would be impossible to play this instrument under the chin.

34 György Gábry, Old Musical Instruments, Budapest, 1969, 22.
35 http://www.accademia.org/explore-museum/halls/museum-musical-instruments/
37 Email correspondence with curators Oriol Rossinyol and Sara Guasteví, September 2010.
United Kingdom (Edinburgh, London, Oxford)

We have seven relevant instruments of note in British museums.

Table 12: British museums

<table>
<thead>
<tr>
<th>Location</th>
<th>Maker</th>
<th>Made in</th>
<th>Date</th>
<th>Body (cm)</th>
<th>Ribs (cm)</th>
<th>Strings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edinburgh</td>
<td>James Gilchrist</td>
<td>Glasgow</td>
<td>1892</td>
<td>56.5 or 56.7</td>
<td>9.8-10.25</td>
<td>4</td>
</tr>
<tr>
<td>London</td>
<td>Attrib. Stainer</td>
<td>Absam, Tyrol</td>
<td>17th cent.</td>
<td>59.5</td>
<td>7.85-8.8</td>
<td>4 or 5</td>
</tr>
<tr>
<td>London</td>
<td>England</td>
<td>Absam, Tyrol</td>
<td>18th cent.</td>
<td>52.5-54</td>
<td>7.25-8</td>
<td>4, Gdæ’</td>
</tr>
<tr>
<td>London</td>
<td>Amati brothers</td>
<td>Cremona</td>
<td>c.1600</td>
<td>66-70.51</td>
<td>11-11.93</td>
<td>5</td>
</tr>
<tr>
<td>Oxford</td>
<td>Amati brothers</td>
<td>Cremona</td>
<td>1611</td>
<td>62.75-62.9</td>
<td>9.8-11</td>
<td>6 (?)</td>
</tr>
<tr>
<td>Oxford</td>
<td>Andrea Amati</td>
<td>Cremona</td>
<td>1564-1574</td>
<td>c.47</td>
<td>3.8-4.1</td>
<td>4</td>
</tr>
<tr>
<td>Oxford</td>
<td>Amati brothers</td>
<td>Cremona</td>
<td>1592</td>
<td>45.25 or 45.4</td>
<td>3.8-4.13</td>
<td>4</td>
</tr>
</tbody>
</table>

James Gilchrist’s instrument – variously described as a piccolo cello\(^{38}\) or a small instrument for a child\(^{39}\) – has been housed in the Edinburgh University Collection of Historic Musical Instruments since 1982 (when it was lent to the Collection as a piccolo cello) but it still belongs to the Glasgow Museums and Art Galleries.\(^{40}\) Its measurements qualify for either of the two descriptions – it is catalogued with a body-length of 56.7 cm and a rib-height of 9.8 cm, although in June 2012 I measured 56.5 cm for the body and 10.05-10.25 cm for the height of ribs – but the piccolo cello description is more likely. Indeed, it is far from clear why a child’s cello would be destined for exhibitions and museums.

The Horniman Museum in London houses/specifies a violoncello piccolo and a tenor violin. Both instruments form parts of Horniman’s Dolmetsch collection. The violoncello piccolo (M49-1983) is listed in several publications as a five-stringed instrument by Jacob Stainer of Absam (Tyrol, 17th century)\(^{41}\) and its body-length is shown as 47.5 cm.\(^{42}\) However, Horniman’s own notes indicate 59.5 cm for body-length and 7.85-8.05 cm for rib-height\(^{43}\) and my own measurements in October 2012 came to 59.5 cm for the body and 8/8.1/8.7/8.8 cm for the ribs. The height of the ribs is conspicuous by its absence in print. The instrument has f-holes but also an oval-shaped rose under the edge of the fingerboard. The five strings are tuned to C-G-d-a-e’: the bottom two with covered gut, the upper three with pure gut

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\(^{40}\) Email message from Myers, July 2010.

\(^{41}\) Baines, *European*, 10; Drüner, 111; Kory, ‘A Wider Role’, 138; Badiarov, 144.

\(^{42}\) Ibid. (although Baines provides only total length).

\(^{43}\) Horniman’s own measurements, taken in July 1985, and their additional notes were provided by Mimi S. Waitzman, Deputy Keeper of Musical Instruments, March 2010.
An interesting contradiction is shown by the following Horniman notes (the first sentence of which is written with pencil inside the instrument):

Violoncello piccolo, attributed to Jacob Stainer in Absam with a label 'restored by Chickering & Sons under the direction of Arnold Dolmetsch, Boston 1910'. The head, table and ribs may be English 18th century. It has been suggested that the two-piece back may be by Arnold Dolmetsch. The suggestion that the head is French, as cited in Sotheby's valuation, has been contested. It is difficult to tell whether the instrument was originally built for five strings as there have been so many repairs to the peg-box, and new wood on the cheeks has been badly applied.

The tenor violin (M15-1983) has been classified as an English tenor violin from the 18th century. It is specified with a 54 cm body-length, but there are no notes about the ribs. (In October 2012 I measured 52.5-53.5 cm for the body – without and with the rim – and 7.25/7.5/8 cm for the ribs.) The instrument has f-holes and no spike; it is tuned to G-D-a-e' with two covered gut strings on the bottom and two pure gut strings on the top. Lengthy Horniman notes include the following comments about this instrument: ‘"Arnold Dolmetsch tuned the instrument an octave lower than the violin" - Dr Carl Dolmetsch, via Agnes Kory 4.xii.1992. Ms Kory considers that the instrument was probably played at A=415.’

Regrettfully, I cannot recall my Horniman conversation twenty-five years on, but it is likely that the possible A=415 tuning of Baroque performance practice was indeed mentioned.

The five-stringed cello by the brothers Antonio and Hieronymus Amati, dated as about 1600, is part of the Royal Academy of Music (London) display on the Amati family. Although only marginally below the size of the smallest regular cello, it cannot be ignored.

Referring to this instrument, violin maker John Dilworth writes:

Concurrent with these models were the ‘violoncello piccolo’ and the five-string cello (with an additional e string), possibly one and the same instruments. An example made by the Amati brothers from around 1620 has a very short body of about 66 cm, and the peg box is elongated and drilled to receive five pegs. This may have been the prototype for other such instruments made elsewhere – notably the extant English examples by William Baker (dated 1682), Barak Norman, a celebrated maker of both viols and cellos in the early eighteenth century, and Edmund Aireton (as late as 1776).44

(Later Dilworth confirmed the measurements of this splendid Amati instrument as 70.51 cm for the body-length and 11.2-11.93 cm for the ribs.45)

Another instrument of considerable interest by the Amati brothers is in the Hill Collection of Musical Instruments, housed in the Ashmolean Museum Oxford. Dated 1611, it may be regarded as a hybrid instrument, with the outline and rounded back of a cello and

45 Email message from Dilworth, March 2010.
with f-holes. According to Boyden ‘the body-length is closer to a bass viol than to a cello’.\textsuperscript{46} With Boyden’s measurements of 62.9 cm for the body and 10.2 cm for the ribs, the instrument falls well below the regular cello size. (In October 2012 I measured 62.75 cm for the body and 11 cm for the ribs. However, Dilworth measures 62.8 cm and 9.8-10.3 cm respectively.\textsuperscript{47}) Boyden comments that ‘there is a vestige of the sloping shoulders of the viol...the cello features of this instrument reflect the fact that there was some mutual influence of the viol and the violin families on each other...’ \textsuperscript{48} While Boyden regards this hybrid instrument as a viol with certain features of a cello, an argument could be made that – notwithstanding its sloping shoulders – the instrument may belong to the violin family (although currently it is set up as a six-stringed bass viol). Dilworth comments that the instrument’s intended function is not straightforward.\textsuperscript{49}

There are two Amati violas of note in the Ashmolean collection: the ‘Charles IX’ Andrea Amati with an approx. 47cm body and the brothers Amati of 1592 with a slightly longer than 45 cm body.

United States (Berkeley, Boston, South Dakota, Yale)

I found seven instruments of interest in US museums.

Table 13: United States museums

<table>
<thead>
<tr>
<th>Location</th>
<th>Maker</th>
<th>Made in</th>
<th>Date</th>
<th>Body (cm)</th>
<th>Ribs (cm)</th>
<th>Strings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Berkeley</td>
<td>J.Ch.Hoffmann</td>
<td>Leipzig</td>
<td>1731/32/34</td>
<td>43.5 or 45</td>
<td>8.25 or 9</td>
<td>5</td>
</tr>
<tr>
<td>Boston</td>
<td>New England</td>
<td>1820-40</td>
<td></td>
<td>48.5</td>
<td>6.3</td>
<td>4</td>
</tr>
<tr>
<td>Boston</td>
<td>New England</td>
<td>early 19\textsuperscript{th} cent.</td>
<td>53.4</td>
<td>6.1</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>S.Dakota</td>
<td>F. Gagliano</td>
<td>Naples</td>
<td>1793</td>
<td>50.8</td>
<td>6.23-6.62</td>
<td>4</td>
</tr>
<tr>
<td>S.Dakota</td>
<td>Andrea Guarneri</td>
<td>Cremona</td>
<td>1664</td>
<td>48.2</td>
<td>4.5</td>
<td>4</td>
</tr>
<tr>
<td>Yale</td>
<td>Pietro Guarneri</td>
<td>Mantua</td>
<td>1689</td>
<td>45.7</td>
<td>8.3</td>
<td>5</td>
</tr>
<tr>
<td>Yale</td>
<td>Martin Stoss</td>
<td>Vienna</td>
<td>1848</td>
<td>52.1</td>
<td>7.1-8.0</td>
<td>4</td>
</tr>
</tbody>
</table>

The Hoffmann instrument at Berkeley is difficult to assess. The university confirms that it holds this ‘rare viola pomposa, built in 1731 in Leipzig by Bach's friend Christian Hoffmann’ (but they do not provide further details).\textsuperscript{50} Communication with several members of UC Berkeley, with prominent members of UCLA’s (University of California, Los Angeles) Music Department and with an instrument restorer suggests that the instrument belonged to

\textsuperscript{46} Boyden, \textit{Hill Collection}, 13.  
\textsuperscript{48} Boyden, \textit{Hill Collection}, 13.  
\textsuperscript{49} Milnes, \textit{Musical Instruments}, 4.  
\textsuperscript{50} http://music.berkeley.edu/about-us/resources-and-facilities/instrument-collections/.
Erich Lachmann. Lachmann did indeed own such an instrument but his 1731 date (quoted by the university) and his measurements differ from other published figures, while the university is reluctant to take measurements.

The Museum of Fine Arts in Boston holds two instruments classified as tenor violins. Both date from the early 19th century and apparently both were made in the New England region of the United States. Michael Suing, curator of musical instruments in the Museum, confirmed their measurements. Both tenor violins can be seen online.

There are two instruments of particular interest in the National Music Museum, University of South Dakota. One is a splendid example from the end of the 18th century. As it was made by a member of the illustrious Gagliano family of luthiers, its measurements render it an important testament for in-between instruments. Made in 1793 by Ferdinando Gagliano of Naples, this four-stringed instrument appears to have been preserved in various collections, thus retaining its original and mint condition. Also of interest in the South Dakota museum’s collection is the large viola by Andrea Guarneri, Cremona, 1664. This instrument survives in its original condition, no doubt partly due to its large size.

The Yale Collection of Musical Instruments includes two instruments of interest. One is an interesting hybrid instrument – from Mantua, 1689 – by Pietro Guarneri (1655-1720), the uncle of the more famous Giuseppe Guarneri del Gesù. Supposedly a five-stringed viol, nevertheless it has f-holes – which may be regarded as characteristic of the violin family – while frets on the fingerboard are not evident from the online catalogue. Like the hybrid Amati in the Ashmolean Museum, this instrument, too, is nearer to a cello than to a viol. If it was a member of the violin (rather than the viol) family, the body length could suggest a very large viola. However, its height of the ribs would necessitate other than under-the-chin playing. Nicholas Renouf – associate curator of the Yale Collection of Musical Instruments – provided information about an instrument by Stoss. Classified earlier as ‘tenor violin, Austrian, 19th century, by Martin Stoss’, the same instrument in 2006 and 2010 was described as a 1/4 size violoncello. This instrument could qualify either as a tenor violin or as a ¼ size

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51 Email correspondence with UC Berkeley staff Manuel Erviti and Jim Coates, cellist Antonio Lysy and restorer Robert Portillo, June 2011.
52 See Chapter 3.2.b.
53 Email correspondence, March 2010.
56 http://collection-media.yale.edu/catalog/3903816.
57 Email correspondence, April 2010.
violoncello. However, we must question why a top-rated violin maker, such as Stoss, would have made instruments for young children.

The number of relevant instruments currently housed in museums is far from certain. However, as detailed above, we can be reasonably sure of 45 examples in 20 museums as follows: Austria (2), Belgium (4), France (7), Germany (13), Holland (1), Hungary (1), Italy (1), Spain (2), UK (7) and US (7). The following table summarises the 45 examples and their relevant details. Museums and instruments follow the same order as in the discussion above.

Table 14: 45 instruments in twenty museums

<table>
<thead>
<tr>
<th>Museum</th>
<th>Catalogue</th>
<th>Maker</th>
<th>Made in</th>
<th>Date</th>
<th>Body (cm)</th>
<th>Ribs (cm)</th>
<th>Strings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kunsthistorisches Museum, Vienna</td>
<td>SAM 103</td>
<td>“Grillparzer violoncello”</td>
<td>Saxony or Poland</td>
<td>1800s</td>
<td>46.5</td>
<td>6.5</td>
<td>4</td>
</tr>
<tr>
<td>Wien Museum</td>
<td></td>
<td>J. Ch. Hoffmann</td>
<td>Leipzig</td>
<td>1720</td>
<td>Drüner, Badiarov: 45, Baines: 45,7</td>
<td>7.5</td>
<td>4</td>
</tr>
<tr>
<td>Musée des Instruments de Musique, Brussels</td>
<td>1445</td>
<td>Egidius Snoeck</td>
<td>Brussels</td>
<td>c. 1714</td>
<td>45.6</td>
<td>5.6</td>
<td>4</td>
</tr>
<tr>
<td>Musée des Instruments de Musique, Brussels</td>
<td>2853</td>
<td>Darche Charles Claude François</td>
<td>Brussels</td>
<td>1860</td>
<td>45.6</td>
<td>5.6</td>
<td>4</td>
</tr>
<tr>
<td>Musée des Instruments de Musique, Brussels</td>
<td>2854</td>
<td>Gasparo da Saló</td>
<td>Brescia</td>
<td>16th or 17th century</td>
<td>53.3</td>
<td>5.5</td>
<td>4</td>
</tr>
<tr>
<td>Musée de la musique, Paris</td>
<td><em>E.2037</em></td>
<td>Europe</td>
<td>18th century</td>
<td>46</td>
<td>5</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Musée de la musique, Paris</td>
<td><em>E.980.2.495</em></td>
<td>Germany</td>
<td>18th century</td>
<td>48</td>
<td>7-7.5</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Musée de la musique, Paris</td>
<td><em>E.980.2.471</em></td>
<td>France</td>
<td>18th century</td>
<td>50</td>
<td>8</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Musée de la musique, Paris</td>
<td><em>E.980.2.470</em></td>
<td>Europe</td>
<td>18th century?</td>
<td>53</td>
<td>7</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Musée de la musique, Paris</td>
<td><em>E.980.2.439</em></td>
<td>France</td>
<td>18th century</td>
<td>53</td>
<td>c. 8</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Musée de la musique, Paris</td>
<td><em>E.2513</em></td>
<td>Ramón Parramón</td>
<td>Barcelona</td>
<td>1933</td>
<td>53.5</td>
<td>almost 9</td>
<td>4</td>
</tr>
<tr>
<td>Musée de la musique, Paris</td>
<td><em>E.980.2.438</em></td>
<td>Dubois type</td>
<td>Mirecourt</td>
<td>19th century</td>
<td>58.5</td>
<td>8-8.5</td>
<td>5</td>
</tr>
<tr>
<td>Kölisches Stadtmuseum</td>
<td>50</td>
<td>Saxony</td>
<td>End of 18th century</td>
<td>51-52</td>
<td>7.7</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Kölisches Stadtmuseum</td>
<td>51</td>
<td>Tirol</td>
<td>around 1800</td>
<td>54-56</td>
<td>8.2</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Institution</td>
<td>Cat.</td>
<td>Label</td>
<td>Origin</td>
<td>Date</td>
<td>Sex</td>
<td>Instrument</td>
<td>Notes</td>
</tr>
<tr>
<td>-------------</td>
<td>------</td>
<td>-------</td>
<td>--------</td>
<td>------</td>
<td>------</td>
<td>------------</td>
<td>-------</td>
</tr>
<tr>
<td>Kölnisches Stadtmuseum</td>
<td>54</td>
<td>False label: Stainer, Absam</td>
<td>Polish or German</td>
<td>middle of 18th century</td>
<td>45.5</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>Bachhaus, Eisenach</td>
<td>1.1.1.43</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bachhaus, Eisenach</td>
<td>1.1.1.44</td>
<td>probably German</td>
<td></td>
<td>c. 1770</td>
<td>57.3</td>
<td>10.9</td>
<td>4</td>
</tr>
<tr>
<td>Musikinstrumenten-Museum, Markneukirchen</td>
<td>2343</td>
<td>Ernst Reingold Schmidt</td>
<td>Poland</td>
<td>c. 1920</td>
<td>45.4</td>
<td>8.2/8.35/8.45</td>
<td></td>
</tr>
<tr>
<td>Musikinstrumenten-Museum, Markneukirchen</td>
<td>0900</td>
<td></td>
<td>Poland?</td>
<td>Middle of 19th century</td>
<td>45.8-46.1</td>
<td>4.85-5</td>
<td></td>
</tr>
<tr>
<td>Musikinstrumenten-Museum, Markneukirchen</td>
<td>2611</td>
<td>Johannes Robert Adler</td>
<td>Markneukirchen</td>
<td>Middle of 20th century</td>
<td>47</td>
<td>6.95/7/7.5</td>
<td></td>
</tr>
<tr>
<td>Musikinstrumenten-Museum, Markneukirchen</td>
<td>1267</td>
<td></td>
<td>Poland</td>
<td>19th century</td>
<td>46.7-47.1</td>
<td>4.35/4.4</td>
<td></td>
</tr>
<tr>
<td>Musikinstrumenten-Museum, Markneukirchen</td>
<td>4436</td>
<td>August Wunderlich</td>
<td>Markneukirchen</td>
<td>c. 1940</td>
<td>47-47.5</td>
<td>4/4.5</td>
<td></td>
</tr>
<tr>
<td>Musikinstrumenten-Museum, Markneukirchen</td>
<td>1703</td>
<td>Johann Christian Hammig II. (jun)</td>
<td>Markneukirchen</td>
<td>1793</td>
<td>59.3-59.9</td>
<td>9.7/9.8</td>
<td></td>
</tr>
<tr>
<td>Germanisches Nationalmuseum, Nuremberg</td>
<td>MIR 838</td>
<td>Andreas Jais</td>
<td>Tölz</td>
<td>1713</td>
<td>57.7</td>
<td>9.6</td>
<td>4</td>
</tr>
<tr>
<td>Germanisches Nationalmuseum, Nuremberg</td>
<td>MIR 843</td>
<td>Andreas Jais</td>
<td>Tölz</td>
<td>1724</td>
<td>70.3</td>
<td>12.7/13.1</td>
<td>5</td>
</tr>
<tr>
<td>Gemeentemuseum Den Haag</td>
<td>MUZ-1976-0019 and 0841465</td>
<td>Jan Boumeester</td>
<td>Amsterdam</td>
<td>1676</td>
<td>53 or 52.8</td>
<td>9.7</td>
<td>4</td>
</tr>
<tr>
<td>Magyar Nemzeti Múzeum, Budapest</td>
<td>1873.201.66</td>
<td></td>
<td></td>
<td>second half of 18th century</td>
<td>61.5</td>
<td>11</td>
<td>4</td>
</tr>
<tr>
<td>Conservatorio Cherubini, Florence</td>
<td>Cherubini 1988/015</td>
<td>Antonio Stradivari</td>
<td>Cremona</td>
<td>1690</td>
<td>c.48</td>
<td>up to 4.28</td>
<td>4</td>
</tr>
<tr>
<td>Museu de la Música de Barcelona</td>
<td>MDMB 478 Cat. 306</td>
<td></td>
<td>French</td>
<td>18th or 19th century</td>
<td>48</td>
<td>8.3</td>
<td>4</td>
</tr>
<tr>
<td>Museu de la Música de Barcelona</td>
<td>MDMB 762 Cat. 307</td>
<td>Ramón Parramón</td>
<td>Barcelona</td>
<td>1933</td>
<td>55</td>
<td>7.8</td>
<td>4</td>
</tr>
<tr>
<td>Edinburgh University Collection</td>
<td>1723</td>
<td>James Gilchrist</td>
<td>Glasgow</td>
<td>1892</td>
<td>56.5 or 56.7</td>
<td>9.8 or 10.05/10.25</td>
<td>4</td>
</tr>
<tr>
<td>Horniman Museum, London</td>
<td>M15-1983</td>
<td></td>
<td>English</td>
<td>18th century</td>
<td>54 or 52.5/53.5</td>
<td>7.25/7.5/8</td>
<td>4</td>
</tr>
</tbody>
</table>

G D a e'
<table>
<thead>
<tr>
<th>Institution</th>
<th>Object ID</th>
<th>City</th>
<th>Maker, Location</th>
<th>Year</th>
<th>Body Measurements</th>
<th>Neck Dimensions</th>
<th>Frets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Royal Academy of Music, London</td>
<td>2002.602</td>
<td>Cremona</td>
<td>Antonio and Hieronymus Amati</td>
<td>c. 1600</td>
<td>66 or 70.51</td>
<td>11or 11.2/11.93</td>
<td>5</td>
</tr>
<tr>
<td>Ashmolean Museum, Oxford</td>
<td>Hill Coll. Boyden No.7, Ash.04</td>
<td>Cremona</td>
<td>Antonio and Hieronymus Amati</td>
<td>1611</td>
<td>62.9 or 62.8 or 62.75</td>
<td>10.2 or 11 or 9.8/10.3</td>
<td>6 (?)</td>
</tr>
<tr>
<td>Ashmolean Museum, Oxford</td>
<td>Hill Coll. Boyden No.11, Ash.12, 'Charles IX'</td>
<td>Cremona</td>
<td>Andrea Amati</td>
<td>1564 - 1574</td>
<td>c. 47</td>
<td>3.8/4.1</td>
<td>4</td>
</tr>
<tr>
<td>Ashmolean Museum, Oxford</td>
<td>Hill Coll. Boyden No.13, Ash.13</td>
<td>Cremona</td>
<td>Antonio and Hieronymus Amati</td>
<td>1592</td>
<td>45.25 or 45.4</td>
<td>3.8/4 or 3.91/4.13 or 4</td>
<td>4</td>
</tr>
<tr>
<td>University of Berkeley</td>
<td>65.2684</td>
<td>Leipzig</td>
<td>Johann Christian Hoffmann</td>
<td>1731 or 1732 or 1734</td>
<td>45 or 43.5</td>
<td>9 or 8.25</td>
<td>5</td>
</tr>
<tr>
<td>Museum of Fine Arts, Boston</td>
<td>1977.65</td>
<td>New England</td>
<td>Andrea Amati</td>
<td>1820-40</td>
<td>48.5</td>
<td>6.3</td>
<td>4</td>
</tr>
<tr>
<td>Museum of Fine Arts, Boston</td>
<td>3374</td>
<td>Naples</td>
<td>Ferdinando Gagliano</td>
<td>early 19th century</td>
<td>53.4</td>
<td>6.1</td>
<td>4</td>
</tr>
<tr>
<td>National Music Museum, University of South Dakota</td>
<td>3354</td>
<td>Cremona</td>
<td>Andrea Guarneri</td>
<td>1664</td>
<td>48.2</td>
<td>4.5</td>
<td>4</td>
</tr>
<tr>
<td>National Music Museum, University of South Dakota</td>
<td>3354</td>
<td>Mantua</td>
<td>Pietro Guarneri</td>
<td>1689</td>
<td>45.7</td>
<td>8.6</td>
<td>5</td>
</tr>
<tr>
<td>Yale Collection of Musical Instruments</td>
<td>4675.1980</td>
<td>Vienna</td>
<td>Martin Stoss</td>
<td>1848</td>
<td>52.1</td>
<td>7.1-8.0</td>
<td>4</td>
</tr>
</tbody>
</table>

There is still much research to be done on instruments in museums. Unfortunately, not all museums are willing or are able to co-operate. The experience of violin expert Stewart Pollens is illuminating. He writes: ‘On several visits to the Museo Stradivariano, I requested permission to measure the gut core and metal winding diameters of these strings with a micrometer, but permission was denied.’\(^{58}\) It is to be hoped that, in due course, museums will feel able to reappraise their attitude towards research into musical instruments in their charge.

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\(^{58}\) Stewart Pollens, ‘Some Misconceptions about the Baroque Violin’, *Performance Practice Review*, xiv (2009), 7, fn.16.
3.4.b: Private possession

We do not know how many tenor-sized instruments are owned privately. However, I found ten instruments in private possession all of which could arguably qualify as cello-type tenor violins. As far as is known, five of these instruments are English, two are from Austria, two from Italy and one from Germany. The amount of data on hand varies, and certainty regarding precise origins is restricted to only five of these instruments. Nevertheless, all will be discussed in national groups and will be presented in chronological order.

Table 15: 10 instruments in private possession

<table>
<thead>
<tr>
<th>Owner</th>
<th>Location</th>
<th>Maker</th>
<th>Made in</th>
<th>Date</th>
<th>Body (cm)</th>
<th>Ribs (cm)</th>
<th>Strings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peter Trevelyan</td>
<td>St Albans</td>
<td>William Baker</td>
<td>Oxford</td>
<td>1682</td>
<td>63</td>
<td>10</td>
<td>4 or 5</td>
</tr>
<tr>
<td>Julia Wilson</td>
<td>near Edinburgh</td>
<td>Barak Norman</td>
<td>London</td>
<td>17th/18th century</td>
<td>47.5</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>Mark Smith</td>
<td>Adelaide, Australia</td>
<td>Barak Norman</td>
<td>London</td>
<td>1720</td>
<td>62.2</td>
<td>8.6-9.6</td>
<td>4</td>
</tr>
<tr>
<td>Barham-Johnson family</td>
<td>England</td>
<td>Barak Norman and Nathaniel Cross</td>
<td>London</td>
<td>1724</td>
<td>63.1</td>
<td>10.3</td>
<td>4</td>
</tr>
<tr>
<td>ex-Sassoon</td>
<td>anonymous</td>
<td>England</td>
<td>c. 1750</td>
<td>45.3</td>
<td>5.7</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Anner Bylsma</td>
<td>Holland</td>
<td>anonymous</td>
<td>South-Tyrol</td>
<td>c. 1700</td>
<td></td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Agnes Kory</td>
<td>London</td>
<td>Martin Stoss</td>
<td>Vienna</td>
<td>1823</td>
<td>58</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>José Vázquez</td>
<td>Vienna</td>
<td>Carlo Giuseppe Testore</td>
<td>Milan</td>
<td>c. 1700</td>
<td>65</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>José Vázquez</td>
<td>Vienna</td>
<td>North Italy, possibly Venice</td>
<td>c. 1700</td>
<td>68.9</td>
<td>11.4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Family Feldman</td>
<td>Rio de Janeiro</td>
<td>Berlin</td>
<td>c. 1900 or earlier</td>
<td>45.5 or 46</td>
<td>4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

English instruments

Peter Trevelyan describes a remarkable project of assembling and restoring to playing condition the earliest surviving set of English stringed instruments, made by William Baker of Oxford (c. 1645-1685).\(^59\) The set consists of five instruments: two violins, one viola and two bass violins. The latter seem to be among the oldest surviving English bass violins. Indeed, the larger of the two – with a body length of 71.2 cm – was made in 1672 and,

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according to Dilworth, it is ‘thought to be the oldest surviving English cello’.\(^6^0\) Taking the ‘Talbot Manuscript’ as his guide, Trevelyan tunes this instrument to BB♭-F-c-g.\(^6^1\) The smaller bass violin dates from 1682 and, according to Trevelyan, measures 61.3 cm in body-length.\(^6^2\) Trevelyan writes that ‘we have no means at present of knowing exactly how it was set up in the first place, but for the moment it is set up with five strings, tuned C-G-d-a-e’.\(^6^3\) This small bass violin, housed with the rest of the quintet of Baker instruments in Trevelyan’s home in St Albans, actually measures 63 cm; Trevelyan erred by almost 2 cm. It is likely that Baker intended this instrument to have four strings in accord with the rest of his five-piece ensemble. Trevelyan admits that the players in his chamber group – The Baker Collection – are not happy with the tone of their five-stringed small bass violin.\(^6^4\) Perhaps a four-stringed tenor violin set-up – tuned to F-c-g-d – would make the instrument sound better and would complete the circle of fifths in the Baker set of instruments as follows: BB♭-F-c-g (large bass violin, made in 1672), F-c-g-d (small bass/tenor violin, made in 1682), c-g-d-a (viola, made in 1683) and g-d-a-e’ (violins, made in 1683). The smaller bass violin (with a 63 cm length of back) may be the deliberate bridge between the viola (41.1 cm) and the larger bass (71.2 cm). Baker was the earliest known English violin maker, so his surviving five-piece set of stringed instruments – in particular, his small bass – is of immense interest. It indicates that instruments between the viola and cello might have been present from the earliest appearance of the violin family in England.

Barak Norman (1651-1724) is among the best English makers of viols. However, around the turn of the century, he gradually became more interested in making violins, violas and cellos. The latter were among the first English cellos of high quality.\(^6^5\) Nevertheless, as shown by Hebbert, the two Baker bass violins (discussed above) precede any of Norman’s violoncellos.\(^6^6\) According to William Henley, Norman’s cellos are usually of large size, with beautifully proportioned dimensions and with very dark brown varnish. Some of the cellos have two rows of purfling, with a design between the two rows. Norman’s monogram N.B. –

\(^6^1\) Mostly written or assembled by James Talbot (1664-1708), Mus. 1187 (known as the ‘Talbot Manuscript’) is concerned with the history, description and measurement of musical instruments; for Talbot’s bass violin tuning see Donington, 1950, 29.
\(^6^3\) Ibid.
\(^6^4\) Personal meeting, Trevelyan’s home, St Albans; December 2009.
also inlaid – is often seen in the centre of the back or under the wide part of the fingerboard.\textsuperscript{67} In contrast with Henley, Dilworth holds that Norman’s cellos tend to be of a slightly small model but with full arching and with a rich brown varnish. Dilworth, too, mentions the ‘BN’ monogram – in reverse order from Henley’s specification – inlaid in purfling in the centre of the back.\textsuperscript{68} In fact, as shown in Hebbert’s catalogue, Norman made cellos of several sizes. Hebbert’s incomplete list includes eight such instruments, ranging in body-length from 66 cm to 72 cm. However, Norman appears to have made even smaller instruments. The following three Norman examples are small and, because of their sizes, all three raise questions about their intended function. None appears in Hebbert’s catalogue of 93 stringed instruments attributed to Norman. However, the author does not claim to include all surviving Norman examples. On the contrary, he warns that although ‘This catalogue draws together information on ninety-three bowed stringed instruments that have been attributed to Barak Norman... The catalogue in its current state is neither exhaustive of extant instruments, nor can the authenticity of the instruments be vouched for in every case.’\textsuperscript{69}

The instrument in the possession of George and Julia Wilson, near Edinburgh, is likely to have been made by Norman. A card previously attached to the Wilsons’ instrument specified Barak Norman as the maker and, so far, nobody has raised any doubt about its authenticity (although nobody has verified it). The length of the body is 47.5 cm and the height of the ribs – which is not equal around the whole instrument – measures mostly 8 cm but only 2.5 cm under the tailpiece at the bottom. (Such bottom fold was not without precedent at the time: Norman and Cross did it to treble and tenor viols, Parker to violas, Norman and Lewis to cellos.\textsuperscript{70}) The monogram BN is inserted in the centre of the back, with decorations (typical of Norman) on both sides of the monogram. The instrument was left to Julia Wilson by her former teachers Arthur and Sheila Marshall. Sheila was a member of the Dolmetsch Viol Concert. The Wilsons have no records to show how the Marshalls acquired the instrument.\textsuperscript{71}

Another Norman instrument, also absent from Hebbert’s catalogue, belongs to musicologist, performer and instrument expert Mark Mervyn Smith of Adelaide, Australia. The instrument was made in 1720, the inside label shows ‘Barak Norman / at the Bass Violin

\textsuperscript{69} Hebbert, 288-9.
\textsuperscript{70} Email message from Hebbert, October 2012.
\textsuperscript{71} Correspondence (starting September 2008) and several telephone conversations with the Wilsons, followed by a personal meeting in Edinburgh (June 2012).
This label is within an oval-shaped wreath of leaves, and is printed except for the date, which is hand-written in ink. The double monogram BN inserted as purfling in the centre of the back and other decorations typical of the maker suggest that the instrument is genuine. The length of the body measures 62.2 cm, while the uneven ribs are 8.6-9.6 cm high. The double monogram BN (Hebbert’s Type IV centre ornament) on Smith’s instrument corresponds with that on the Wilsons’ instrument. (See Appendix 2.) Close examination reveals that the floral motif on the front of Smith’s instrument corresponds with Type VI of Norman’s floral motifs in Hebbert’s paper. Hebbert’s Type II (or possibly Type III) trefoil pattern is seen on either side of the Type IV centre ornament on the Wilson instrument. (Appendix 3.) It is, therefore, very likely that both instruments were indeed made by Norman who – like Baker before him – made large tenors and small as well as larger bass violins. Smith plays his instrument ‘da spalla’ (Appendix 4.) and tunes it to C-G-d-a.

Our third Norman example has been verified by experts as a Norman instrument. It was made in partnership with Nathaniel Cross in 1724, in the last year of the then 73-year old Norman’s life. The body measures 63.1 cm; the height of ribs varies on four different places but it averages 10.3 cm. The instrument bears an original label: ‘Barak Norman and Nathaniel Cross at the Bass Viol in St Paul’s Churchyard, London 1724’. It is signed on the back beneath the upper button as ‘Norman & Cross’. There are no decorative motives anywhere; the instrument has been modernised with four metal strings and with four fine adjusters in a built-in tail piece. Another addition is a modern 47.75 cm long cello-spike. Documentation accompanying the instrument shows a lack of true understanding of instruments which in size are between the viola and the cello. In 1924 top experts at Hills gave the following evaluation:

We have examined with considerable interest the small violoncello to which you refer in your communication, for in its way, it is quite a rarity. It is a ‘cello, and not a gamba and has been made in this small size for a special order; in other words to suit some player’s requirements. The instrument is perfectly genuine, and the label which it bears is the original. In view of its order and size, however, it would not be very saleable; also it is extremely plain looking. We have no market for such a ‘cello...

It is of particular note that Hills do not suggest that the instrument was made for a child! This ‘cello’ was in the families of Henry Barham Johnson (1848-1888), John Barham Johnson

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72 Hebbert, 322.
73 Ibid., 319.
74 Ibid., 321.
75 Correspondence (starting in 2008) and several telephone conversations with Smith.
(1890-1965) and Margaret Barham Johnson (1924-2002). The last Barham Johnson owner was Alison, granddaughter of Margaret, who sold the instrument at an auction in London (Brompton’s, 29th October 2012, No. 156) as ‘a fine and rare ¾ size cello’.\footnote{The family history of the instrument was provided by Martin John Sharman, son of Margaret and father of Alison; email correspondence, November/December 2012.}

In December 1994 the London branch of the auctioneers Phillips advertised ‘an interesting small size Violoncello, English, c. 1750’. The length of the instrument’s back measured 45.3 cm; its rib-height was 5.7 cm. Although this ‘small size cello’ came from a distinguished background – as ‘the property of George Sassoon, from the Estate of the late Siegfried Sassoon’ – it was evidently deemed as an oddity and had an estimate of only £300-500 on it. In the event, the instrument was purchased by dealer Toni Bingham for over £1000\footnote{Lot No. 147, Phillips’ auction, 15th December 1994; Agnes Kory stopped bidding at £1000.} and it was sold on to unknown buyers (presumably for a larger amount) shortly afterwards. Notwithstanding its provenance – both the English poet/author Siegfried Sassoon (1886-1967) and his scientist/linguist/author son George (1936-2006) were persons of note – the chances of anybody paying large sums of money for a child’s cello are minimal. Indeed, the instrument was advertised as ‘an interesting small size Violoncello’ and not as a child’s (⅛ or ¼ size) cello. Unfortunately, questioned in 2009, dealer Bingham could no longer remember who purchased the small Sassoon cello from him fifteen years earlier.\footnote{Telephone conversation with Bingham.} Thus the trail to this instrument – which might have been built to function as a violoncello piccolo, a cello-type tenor violin or a viola da spalla – has come to an unresolved end.

Austrian instruments

The famous Dutch cellist Anner Bylsma is said to be in the possession of a five-stringed piccolo cello. Unfortunately, Bylsma has not responded to enquiries. However, he personally informed Mark M. Smith (the owner of the Barak Norman instrument discussed above), that he played a South-Tirol piccolo violoncello dated c. 1700.\footnote{Telephone conversations with Smith, 2008-2012.} This information is partially verified and expanded by Ulrich Prinz:

\begin{quote}
Fünfsaitiges Instrument aus Südtirol, um 1700... In Besitz von Anner Bylsma, er hat es zur Einspielung von BWV 1012 im Jahre 1992 (Sony Classical Vivarte, S2K 48047) benutzt.\footnote{Prinz, 588, fn.14.}

(Five-stringed instrument from South-Tirol; c. 1700... in the possession of Anner Bylsma, who used it for his 1992 Sony recording of BWV 1012.)
\end{quote}
Several anonymous online reports refer to this recording (of Bach’s sixth solo cello suite) and that of Schubert’s Arpeggione sonata with Bylsma on a five-stringed violoncello piccolo.\(^81\)

Both CD liner notes mention the five-stringed anonymous Tyrolean piccolo cello from about 1700.\(^82\)

In November 1996, Bonhams of London auctioned ‘a small cello by J. M. Stoss, Vienna, 1823; labelled Martin Stoss, kaiserlich königlicher Hof Geigen und Lautenmacher in Wien 1823’. With its measurements – length of back 58 cm, height of ribs 10 cm – the instrument fitted comfortably between the sizes of the regular viola and regular cello. As verbally attested by eminent London luthiers Dietrich Kessler and Tibor Semmelweis,\(^83\) the quality of the instrument was of very high standard. It was certainly too good to be intended for a child’s use. Indeed, Bonhams refrained from advertising it as a ¼ or ½ size instrument, or as a child’s cello. (For over 30 years Stoss – violin and lute maker at the Imperial Court in Vienna – worked in the near vicinity of the Habsburg’s Estensian manuscript collection,\(^84\) which included music arguably intended for the cello-type tenor violin.\(^85\) Therefore a possible connection between the manuscripts and this instrument cannot be ruled out.) When offered for sale by Bonhams, this Stoss cello was fitted with a modern spike, bridge and sound post; it was tuned to C-G-d-a. However, its quality, size and origin indicated the possibility that this ‘small cello’ was intended for higher tuning. Indeed, when the sound post and bridge were changed, furthermore strings tuned to G-D-a-e’ were fitted, the sound produced was much better.\(^86\)

Following the purchase at Bonhams, the instrument entered Dietrich Kessler’s workshop as a cello but after the restoration it re-emerged as a tenor violin. (Appendix 4.) Stradner considers that this instrument is a child’s cello – significantly, he also believes that Nikolaus Harnoncourt was wrong to use cello-type tenor violins for some of his performances – but his recollection of the provenance raises further questions. He reports that Professor Karl Schreinzer (‘double bass player at the Vienna Philharmonic and well-known collector of stringed instruments’) was one of the owners.\(^87\) Although not including this instrument, most of Schreinzer’s collection of bowed stringed instruments was acquired by...
the department of historical instruments at the Nuremberg National Museum in 1967. It is likely that Schreinzer regarded this Stoss as a historical example from older times, not as a child’s cello. However, prior to reaching the London auction house of Bonhams in November 1996, this instrument was used as a cello by the young son of the last Austrian owner. And herein lays one of the difficulties of tracing surviving cello-type tenor violins in private hands: many of these instruments might have been changed to function as cellos for young children. Hence the discovery of William Baker’s surviving five-piece set of stringed instruments is of immense value. While one could argue that some undersized instruments could have been intended for children, the idea that Baker made his quintet of two violins, one viola and two bass violins for four adults and one child would have to be treated as implausible.

Italian instruments

There are two instruments of note for our investigation in José Vázquez’s possession; he confirmed the existence of both instruments. The four-stringed violoncello piccolo by Carlo Giuseppe Testore, Milan, c. 1700 has a body-length of 65 cm. Testore (c. 1665-1716) was an outstanding violin maker; an instrument by such a master is unlikely to have been made for a child. The other instrument of interest is possibly from North Italy or Venice from about 1700. With its 68.9 cm long body and 11.4 cm high ribs it is larger than the Testore but it still fits into our 45-70 cm range.

German instrument

Joseph Feldman of Brazil was an instrument collector. On one of his trips to Europe, shortly before the Second World War, he purchased what he thought was a very large viola. However, in due course, Feldman added a cello-spoke to the instrument as nobody could play it as a viola. Some 50 years later, Feldman’s family sent the instrument to Phillips for its London sale. Phillips’s expert Philip Scott described it as ‘A large viola or small size violoncello of the Lowendall Berlin School, circa 1900... length of back 17 15/16 inches (45.5 mm).’ The description ‘viola or cello’ may raise the possibility of a third option. Indeed, in 1991, cellist and viola da gamba player Myrna Herzog wrote the following description about the same instrument: ‘a very large viola or a tenor violin, body length 46

88 Sammlung Karl Schreinzer (MI 403), Germanisches Nationalmuseum, Nuremberg; confirmed by Frank P. Bär, curator of musical instruments, May 2010.
89 Email correspondence with Vázquez, April 2012-January 2013.
92 Information from Dr Eliahu Feldman, son of the late Joseph Feldman, December 2012.
93 Sold as item no. 33, 19th November 1992.
The two descriptions differ, but the instrument can surely be regarded as one which in size is between the viola and the cello. We do not know who purchased it at Phillips’s auction, but we know that for about 50 years it stayed with the Feldman family in Brazil.

The possible disappearance of the cello-type tenor violin might have been partly to do with confusion in terminology. So let us look at the terminology with which our altogether 55 examples have been catalogued or named by museums and private owners respectively. In my table the smallest instrument is listed first, followed by the other examples in order of increase in body-length.

### Table 16: 55 surviving tenor-sized instruments with varied terminology

<table>
<thead>
<tr>
<th>Maker</th>
<th>Made in</th>
<th>Date</th>
<th>Body (cm)</th>
<th>Ribs (cm)</th>
<th>Location</th>
<th>Name</th>
<th>Strings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Johann Christian Hoffmann</td>
<td>Leipzig</td>
<td>1731 or 1732 or 1734</td>
<td>Badiarov 45</td>
<td>Badiarov 9</td>
<td>Berkely, USA</td>
<td>viola pomposa</td>
<td>5</td>
</tr>
<tr>
<td>anonymous</td>
<td>England</td>
<td>c. 1750</td>
<td>45.3</td>
<td>5.7</td>
<td></td>
<td>small cello</td>
<td>4</td>
</tr>
<tr>
<td>Antonius and Hieronymus Amati</td>
<td>Cremona</td>
<td>1592</td>
<td>45.25 or 45.4</td>
<td>3.8-4 or 3.91-4.13 or 4</td>
<td>Oxford</td>
<td>viola</td>
<td>4</td>
</tr>
<tr>
<td>Ernst Reingold Schmidt</td>
<td>Markneukirchen</td>
<td>c. 1920</td>
<td>45.4</td>
<td>8.2/8.35/8.45</td>
<td>Markneukirchen</td>
<td>Viola pomposa</td>
<td></td>
</tr>
<tr>
<td>anonymous</td>
<td>Poland or Germany</td>
<td>middle of 18th century</td>
<td>45.5</td>
<td>8</td>
<td>Eisenach</td>
<td>viola pomposa, violoncello piccolo</td>
<td>5</td>
</tr>
<tr>
<td>Egidius Snoeck</td>
<td>Brussels</td>
<td>c. 1714</td>
<td>45.6</td>
<td>5.6</td>
<td>Brussels</td>
<td>violon tenor, viola pomposa, viola da spalla</td>
<td>4</td>
</tr>
<tr>
<td>Darche Charles Claude François</td>
<td>Brussels</td>
<td>1860</td>
<td>45.6</td>
<td>5.6</td>
<td>Brussels</td>
<td>violon tenor, petit violoncello, viola da spalla</td>
<td>4</td>
</tr>
<tr>
<td>J. Ch. Hoffmann</td>
<td>Leipzig</td>
<td>1720</td>
<td>Drüner, Badiarov: 45, Baines: 45.7</td>
<td>7.5 Drüner, Badiarov: 7.7, Baines: 6-7</td>
<td>Brussels</td>
<td>viola pomposa, violoncello piccolo</td>
<td>5</td>
</tr>
<tr>
<td>Pietro Guarnieri</td>
<td>Mantua</td>
<td>1689</td>
<td>45.7</td>
<td>8.6</td>
<td>Yale</td>
<td>viol</td>
<td>5</td>
</tr>
<tr>
<td>Lowendall Berlin School</td>
<td>Berlin</td>
<td>c. 1900 or earlier</td>
<td>45.5 or 46</td>
<td>Rio de Janeiro</td>
<td>large viola, small violoncello</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Europe</td>
<td>18th century</td>
<td>46</td>
<td>5</td>
<td>Paris</td>
<td>Violon-ténor</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

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94 Email from Herzog, January 2011.
<table>
<thead>
<tr>
<th>Country</th>
<th>Period</th>
<th>Origin</th>
<th>Year(s)</th>
<th>Range</th>
<th>Location</th>
<th>Model</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poland</td>
<td>Middle of 19th century</td>
<td>Markneukirchen</td>
<td>45.8-46.1</td>
<td>4.85-5</td>
<td>Poland</td>
<td>Viola pomposa</td>
<td></td>
</tr>
<tr>
<td>Saxony or Poland</td>
<td>1800s</td>
<td>Vienna</td>
<td>46.5</td>
<td>6.5</td>
<td>Vienna</td>
<td>violoncello</td>
<td>4</td>
</tr>
<tr>
<td>Andrea Amati</td>
<td>Cremona</td>
<td>c. 1754</td>
<td>3.8-4.1</td>
<td>Oxford</td>
<td>viola</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Johannes Robert Adler</td>
<td>Markneukirchen</td>
<td>Middle of 20th century</td>
<td>6.95/7/7.5</td>
<td>Markneukirchen</td>
<td>Viola pomposa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barak Norman</td>
<td>London</td>
<td>17th/18th century</td>
<td>10-11</td>
<td>Edinburgh</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poland</td>
<td>19th century</td>
<td>Markneukirchen</td>
<td>4.35-4.4</td>
<td>Markneukirchen</td>
<td>Viola pomposa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>August Wunderlich</td>
<td>Markneukirchen</td>
<td>c. 1940</td>
<td>4-4.5</td>
<td>Markneukirchen</td>
<td>Viola alta</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Germany</td>
<td>18th century</td>
<td>Paris</td>
<td>7-7.5</td>
<td>Viola pomposa</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>France</td>
<td>18th or 19th century</td>
<td>Barcelona</td>
<td>8.3</td>
<td>viola tenor</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antonio Stradivari</td>
<td>Cremona</td>
<td>1690</td>
<td>up to 4.22</td>
<td>Florence</td>
<td>viola tenore</td>
<td>4</td>
<td></td>
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<tr>
<td>Andrea Guarneri</td>
<td>Cremona</td>
<td>1664</td>
<td>South Dakota</td>
<td>Tenor viola</td>
<td>4</td>
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<td></td>
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<tr>
<td>New England</td>
<td>1820-40</td>
<td>Boston, USA</td>
<td>6.3</td>
<td>tenor violin</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>France</td>
<td>18th century</td>
<td>50</td>
<td>8</td>
<td>Paris</td>
<td>Ténor de violon</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Ferdinando Gagliano</td>
<td>Naples</td>
<td>1793</td>
<td>South Dakota</td>
<td>tenor, violoncello piccolo</td>
<td>4</td>
<td></td>
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<tr>
<td>Saxony</td>
<td>End of 18th century</td>
<td>Cologne</td>
<td>7.7</td>
<td>violoncello piccolo</td>
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<tr>
<td>Martin Stoss</td>
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<td>1848</td>
<td>Yale</td>
<td>tenor violin, violoncello</td>
<td>4</td>
<td></td>
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<tr>
<td>London</td>
<td>18th century</td>
<td>53</td>
<td>7</td>
<td>Paris</td>
<td>Ténor de violon</td>
<td>4</td>
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<tr>
<td>France</td>
<td>18th century</td>
<td>53</td>
<td>c. 8</td>
<td>Paris</td>
<td>Ténor</td>
<td>4</td>
<td></td>
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<tr>
<td>Gasparo da Salò</td>
<td>Brescia</td>
<td>16th or 17th century</td>
<td>53.3 picture: 51.5</td>
<td>Brussels</td>
<td>viola da braccio, viole taille, viole tenor, viole alto</td>
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<tr>
<td>New England</td>
<td>early 19th century</td>
<td>Boston, USA</td>
<td>6.1</td>
<td>tenor violin</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ramón Parramón</td>
<td>Barcelona</td>
<td>1933</td>
<td>almost 9</td>
<td>Paris</td>
<td>Violon ténor “viola tenor”</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>English</td>
<td>18th century</td>
<td>London</td>
<td>7.25/7.5/8</td>
<td>tenor violin</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maker</td>
<td>Location</td>
<td>Year</td>
<td>Size</td>
<td>City</td>
<td>Instrumentation</td>
<td>Model</td>
<td>City</td>
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<td>------</td>
</tr>
<tr>
<td>Ramón Parramón</td>
<td>Barcelona</td>
<td>1933</td>
<td>7.8</td>
<td>Barcelona</td>
<td>viola tenor</td>
<td>4</td>
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<tr>
<td>Tirol</td>
<td>around 1800</td>
<td>54-56</td>
<td>8.2</td>
<td>Cologne</td>
<td>small violoncello</td>
<td>4</td>
<td></td>
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<tr>
<td>Germany</td>
<td>18th century</td>
<td>56</td>
<td>7.6-7.8</td>
<td>Vienna</td>
<td>violoncello piccolo, Tenorgeige</td>
<td>4</td>
<td></td>
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<tr>
<td>James Gilchrist</td>
<td>Glasgow</td>
<td>1892</td>
<td>56.7</td>
<td>Edinburgh</td>
<td>piccolo, cello, violoncello</td>
<td>4</td>
<td></td>
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<tr>
<td>probably German</td>
<td>c. 1770</td>
<td>57.3</td>
<td>10.9</td>
<td>Eisenach</td>
<td>violoncello piccolo</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Andreas Jais</td>
<td>Tölz</td>
<td>1713</td>
<td>57.7</td>
<td>Nuremberg</td>
<td>violoncello piccolo</td>
<td>4</td>
<td>GDae</td>
</tr>
<tr>
<td>Martin Stoss</td>
<td>Vienna</td>
<td>1823</td>
<td>58</td>
<td>London</td>
<td>small cello, tenor violin</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Dubois type</td>
<td>Mirecourt</td>
<td>19th century</td>
<td>58.5</td>
<td>Paris</td>
<td>Ténor</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>attributed to Stainer</td>
<td>Absam, Tyrol</td>
<td>17th century</td>
<td>59.5</td>
<td>London</td>
<td>violoncello piccolo</td>
<td>4 or 5</td>
<td></td>
</tr>
<tr>
<td>Johann Christian Hammig II. (jun)</td>
<td>Markneukirchen</td>
<td>1793</td>
<td>59.3-59.9</td>
<td>Markneukirchen</td>
<td>Violoncello piccolo</td>
<td></td>
<td></td>
</tr>
<tr>
<td>False label: Stainer, Absam</td>
<td>False label: 1687</td>
<td>59-60</td>
<td>8.5-9</td>
<td>Cologne</td>
<td>small violoncello</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>second half of 18th century</td>
<td>61.5</td>
<td>Budapest</td>
<td>tenor viola da gamba</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Barak Norman</td>
<td>London</td>
<td>1720</td>
<td>62.8</td>
<td>Adelaide</td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Antonio and Hieronymus Amati</td>
<td>Cremona</td>
<td>1611</td>
<td>62.9</td>
<td>Oxford</td>
<td>bass viol with certain features of a cello</td>
<td>6(?)</td>
<td></td>
</tr>
<tr>
<td>William Baker</td>
<td>Oxford</td>
<td>1682</td>
<td>63</td>
<td>St Albans</td>
<td>bass violin</td>
<td>4 or 5</td>
<td></td>
</tr>
<tr>
<td>Barak Norman and Nathaniel Cross</td>
<td>London</td>
<td>1724</td>
<td>63.1</td>
<td>England</td>
<td>¾ size cello</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Carlo Giuseppe Testore</td>
<td>Milan</td>
<td>c. 1700</td>
<td>65</td>
<td>Vienna</td>
<td>violoncello piccolo</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Antonio and Hieronymus Amati</td>
<td>Cremona</td>
<td>c. 1600</td>
<td>66 or 70.7</td>
<td>London</td>
<td>violoncello piccolo</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>North Italy, possibly Venice</td>
<td>c. 1700</td>
<td>68.9</td>
<td>11.4</td>
<td>Vienna</td>
<td>violoncello piccolo</td>
<td>5</td>
<td></td>
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<tr>
<td>Andreas Jais</td>
<td>Tölz</td>
<td>1724</td>
<td>70.3</td>
<td>Nuremberg</td>
<td>violoncello piccolo</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>anonymous</td>
<td>South Tyrol</td>
<td>c. 1700</td>
<td></td>
<td>Amsterdam</td>
<td>violoncello piccolo</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

As is clearly evident, terminology cannot be relied upon for determining the function and the sizes of instruments, as it varies not only from instrument to instrument but also from...
description by one person to that by another (thus resulting in several names for one and the same instrument).

Far-reaching conclusions are premature on the strength of surviving examples alone, but a number of significant findings emerge:

1) Terminology is interchangeable, and therefore not reliable.
2) Members of the violin family were made in a variety of sizes from the beginning of violin building.
3) In-between instruments were built by unknown and lesser known violin builders but also by distinguished masters such as members of the Amati family, Gasparo da Salò, Gagliano, Guarneri, Stradivari, William Baker, Barak Norman, J.Chr. Hoffmann and Martin Stoss.
4) Surviving in-between examples traced so far represent American, Austrian, Dutch, English, French, German, Italian, Scottish and Spanish instruments, but also possibly examples from many other nationalities (often described as Europeans).
5) Some of our examples were in the possession of adults (such as the Grillparzer cello), thus possibly indicating the intention that they should be played by adults. Children did play such instruments but there is no evidence to show that they were made specifically for children.
6) Unsure of their purpose, many of these instruments have been stored out of sight by museums.
7) No far-reaching conclusion can be drawn from the nationality of the surviving tenor-size instruments. Most of them appear to have been made in Germany and Italy but a considerable number were also made elsewhere in Europe. Thus we cannot establish with certainty if the tenor-register was favoured in particular national or regional centres and if there were any particular makers who were specifically important in building such instruments.

The major history of the tenor-sized instrument takes us to the end of the 18th century but, as indicated with a few examples, instruments fitting a similar description continued to be made and used sporadically throughout the 19th and 20th centuries. Mostly these were ‘new’ inventions created to solve acoustic problems, and as such they fall beyond the scope of my thesis. However, in due course, this history will be covered in a separate article. For now let us examine repertoire which might have been played on our tenor in the Baroque and early Classical periods.
Chapter 4: Repertoire for the G-tuned tenor/bass

In my previous chapters we saw evidence that the violin family included various types/sizes of instruments between the viola and violoncello. One type was the four-stringed G-tuned tenor/bass. I will examine some of the repertoire which might have been played on this instrument and I will consider relevant modern-day studies.

As shown in Chapter 2.1, terminology for members of the violin family was often confused; hence the name of an instrument specified in a musical score should be interpreted with caution and sometimes musical content should override terminology. Composers did not always specify instruments. Presumably, the specific nature of any particular instrument was not always regarded as crucial for the essence of a particular composition. As many aspects of instrumental music derive from vocal music, the musicality of performances might have been of more interest than the participating instruments.

It is impossible either to prove or to disprove with certainty whether my examples were intended or used for the G-based tenor/bass. However, it is likely that Banchieri and Kircher employed the G-tuned instrument, as both specified G tuning.¹ Monteverdi, a contemporary compatriot of Banchieri, might have used this instrument in his Orfeo. The possibility that G-tuning persisted in Italy suggests that the works of Tartini, Vivaldi and Boccherini merit investigation. It is not clear what the solo instruments should be in two of Tartini’s concertos; these parts are usually played on the C-tuned violoncello or on the viola da gamba. I will explore the possibility that Tartini composed these concertos for the G-tuned instrument. I also question why so many of Vivaldi’s cello concertos, supposedly written for the C-tuned cello, are not in the repertoire of solo cellists. Boccherini’s two-cello works also need examination: did Boccherini intend to employ two regular cellos at all times or was there a variation regarding one of the cellos? Baroque manuscript collections, such as the Estensian collection in Vienna, also merit investigation as they may contain pieces for the G-tuned tenor/bass. As seen in Chapter 2.2, Bach’s connection to various types of instruments between the viola and cello indicates that some of Bach’s piccolo cello parts might have been intended for G-tuning. Let us examine the examples implied above.

Banchieri and Kircher

Adriano Banchieri (1568-1634) specified G tuning at the beginning of the 17th century. His Canzoni alla francese, a quattro voci per sonare is instrumental music in four parts (notated

¹ See Chapter 2.1.b
in part-books) but instruments are not specified.\textsuperscript{2} Clefs used include G2, C1, C2, C3, C4, F3 and F4. Tenor parts are notated in C4 while bass parts in C4, F3 and F4 clefs. Within each individual part the clef remains unaltered throughout a canzona. Only in the fourth of these eleven pieces does the bass go below the note G (to F); therefore, when played on stringed instruments, the G-tuned tenor/bass – or, in the fourth piece, the F-tuned version – might be used. The tenor viol is also a possibility, as by 1596 both viols and violins were available. However, Banchieri allows freedom of choice by not specifying individual instruments.

Banchieri’s \textit{Fantasie overo canzoni alla francese} are four-part Fantasies.\textsuperscript{3} Several of these 21 pieces are simply modifications of the 1596 Canzoni; four are almost identical. However, on the title page of the canto part-book, Banchieri specifies the organ and, in addition, also suggests four other unspecified instruments: “FANTASIE OVERO CANZONI ALLA FRANCESE PER SUONARE NELL ‘ORGANO ET ALTRI STROMENTI MUSICALI A QUATTRO VOCI. DI D. ADRIANO BANCHIERI…” As in the earlier \textit{Canzoni}, the possibility of the G-tuned tenor/bass is present.

Like Banchieri, Kircher also specified the G-d-a-e’ tuning.\textsuperscript{4} His illustration of several instruments is followed by \textit{Symphonia pro chelybus omnibus numeris absolutissima, à 4.}, where the four parts are designated for ‘Duoi Violini, Alto & Basso di Viola’.\textsuperscript{5} Both violin parts are notated in the G2 clef. The alto viola is in C2, although the last two lines (probably mistakenly) are in C4. (The clef for this part is crossed out and corrected from C4 to C2 several times). The Basso di Viola part is notated in the C4 tenor clef throughout. Both viola parts – Alto and Basso – can be played on the c tuned viola: the alto part with its g-d” compass on the top three strings, while the basso part with its c-g’ compass on the bottom three strings. However, the Basso di Viola part could also fit comfortably into the first playing position of Kircher’s G-tuned Violone (that is, of the G-based tenor/bass). As Kircher presents this composition immediately after his illustrations of instruments and specification of G tuning, the possibility of his Basso di Viola part being played on his G-tuned Violone should be considered. (Riley suggests that the designation of the bass viola indicates a large tenor viola or a small tenor cello: if Kircher intended the part for the cello or double bass, he would have probably scored it in the bass clef, as was customary at that time.\textsuperscript{6})

\begin{footnotesize}
\begin{itemize}
\item \textsuperscript{2} Venice, 1596; facsimile, Recent Researches in the Music of Renaissance, xx, ed. Leland Bartholomew, Madison, 1975.
\item \textsuperscript{3} Venice, 1603; ed. F. Sumner, New York, 1995.
\item \textsuperscript{4} Kircher, fol. 487. (Iconismus VIII.).
\item \textsuperscript{5} Kircher, 487-94.
\item \textsuperscript{6} Riley, 100.
\end{itemize}
\end{footnotesize}
Monteverdi’s *Orfeo*

In *Orfeo* (first performed in 1607), Monteverdi did not specify individual instruments for the string group ‘Dieci Viole da brazzo’ which appears in his list of instruments, shown immediately after the dedication page in both editions of the score published during his lifetime.\(^7\) The list may be incomplete, as specific stringed instruments are called for in some sections of the score. For instance, in the three-part Ritornello, Act II, Monteverdi calls for ‘duoi Violini ordinarij da braccio’ and ‘un basso de Viola da braccio’.\(^8\) It is not clear whether these two ordinary violins and the bass viola da braccio belong to the ten unspecified stringed instruments in the initial list or whether they are used in addition to them.\(^9\) Apart from the unspecified ten, the list specifies ‘Duoi Violini piccolo alla Francese’ and ‘Duoi contrabass de Viola’.

With few exceptions, Monteverdi does not comment on instrumentation for his Ritornelli and Sinfonie. When he mentions ‘viole da brazzo’ – as he does in some sections of the score – he evidently leaves it open which of the ‘viole da brazzo’ should be used. Modern scholars interpret Monteverdi’s instrumentation in a variety of ways; scholarly articles either ignore the problematic description of ‘Dieci Viole da brazzo’ or present contrasting opinions.

Baroncini emphasizes the importance of the ensemble of ten viole da brazzo but does not specify individual members.\(^10\) Pickett correctly translates the Dieci Viole da brazzo as ten instruments of the violin family and discusses the instrumentation he prefers on the strength of symbolism – and on the literal meaning of words – in the text.\(^11\) For instance, in Act I, prior to the Balletto (scored for bowed strings, plucked strings and one descant recorder), the Ninfa calls on the Muses to strike their lyres: for Pickett the bowed strings represent the Muses’ lyres.\(^12\) However, he does not offer any opinion regarding the ten unspecified instruments. Neither does Leopold specify any of them although she states that the score confirms five violins on stage and five back stage: that is, two identical ensembles with different sonic results.\(^13\) Leopold does not clarify her evidence for the two groups. However,

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\(^7\) Claudio Monteverdi, *L’Orfeo*, Venice, 1609 and 1615.

\(^8\) Facsimile of 1609 print, Documenta Musicologica, xxxix, Kassel, 1998, 28; *Le Opere di Monteverdi*, xi, Asolo, 1930, 43.

\(^9\) This point is also made in the overview of Monteverdi’s instrumentation given in Jane Glover, ‘Recreating *Orfeo* for the Modern Stage: Solving the Musical Problems’, *Claudio Monteverdi: Orfeo*, Cambridge Opera Handbooks, Cambridge, 1986, 139-40.


\(^12\) Ibid., 143.

Lewis Jones observes that no more than five of the ten viole da brazzo are reported by number as having been used at once; according to Jones this has led to the suggestion that the ten were divided into two quintets which played alternately.\(^{14}\) Westrup translates the ten instruments as violins of various sizes but does not specify what kind of sizes may be included.\(^{15}\) He argues that the fourth part, written in the tenor clef, does not go below the viola’s c string, and therefore it is a viola part and not a tenor violin part. Westrup’s argument cannot be dismissed but, on the other hand, we cannot dismiss the possibility of the lower and larger tenor (tuned a fourth or fifth below the viola) for this part. Like the viola, the F or G-tuned tenor could also accommodate the disputed part’s range – which extends from the note c (that is, the viola’s bottom open string) up to the note g’ – while providing a different tone colour, possibly to contrast the viola which plays the alto clef part. Westrup states that clefs are not safe guides to the sizes of instruments.\(^{16}\) Westrup is right to be cautious, as clefs were often chosen to avoid leger lines. However, arguably, clefs may indicate not only pitches but also tonal colours. Monteverdi could have notated the c-g’ range in the C3 clef. His choice of the C4 tenor clef may indicate a specific tenor tonal contrast, which is achieved by a larger instrument than the alto viola. Indeed, Peter Holman seems to acknowledge some connection between clefs and instruments (although his main concern is the pitch range). Writing about the five-part Sinfonia in Act 3, Holman comments that ‘Certainly, the group that played this low-pitched piece, in five parts with C3, C4, C4, C4 and F4 clefs, cannot have been constituted the same as the one (or ones) that played the instrumental passages with two soprano parts; it was probably laid out for violin, three violas and a bass.’\(^{17}\) Glover, on the other hand, is confident that the ten violins consist of two five-part ensembles with first and second violins, first and second violas, and violoncello, although she does not provide any evidence or explanation for her assumption.\(^{18}\) As Monteverdi does not provide such direction for his five-part string ensemble, Glover’s specification without any explanation raises the question whether she follows and accepts Westrup’s interpretation (of two violins, two violas and a cello for the five-part string ensemble) as a fact. Westrup may be right and Holman’s suggestion for violin, three violas and a bass in the Act 3 Sinfonia is also feasible. However,

\(^{14}\) Lewis Jones, ‘Playing *Orfeo* I: Monteverdi’s *Violini* and *Viole da Braccio*’, commissioned for FoMRHI Communications 1808; thirty pages, unpublished.

\(^{15}\) Westrup, ‘Monteverdi and the Orchestra’, 231.

\(^{16}\) Ibid., 233.

\(^{17}\) Holman, *Four and Twenty Fiddlers*, 583.

\(^{18}\) Glover, ‘Recreating *Orfeo*’, 140.
because of its specific tonal colour, the F/G tenor also remains a strong contender for the fourth part.

In reviewing Boyden’s ‘Monteverdi’s Violini Piccoli alia Francese and Viole da Brazzo’, Segerman proposes that the tunings of the 16th century viole da braccio would have been: Soprano: (c’)-g’-d’-a’, Contralto and Tenor: (f)-c’-g’-d’ and Bass: B♭-f-c’-g’. This set, argues Segerman, provides the transitional stage in the development of the viole da braccio and connects with the later Baroque fiddle band. For Segerman the ranges of the parts in Orfeo suggest that the viole da braccio dropped the pitch of the original tenor by a fourth, and the pitch of the original bass by a minor third. Thus, suggests Segerman, the set of viole da braccio in Orfeo would have been treble (originally contralto): f-c’-g’-d’, tenor: c-g-d-a’ and bass: G-d-a-e’, with each member tuned a fourth away from the next. Segerman’s suggestion has been challenged. In his substantial but unpublished article on Orfeo, Lewis Jones disagrees with Segerman’s hypothetical set of three sizes of viole da braccio, tuned to the nominal pitches of G-d-a-e’ (bass); c-g-d-a’(tenor); and f-c’-g’-d” (alto). Jones points out that Segerman’s proposed ensemble is striking in two principal respects: its different sizes are separated not by fifths (as was usual in the 16th century for woodwinds and also common for those stringed instruments which were tuned in fifths), nor alternately by fifths and fourths (as was increasingly the case in the 17th century), but successively by fourths alone, a scheme without precedent; and in comparison with the string music in the printed score of Orfeo, the ensemble lacks in range a necessary fourth in the bass (which descends to D). Jones emphasises that most of the five-part string ensemble pieces in Orfeo are composed within a range which, if played in the first position, suggests two instruments in violin tuning, two in viola tuning (or, if one desires to avoid the lowest string, one tuned F-c-g-d’ or G-d-a-e’ for the tenor parts) and a bass tuned C-G-d-a. Jones thus confirms Glover’s assumption although allowing for the participation of a tenor instrument tuned to F or G.

Modern editions are just as varied and contrasting as the scholarly opinions discussed above. Eitner was the pioneer in bringing Orfeo to the public domain. He provided only a piano reduction but, nevertheless, faithfully showed Monteverdi’s specifications and clef notation. Since Eitner the number of editions – published and unpublished, the latter usually prepared for specific performances – number more than several dozens. Suggestions for

21 Ed. Robert Eitner, Berlin (or Lepzig), 1881.
instrumentation come in a wide variety. However, of the great many editions, only Bartlett includes the tenor violin.\textsuperscript{22} He does not alter Monteverdi’s instrumentation when clearly specified. Bartlett’s evident interpretation of the unspecified ‘Dieci Viole da brazzo’ includes violin I and II, viola, tenor (in tenor and alto clefs) and cello. He writes (on the last page of his edition) that ‘in the performances for which the parts were prepared, a tenor violin was used. This part, in the tenor clef, may be played on the cello; an alto-clef version has been added.’ Bartlett’s edition resulted from a double commission from Roger Norrington (Kent Opera, Florence, summer 1984) and Andrew Parrott (Taverner Consort and Players, Bruges Festival, 1984). Mark Caudle confirms that a tenor was used for the Parrott performances: ‘I played for Andrew Parrot as I did play tenor violin for him on many occasions around then. For want of anything better I used a late nineteenth century 1/2 size cello with gut strings tuned G D a e’.\textsuperscript{23}

In \textit{L’Orfeo} Claudio Monteverdi (1567-1643) notated his five-part instrumental ensembles in G2 G2 C3 C4 F4, G2 C1 C3 C4 F4 and C1 C1 C3 C4 F4 clefs (although the unusual C3, C4, C4, C4, F4 set is used for the Sinfonia in Act III). Interpretation of what may comprise Monteverdi’s ten unnamed members of the violin family varies among scholars and practitioners. Thus the ten unspecified viole da brazzo may include groups with two regular violins, two violas, and bass violin but also with two regular violins, one viola, one tenor and a bass. The parts notated in the C4 tenor clef are well within the range of our G-tuned tenor violin (although they are also playable on the viola). As seen above, Segerman, Jones and Bartlett do indeed envisage the possible use of the G-tuned tenor/bass in \textit{L’Orfeo}, while the possibility of the participation of the tenor is acknowledged (although argued against) by Westrup who takes an anti-tenor view.\textsuperscript{24} It is true that Segerman regards the G-tuned instrument as a bass in \textit{L’Orfeo}, and elsewhere he refers to the ‘mythical tenor violin’.\textsuperscript{25} (Discussing Zacconi’s instruments/tunings of 1592, Segerman suggests that the soprano is a tone higher than the usual 4-string violin, the tenore a tone higher than the Baroque viola, and the basso is the same tuning as Banchieri’s primo violin per il basso.)\textsuperscript{26} However, without doubt, Banchieri’s G-d-a-e’ tuning (and its use in \textit{L’Orfeo}) is accepted by Segerman.

\textsuperscript{22} Ed. Clifford Bartlett, Huntingdon, 1984/1986.
\textsuperscript{23} Email message, 22 January 2015.
\textsuperscript{24} Westrup, ‘Monteverdi and the Orchestra’, 233.
\textsuperscript{26} Ibid., 41.
Bearing in mind the scholarly arguments discussed above and bearing also in mind Monteverdi’s choice of the C4 clef for the fourth part in his five-part viole da brazzo ensembles, the c-g’ range of these C4 parts and the tonal colours in the vocal chorus, I suggest that it is highly possible that in L’Orfeo Monteverdi deliberately matched his five-part instrumental ensemble of the Ritornelli and Sinfonie to his five-part C1 C1 C3 C4 F4 (S S A T B) chorus, thus implying two violins, viola, tenor violin and bass violin.

**Bach and F/G tuning**

As seen in Chapter 2.2, Bach’s connection with stringed instruments between the viola and cello is not entirely clear. However, without any doubt, he designated the violoncello piccolo for obbligato parts in nine of his cantatas: BWV 6, 41, 49, 68, 85, 115, 175, 180 and 183. (In BWV 199 Bach first used a viola for the obbligato part but later swapped the viola for the violoncello piccolo.\(^{27}\)) In five of these cantatas (BWV 6, 49, 85, 180 and 183) the obbligato cello part does not need the C string. In spite of the technical challenges, the compass (G-c”, d-b’, G-bb’, G-b’ and G-c” respectively) does not require more than G D a e’ strings. In cantata 183 the piccolo cello part is in the C4 clef, in cantatas 6 and 180 the parts were notated in C3 as well as G2 clefs; the parts in cantatas 49 and 85 appear only in the G2 clef.\(^{28}\) The absence of the F4 clef is conspicuous. It is possible that Bach intended the piccolo cello parts (of 6, 49, 85 and 180) to be played by violinists (transposing down by an octave from the G2 clef) on the four-stringed G-d-a-e’ piccolo cello. However, the 183 part (in C4) may have been designated for a cellist (or tenor violinist). It could be argued that the obbligato violoncello piccolo part in cantata 175 was also intended for the G-tuned tenor violin, although it includes a C-string note: the F# in bar 30 (as well as in bars 62 and 70) occurs before the note c’, thus requiring a string crossing from the bottom (C) string to the top string within a very short time. (A similar pattern is evident in bar 14, though not requiring the C string.) The continuo doubles the F#, hence it is not essential in the piccolo part.

J.S. Bach, Cantata 175, tenor aria (‘Es dünket mich’) – parts copied from NBA, I/14, 153-154

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\(^{27}\) Alfred Dürr, *Die Kantaten von Johann Sebastian Bach*, ii, Kassel, 1971, 409; Drüner, 96: separate violoncello piccolo part but viola in the full score.

\(^{28}\) Drüner, 96-97; NBA uses C3 clef for the piccolo cello parts of cantatas 6 (I/10) and 180 (I/25).
Dreyfus makes interesting comments about Cantata 71:

Bach’s cello was almost certainly the Italianate four-string variety tuned in fifths above low C, the lowest pitch of which shows up frequently in titled cello parts from all periods. Only in the Mühlhausen cantata, ‘Gott ist mein König’ (BWV 71) is there evidence that Bach used another instrument, probably the five-string variety mentioned by Mattheson and Walther. In movement 6 of this work, the ornamental figures in the cello part reach as high as b♭. Thereafter, in the version preserved in Bach’s score, the cello soars to an extraordinary high f’’ in bar 18. Whether Bach’s imagination got the better of him is unclear, but a certain degree of restraint overcame him when he prepared the orchestral part, in which the nine measures were transposed down an octave... ...The corrected version rises to c’’, probably too high for a normal four-string cello of that time – Walther sets a’ as the upper limit of the cello’s playable range – and likely indicates a five-string instrument. Since the part does not require the low C-string, perhaps Bach used a four-string violoncello piccolo.  

(The highest note for the cello in the corrected version is e♭'', therefore not c'' as Dreyfus specifies.)

This cantata was composed and first performed in 1708, therefore more than fifteen years before Bach’s designated violoncello piccolo parts were composed. When Dreyfus suggests that perhaps Bach used a four-stringed violoncello piccolo without the low C-string, he inadvertently acknowledges the possible existence of the early 18th-century G-tuned tenor violin. Indeed, Christine Fröde suggests that this solo cello part might have been composed for a small G-tuned instrument. Dreyfus adds that ‘the range of several of the obbligatos does not require the low C string, and, in Cantata 85/2, the quadruple stop in m. 9 would naturally have been repeated in m. 27 with four notes if the instrument had possessed a low C string’. Dreyfus says that ‘although the two instrumental types can be clearly differentiated in their construction, it makes most sense to conclude that Bach actually intended his solo parts labelled violoncello piccolo to be played on the viola pomposa’. Arguments can be made for five-stringed violas or so-called viola pomposas for some of the violoncello piccolo parts but, as seen, the four-stringed G-tuned tenor is also a strong possibility. Galpin suggests that the violetta obbligato part in the tenor aria in Cantata 16 (‘Herr Gott dich loben wir’) was probably written for the pomposa (with d-g-d’-g’e’’ tuning). Galpin’s suggestion cannot be ignored as the f-d” compass of the part is indeed playable with Galpin’s tuning. However, the score specifies ‘Oboe da caccia o Violetta’ for this part (notated in the C3 clef). So, for his
second choice, Bach meant the viola or a version of it. The f-d'' compass does not need the bottom three notes of the viola (tuned to c-g-d'-a') but clearly this register is playable on the viola as well as on Galpin’s d-g-d'-g'-c'' pomposa. Or it would suit the violetta although the nature of this instrument is not clear. Bach’s first choice was the ‘oboe da caccia’; a tenor oboe a fifth below the regular oboe.36 Did he mean a stringed instrument a fifth below the viola for his second choice violetta? Unfortunately, he left us in the dark; yet an instrument tuned a fifth below the viola would be the F-tuned tenor (here interchangeable with the tenor oboe). It does not help to solve the puzzle that Majer refers to his viola as violetta as well as viola da braccio and brazzo.37 Nevertheless, the possibility of an F-tuned tenor in Bach’s ‘Oboe da caccia o Violetta’ specification cannot be dismissed.

Estensian Collection

Three of our surviving tenor/bass instruments (discussed in Chapter 3.4) were made in Vienna. The Grillparzer-Violoncello in the Wien Museum, the Martin Stoss instrument currently in London and the instrument catalogued as SAM 103 at the Kunsthistorisches Museum Vienna inspire investigation into Viennese repertoire which might have been played on them if they were tuned to G. The Estensian music collection (housed in the Österreichische Nationalbibliothek, Vienna) includes manuscripts of several unpublished Baroque cello sonatas which might have been composed with such instruments in mind. We cannot prove specific connections between these three instruments and any of the music in the Estensian collection but the possibility of meaningful connections cannot be ruled out.

A core group in the Collection of Historic Musical Instruments at the Kunsthistorisches Museum consists of objects dating back as far as to the late Italian Renaissance and the early Baroque period. These instruments were collected by the Obizzi family – the Modena branch of the Habsburg dynasty through the marriage of Maria Beatrice d’Este to Archduke Ferdinand of Austria in 1771 – and they were intended for practical use.38 The collection was taken to Vienna by the mid-19th century. In 1914, after the assassination of Archduke Franz Ferdinand (of Austria-Este), the Obizzi instruments were taken over by the Imperial Collections which included musical instruments collected over some four centuries by another branch of the Habsburgs: this collection was set up by Archduke Ferdinand II (1529-1595) during the 16th century.

37 Majer, Neu-eröffneter theoretisch- und praktischer Music-Saal, 98.
The Estensian collection of music is thought to have been founded by Marchese Tomaso degli Obizzi, a member of the Este family, in the late eighteenth century in his palace of Catajo near Padua. Herbert Seifert shows that, at one stage, some of the Estensian collection was owned by the Paduan aristocratic family Sanguinazzi.\(^{39}\) As we will see later in this chapter, several compositions by a particular member of this family – that is by composer and amateur cellist Nicolo Sanguinazzo – are included in the collection. (Sanguinazzo often signed his compositions as Olicin Ozzaniugnas, writing his real name backwards.) Alongside the musical instruments of the Sanguinazzi family, their music collection was also transferred to Vienna by the middle of the 19\(^{th}\) century. Sometime after 1920, the collection was moved to the music department of the Austrian National Library.\(^{40}\)

Of our three surviving Viennese tenor instruments, one – SAM 103 – was part of the original Obizzi collection. It is reasonable to assume that music belonging to the Obizzi family was played on it. It is also possible that similar instruments, like our other two surviving Viennese tenor/bass instruments, were also used for the same repertoire. We can fairly safely assume that the so-called Grillparzer cello was in Vienna by the late 18\(^{th}\) century when six-year old Franz Grillparzer (1791-1872) was supposedly learning to play on it. Whether Grillparzer played on it or not, the instrument was in his possession in Vienna during the 19\(^{th}\) century. We also know that the Stoss instrument was made in Vienna in 1823 and that Stoss was instrument maker at the Vienna Court. Both instruments, the Grillparzer and the Stoss, could have been exposed to Estensian music in Vienna. However, with its Estensian origin, of the three surviving Viennese instruments SAM 103 comes closest to the likelihood that compositions in the Estensian manuscript collection were played on it. Mag. Dr. Beatrix Darmstädter writes about SAM 103 (that is about the 18\(^{th}\)-century small cello, also described as violoncello piccolo and tenor violin) at the Kunsthistorisches Museum:

> The item SAM 103 belongs to the nucleus of the Este-collection as its provenance goes back to the chamber of art at the castle Catajo (at first Obizzi, then Austria-Este). Its arrival in Vienna is not dated. It probably was transferred to the chamber of art of the Kunsthistorisches Museum within the 2\(^{nd}\) half of the 19\(^{th}\) century or shortly after the assassination of Archduke Franz Ferdinand.\(^{41}\)


\(^{40}\) Ibid., 179.

\(^{41}\) Email message from Mag. Dr. Beatrix Darmstädter, 21\(^{st}\) October 2016.
The Estensian collection includes several manuscript violoncello sonatas, which support the possibility that many composers writing for the early violoncello might have had the G-tuned tenor/bass – like SAM 103 – in mind. Here these sonatas are described under their catalogue numbers.

E.M.18: a collection of ten sonatas for violin and violoncello – titled *Suonare a violino e violoncello solo* – by Abaco di Verona (Evaresto Felice dal) 1675-1742. The first eight sonatas are intended for a violin and a cello (or, possibly, for a violin and a bass violin). Parts are copied in separate volumes in G2 and F4 clefs respectively. The role of the cello seems to be primarily that of a basso continuo. In the ninth sonata the cello is joined by a harpsichord with figured bass. It is the tenth sonata which is particularly intriguing: the clef for the violin part changes from the G2 clef into C4 clef and the title changes to *Sonata ma violotto*.

Violotto part from *Sonata ma violotto* by Abaco di Verona

What kind of an instrument is the violotto, for which the clef had to be changed from G2 into C4? The A-g# compass of this violotto part is that of the first position on the G-tuned tenor violin. Unless the violinist reading the C4 clef was meant to transpose up by an octave – there
may be a crossed-out ‘8’ in the manuscript – the part is impossible on the violin (which cannot accommodate pitches below the note g that is lower than a fourth below the middle c). As far as known, no description of any kind is available for an instrument called ‘violotto’. However, the notation in C4 tenor clef, the compass of this violotto part and its easy first position accommodation on the G-tuned tenor/bass suggests that the term ‘violotto’ may refer to our G-tuned instrument (in this particular sonata).

E.M.19b: a sonata for violoncello solo (with figured bass) by Filippo Banner. The virtuoso solo part is notated predominantly in the C4 clef; the G-g' first position tenor violin compass is disturbed only by a single quaver D in the second movement. It is noteworthy that this D note, that is the penultimate note in the second movement, is doubled by the continuo.

Banner, Sonata in G minor, second movement (Allegro), concluding bars

E.M.20a: a sonata for violoncello and basso continuo by Domenico dalla Bella (c.1680-c.1740). Although the solo part is notated in the F4 bass clef, the compass is G-d' tenor register.

E.M.20b: another sonata for violoncello with basso continuo by Domenico dalla Bella; with G-g' tenor register in C4 clef. (E.M.20 consists of only these two sonatas, with not a single C-string note in the combined eight movements.)

E.M.23: a sonata for violoncello with a second cello or bass by Marc [sic] Antonio Bononcini. Antonio Maria Bononcini (1677-1726), the younger of Giovanni Maria Bononcini’s two composer sons, was a cellist. The solo cello is notated in the F4 clef, but it is a virtuoso part with G-e' tenor compass with the exception of a single note. The C string is needed for the note D in bar 22 of the flowing fourth movement, requiring an uncomfortable fast string crossing from the bottom string to the top string, yet this D is doubled in the basso.

Bononcini, Sonata in G, fourth movement (Saraband), bar 22

Moving this single C-string note D an octave higher would eliminate the awkward string crossing from the bottom to the top string.
Lowell Lindgren, who edited all fifteen of Antonio Maria Bononcini’s cello sonatas, seems to concur with my arguments about instrumentation for some of Bononcini’s cello sonatas. He writes:

Bononcini’s solo cello was almost certainly tuned like the modern instrument, since its lowest pitch is C... The lowest pitch commonly found is G, which indicates a reluctance to utilize the lowest string for the solo part. The continuo part, on the other hand, descends below G in all except Sonata 11. Agnes Kory believes that the solo part for many cello sonatas written around 1700 was intended for the small cello known as the tenor violin, which is tuned an octave lower than the “treble violin” (that is G d a e'). She hypothesizes that “larger cellos were intended for accompaniments” and that the small cello “lived on well into the eighteenth century under a multitude of names.” …Kory’s hypothesis is worth considering, however, not only for the Sonata à Violoncello Solo (which she mentions), but also for Sonatas 1 – 12.42

Lindgren’s nod towards the usefulness of considering all twelve of Bononcini’s sonatas (with the tenor instrument in mind) is of importance.

E.M.29: a sinfonia for violoncello solo by Antonio Caldara is, in fact, a sonata in four movements for solo violoncello and basso continuo. The compass for the whole work is exceptionally small (d-g’), thus – when played on a C-tuned violoncello – there is no need for either a C or a G string. However, the frequent high register notes would require uncomfortable high playing positions on the C-tuned instrument, while they fit comfortably into the first position on the G-tuned tenor violin. Owing to these technical implications, it is unlikely that Caldara wrote this sonata specifically for the top two strings of the C-tuned violoncello rather than for the top three strings of the G-tuned tenor/bass. In the absence of hard evidence regarding Caldara’s intentions, the G-tuned version is the more plausible candidate.

E.M. 42a, b and c include a two-movement sonata with basso continuo by ‘Signor Olicin Ozzaniugnas Diletante’ – real name Nicolò Sanguinazzo, as specified later in E.M.44 – in three versions. The musical material is identical in all three versions but it appears in two different keys (F, C) with the solo part notated in three different clefs (F4, G2 and C4). ÖNB’s catalogue marks the three versions as for cello, violin and viola da gamba respectively, but the latter (with the B-c” compass) should arguably be marked for the tenor. It is of note that the violin and tenor versions share their keys (of C), as they also share their tunings (although an octave apart). The tenor version (in C, notated in C4) is a fifth above the cello version (in F, notated in F4). It is of significance that the three versions retain identical fingering patterns when played on the cello, violin and tenor violin. However, the fingering

would be very different for the C4 version if it was played on the gamba (with its six or seven strings tuned in fourths and thirds).

Three versions of a two-movement sonata by Ozzaniugnas\textsuperscript{43}

\textsuperscript{43} the key signature in the Andante of version ‘c’ should be a natural (as in version ‘b’).
E.M.43a, b, c: three versions of another two-movement sonata by Olicin Ozzaniugnas; again in three clefs (F4 for the cello, G2 for the violin and C4 for the tenor); in B♭ for the cello but in F for the violin and the tenor, with identical fingering patterns for all three instruments. (ÖNB’s catalogue allocates the tenor part to the gamba).

E.M.44a, b, c: another two-movement sonata by Olocin Ozzaniugnas (= Nicolò Sanguinazzo)\(^{44}\) in three versions: in G2 for violin (in E), in C4 for tenor (in E) and in F4 for cello (in A); with identical fingering patterns. (ÖNB’s catalogue allocates the C4 version to the viola da gamba.)

Three versions of a two-movement sonata by Ozzaniugnas

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\(^{44}\) The “= Nicolo Sanguinazzo” qualifier does not appear in E.M. 42-43.
The C4 parts of the E.M.42-44 triple version sonatas by Olocin Ozzaniugnas (Nicolo Sanguinazzo) have the overall compass of A-c''. If these parts were played on the gamba, as catalogued by ÖNB, the fingering pattern would greatly differ from that for the violin and cello for the same musical material. On the other hand, the G-tuned tenor would allow identical fingering with the violin and cello. It seems that here we have an aristocratic cellist who composed for the C-tuned cello as well as for the G-tuned instrument, allowing identical fingering patterns for identical musical material in keys a fifth apart (as the G-tenor is tuned a fifth above the C-cello). It is possible that Sanguinazzo’s G-tuned instrument was SAM 103 which, as discussed above, was in his family’s collection.

E.M.69: a large volume, under the title Letioni per il violoncello con il suo basso, divides into two sections: (1) 98 short pieces by unknown composers; (2) 44 short pieces by Antonio
Caldara. Caldara’s pieces are designated for a solo violoncello with figured bass. In all of the 44 pieces there is not a single note for the violoncello below G save one obviously mistaken F (third note, bar 20, piece 43): the basso continuo plays G at that point.

No.43 from 44 short pieces by Antonio Caldara

A lack of need for the C string and the frequent higher positions on the A string would create an illogical contrast on the C-tuned violoncello. The overall compass of the 44 pieces is G-g’, which is first playing position on the tenor violin. The 44 pieces show a lot of compositional care and invention; both major and minor keys are represented up to four sharps and flats (with one sharp or flat often ‘missing’ in the key signatures as in modal notation). Caldara clearly used all devices available: if he had written his 44 exercises for the C-tuned cello, he would have probably used the C string. If he had wanted reasonable performances of his pieces, he would not have made them almost unplayable by requiring uncomfortable high positions and impractical leaps on the C-tuned violoncello. Cellists may benefit from learning to play these pieces on the C-cello, but arguably Caldara wrote for the G-tuned tenor/bass. Indeed, this might this be the reason why—with the disappearance of the G-tuned cello—Caldara’s exercises are not only not played but are also unknown by cellists.

As seen, the Caldara and Ozzaniugnas examples provide strong arguments for understanding the importance of the G-based tenor/bass. As also seen, the musical content and notation of the sonata for violotto by Abaco di Verona (E.M.18) arguably suggest the possibility of this instrument. Is there any other instrument which might have been implied by the term ‘violotto’? As neither the violin nor the viola could accommodate the sonata’s A-g#
compass, the G-tuned tenor remains the strongest candidate. The C-tuned cello and the bass viola da gamba would also accommodate notes within this compass. But, as discussed, the violotto part of this sonata appears in the violin volume, hence the six- or seven-stringed viola da gamba is extremely unlikely to represent the violotto. The C-tuned cello is a possibility but the term ‘violoncello’ is clearly specified in the title of the volume (Suonare a violino e violoncello solo), hence there was no need to describe the same instrument (violoncello) with a different name (violotto) for this sonata. In the absence of strong evidence for any other instrument, the G-tuned tenor/bass is the most plausible possibility for the violotto part.

Tartini concertos

Giuseppe Tartini (1692-1770) was a violinist (as well as composer, teacher and theorist). However, it is more than likely that he was familiar with all members of the violin family. Furthermore, two of Tartini’s concertos, assumed to have been written for viola da gamba or violoncello, might have been composed for our tenor/bass. Let us examine these two concertos.

Concerto in D major

Supposedly, the autograph manuscript is preserved at the Gesellschaft der Musikfreunde (also known as Musikverein) in Vienna. Librarians of the Gesellschaft refer to the autograph as ‘Giuseppe Tartini, Concerto per il Viola da Gamba, Autographe Partitur’. Two copies are known, one by Johannes Klingenberg in Berlin and one by Friedrich Grützmacher in Dresden; both have been confirmed. Hans-Peter Linde and Thomas Fritzsch specify ‘Concerto p Viola con Quartetto…’ for the autograph’s title but they also say that the Dresden copy is particularly faithful to the autograph, and that the full title (of the copy) is Concerto per viola da gamba con Quartetto e due corni accompagn da Giuseppo Tartini. It is more than likely that this title was added by the copyist (Grützmacher) – as Klingenberg also added the same title to the Berlin copy – but the title specifically assigned to the Vienna autograph by Linde and Fritzsch is a mystery. Librarians at the Gesellschaft are adamant that the digitalised version made available to me (during my visit to the library on 7th April 2017) is the true representation of the original autograph. Here the title – ‘Concerto & Viola’ (surely Concerto for Viola) – is not in Tartini’s hand, as neither is the additional comment ‘Original

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45 A-Wgm, A 423, ms. IX 33952.
46 Email correspondence with librarians of the Gesellschaft, March 2017.
49 Ibid., 6.
Tartini’ referring to the music score. Judging by this digitalised version of the autograph, Tartini did not specify any instrument for the solo part.

The concerto was not published in Tartini’s lifetime. Sometime around 1890 the famous cellist and teacher Friedrich Grützmacher published a cello-piano edition of what was supposed to be a *Concerto per viola da gamba con Quartetto e due corni* (Breitkopf and Härtel, 19006; later edition Breitkopf 3096). However, the supposed original title as well as the title added to the Vienna autograph specifies the viola; hence the viola da gamba allocation is only an assumption. In 1910 an orchestral version was produced by Louis Delune (Partiturbibliothek 2154). Further publications followed: first as a concerto for cello by Salmon (Ricordi, 1921), then in 1929 Schott published Rudolf Hindemith’s edition, alternatively for violoncello or viola da gamba. In 1986 the concerto was re-published with alternative versions for viola da gamba and violoncello, in orchestral version as well as in piano reduction (eds. Linde/Fritsch, Breitkopf and Härtel, Nr. 7430). Linde and Fritsch report that, although the autograph title specifies ‘Concerto p Viola con Quartetto...’, the viola cannot come into consideration because the music for the solo part is notated in F4 and C4 clefs and the compass goes below that of the viola. Linde/Fritsch assume that Tartini forgot to write ‘da gamba’ after the viola in the title and that the concerto was written for the gamba although it can also be played on the cello. However, notwithstanding the Linde/Fritsch argument (and all publications listed above), the C/D string is needed only for two semiquavers (F#, E) and one quaver (D, but doubled in the accompaniment) in the entire four-movement concerto, therefore using our G-tenor/bass may be a viable option. When playing the concerto on the C-tuned cello, strenuous left hand stretches are unavoidable. Both the first and second movements require the soloist to use uncomfortable extensions in third position immediately at the beginning of solo entries. However, on the G-tuned instrument the same passages are played in first close position.

Tartini D major concerto, first movement, bars 13-15

\[\begin{array}{c}
\end{array}\]

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50 ed. Linde/Fritsch, 3.
51 Second movement, bar 126.
Tartini D major concerto, second movement, bars 15 -17

\[
\begin{array}{c}
\text{15} \\
\text{\includegraphics[width=0.3\textwidth]{image1.png}}
\end{array}
\]

It is true that these strenuous left hand stretches between the notes d' and fsharp are negated by playing on the gamba but there are passages (like bars 52-58 and 138-146 in the fourth movement) where double stops seem to demand fifth tuning (rather than gamba tuning).

Tartini D major concerto, fourth movement, bars 52-58 and 138-146

\[
\begin{array}{c}
\text{52} \\
\text{\includegraphics[width=0.3\textwidth]{image2.png}}
\end{array}
\]

\[
\begin{array}{c}
\text{138} \\
\text{\includegraphics[width=0.3\textwidth]{image3.png}}
\end{array}
\]

Concerto in A major

There is a manuscript copy in the Archivio Musicale della Basilica Antoniana in Padua.\(^5\) Having examined a photocopy of this (autograph) manuscript, Vanscheeuwijck reports that the concerto was written for an unspecified tenor instrument (with the part notated entirely in tenor clef), two violins, viola, and bass.\(^6\) It was first published as a cello concerto by van Leyden (Alkor, 1937), then by Ravanello and Silva (Zanibon, 1938), and more recently for violoncello or viola da gamba by Max Cassoli (Zanibon, 1974). Vanscheeuwijck further reports:

...during the solo episodes ...the viola drops... One could indeed imagine that instead of playing along with the bass line in the tutti sections, the solo instrument could have played the viola part, which never exceeds e''. The solo part has virtually the same extension (A-b') as the concerto in D Major, except for the Fsharp-E-D on the lowest string, which do not appear in the A Major concerto. Such an extension works perfectly on a smaller instrument tuned an octave below the violin (G-d-a-e''), and it would allow the

\[\text{\begin{footnotesize}52 Ms. D VII 1902/87.} \]
\[\text{\begin{footnotesize}53 Vanscheeuwijck, ‘In Search’, 4.} \]
soloist to play the alto part in the tuttis, making the composition playable with a minimum number of two violins, cello, and organ.\textsuperscript{54}

Vanscheeuwijck points out that ‘in the Veneto, just as in Rome, the terms \textit{viola} and \textit{violoncello} were often used indiscriminately to indicate a small bass violin’.\textsuperscript{55}

For the D major concerto Vanscheeuwijck suggests a small five-stringed instrument with the bottom string tuned to D to facilitate the F#-E-D notes, and to increase the resonance of the instrument for the key of D.\textsuperscript{56} However, notwithstanding the F#-E-D notes, appearing once in the D major concerto, it seems beyond doubt that both Tartini concertos are suitable (and perhaps were even intended) for the G-based tenor/bass. As discussed above, it appears that Tartini did not specify the solo instrument in either of these concertos. The musical content of both pieces lends itself to the G-based tenor/bass, although the material can also be played on the gamba and on the violoncello.

\textbf{Vivaldi concertos}

As seen in Chapter 3.2.a, Selfridge-Field’s Venice inventory of the 17\textsuperscript{th} and 18\textsuperscript{th} centuries lists instruments like viola da spalla, violoncino and contralto. It looks likely that the cello appeared in more than one form; the C-tuned cello was not the only possibility. The Venetian Vivaldi might have been aware of these variations and might have composed for them. It is of note that a large number of Vivaldi cello concertos are not in the repertoire of today’s solo cellists. Why? Were perhaps some of these concertos intended for the G-tuned version? Unfortunately the literature on Vivaldi cello concertos is conspicuous by its near absence. The only extensive work on this subject is a PhD thesis by Dr Stavria Kotsoni-Brown.\textsuperscript{57} (However, as shown later, Bettina Hoffmann contributes an interesting article on the topic.) Kotsoni-Brown specifies 29, rather than 27, as the actual number of Vivaldi cello concertos (as she includes the Venetian manuscripts of RV 787 and RV 788, although only the viola part survives for these concertos). Not including these Venetian manuscripts, Antonio Vivaldi (1678-1741) composed 27 concertos for cello (RV 398-424), 1 for two cellos (RV 531) and 3 for violin and cello (RV 544, 546 and 547). Kotsoni-Brown observes that – in spite of significant scholarly discussions on Vivaldi’s output – ‘the cello concertos remain underprivileged, even in relation to the bassoon concertos, in terms of specialist writings’ and that ‘performances of any of these concertos were rare before the 1970s, and even today these

\begin{itemize}
  \item \textsuperscript{54} Ibid., 17.
  \item \textsuperscript{55} Ibid., 13.
  \item \textsuperscript{56} Ibid., 17-18.
\end{itemize}
cello concertos remain relatively unknown among cellists and musicologists alike’. Kotsoni-Brown adds that Vivaldi ‘wrote the earliest cello concertos of which we have knowledge and, indeed, the largest set of cello concertos by a single composer in existence today’.  

Vivaldi’s evident pioneering of cello concertos is of great importance but needs further scrutiny. It is notable that many of Vivaldi’s cello concertos are regarded as technically very challenging and are thus rarely played. The question arises whether all of Vivaldi’s cello concertos were composed for C-G-d-a tuning or whether some of these difficult concertos were perhaps intended for the G-tuned instrument.

The lowest string on the bass violin was problematic until it was covered with copper or silver, that is with thin wire. Before gimping (also known as over-winding, that is producing covered/overspun strings), the size of the bass violin had to be unmanageably big to produce acceptable sounds on the lowest string. It is, therefore, understandable that composers often shied away from using the bottom string in some of the virtuoso solo repertoire for bass violins of manageable sizes. However, by Vivaldi’s time gimping was not unusual: it is, therefore, possible that Vivaldi took deliberate decisions as to when to use the C string and when to avoid it. In other words, he may have decided – although without specifying it – when to use the C-tuned cello and when to use another instrument. On the other hand, he might have deliberately composed pieces which could have been realised both on the C- and G-tuned cellos.

Vivaldi uses the C string in all nine of his extant violoncello sonatas, RV 39-47. (The tenth cello sonata, RV 38, is presumed to have been lost). In one of the B♭ major cello sonatas (RV 47/F.XIV.1) the lowest note F appears twice, while in another B♭ major sonata (RV 45/F.XIV.4) it appears four times. It is tempting to consider the F-tuned cello as the intended instrument for these two sonatas: RV 47 could be played in the first position, RV 45 in the first and second position. However, Vivaldi was a violinist, thus he would have been more comfortable with C-G-d-a and G-d-a-e' tuning than with an F-based instrument. Without doubt, all nine sonatas are eminently playable on the C-tuned cello; their compasses – D-ab', C-g', C-g', C-ab', D-g♯', C-a', F-a', D-a', F-g' – do not require going above the fifth playing position. In fact, the fifth position is rarely required; most of these sonatas are accommodated in the first four playing positions on the C-tuned cello.

58 Ibid., 2 and 4.
59 Ibid., 20.
The G-d-a-e' tuning is out of question as each sonata contains essential notes below G. However, the cello concertos show a more diverse scenario. Kotsoni-Brown suggests that Vivaldi’s cello writing is often more violinistic then cellistic:

Vivaldi’s competence as a performer was not limited to the violin. Judging from his cello writing, however, I would be inclined to conclude that his cello playing remained very much in the shadow of his violin playing and was not developed to a degree comparable with the standard of virtuosos of the instrument. To explain further: Vivaldi drew on his impressive violinistic technique for the composition of the solo part in his cello concertos; yet he did not always consider or acknowledge, through his style of writing, the particularities of the bass instrument. This sometimes resulted in technically awkward positions that are not what one would describe as "cello-friendly".60

It is not beyond possibility that some of Vivaldi’s cello concertos are more violinistic than cellistic because they were composed with a G-tuned instrument in mind. Let us examine some of their solo parts (rather than passages when the soloist may play with the tutti). For easy identification both Ryom and Fanna catalogue numbers are used.

RV 399; F.III.6

Having examined the manuscript in Turin, Kotsoni-Brown tells us that ‘this is actually one of the most (if not the most) neat autograph manuscript among the cello concertos’ and ‘it contains at the top of the title page an erased inscription of a dedicatee or a customer, probably the person to whom this work was directed’.61 It might have been illuminating if Kotsoni-Brown discovered the identity of the dedicatee. However, at any event, the compass as well as some complicated technical demands are of significance. The C-string notes, here always the note C, are doubled on each appearance (bars 41 and 53, first movement; bars 188 and 195, third movement); their use causes difficult string crossings. Apart from these C notes, the compass is G-d'; playable in the first position on the C-tuned cello as well as on the G-tuned tenor/bass (although the doubled C-string notes could not double on the G-tuned instrument; they would appear only in the continuo).

Vivaldi, RV 399
first movement (Allegro)

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60 Kotsoni-Brown, 25.
61 Ibid., 232.
first movement (Allegro)                           third movement (Allegro)                       third movement (Allegro)

RV 402; F.III.27
Apart from a single quaver D, doubled in the continuo – bar 50, first movement – the C string
is not used. The compass is from G to a♭’, playable in first position on a G-tuned tenor/bass.
As Kotsoni-Brown reports, the manuscript of this concerto (alongside two other cello
concertos) is in the Gräflich Schönbornsche Musikbibliothek (Wiesentheid, Germany). It is in
the hand of Franz Horneck, a musician who was in the service of Count Schönborn whose
brother Count Erwein is known to have been an amateur cellist. Kotsoni-Brown observes
that the compass of the solo parts of the three Horneck concertos is very narrow (and that RV
407, RV 415, and RV 423 are similar with their solo compasses just over two octaves and,
at the same time, characterised by the avoidance of the low C string). Kotsoni-Brown adds that

Undoubtedly the earliest cello concertos – and probably the first surviving works written
by Vivaldi in the concerto genre – are the three concertos that were copied by Franz
Horneck during his visit to Venice between November 1708 and March 1709. It is
indisputable that the works in question – RV 420, RV 416 and RV 402 – were composed
by that time, probably between 1708 and 1709.

If Kotsoni-Brown is correct, RV 402 may be the first cello concerto ever composed. It seems
that it may have been composed with ‘the avoidance of the low C string’, that is possibly for
a G-tuned instrument. To be more precise, the first cello concerto ever composed might have
been intended for the G-tuned cello (or both for the C- and G-tuned cello).

RV 403; F.III.16
Two C-string notes appear, both in the second movement: dotted semiquaver F# (bar 99) and
dotted D (bar 100, doubled in the bass). Apart from these two notes, the compass is from G
(mostly A) to g♭. The dotted semiquaver F# could be accommodated on an F-tuned tenor/bass
(while the dotted D appears already in the continuo bass.) The first playing position would
apply both to the F and the G cello (the latter of which would have to exclude the dotted
semiquaver F#). Kotsoni-Brown reports that this is one of two Vivaldi cello concertos, the

62 Ibid., 243.
63 Ibid., 247.
64 Ibid., 280.
manuscripts of which are in Vivaldi’s father’s hand. She emphasizes that Vivaldi senior was known for his inaccuracies in his manuscript copies. It is therefore possible that either of the C-string notes may be erroneous. Alternatively, the composer perhaps expected the player to make necessary adjustments (regarding these two notes) when performing this concerto on the G (or F) cello.

RV 404; F.III.20

The C string is used only for three notes – F#, E, and D – in a five-note descending scale in bars 189-190, third movement. The passage is an immediate repeat of the same descent one octave higher. Without this repeat the compass is A-b’ (although mostly going up only to a’); first position, G-tuned tenor/bass.

Vivaldi, RV404, third movement (Allegro Vivace)

The manuscript of this concerto is in the hand of Peter J. Fick. Was it Vivaldi who composed the lower octave repeat of these five notes? Or did Fick give this repeat because, for this five-note descending scale, he confused the solo cello part with the orchestral violone part? This may sound as a fanciful suggestion but at times violoncello and violone parts were confused. (An example of such an error is detailed later, when RV 544 is discussed).

Kotsoni-Brown cautiously proposes the mid-1710s as the possible date for the composition. On the other hand, Talbot rejects Vivaldi’s authorship for this concerto. Whether the work is by Vivaldi or has only been attributed to him, the three repeated C-string notes in the lower octave are the only C-string notes in the whole concerto. Perhaps Vivaldi envisaged its performance on the C-tuned cello but also on G-tuned cello with minor adjustments.

RV 407; F.III.23

Apart from a single note – a cadential F concluding the first half of the third movement – there is no C-string note in the solo part. The compass is between the notes G# and a’; apart from the single F it can be played in the first position of the G-tuned tenor/bass, and, of course, it can also be played with all notes accommodated in the first position of the F-tuned tenor/bass. As mentioned earlier, Kotsoni-Brown observes that ‘the compass of the solo parts of the three Horneck concertos is very narrow (and that RV 407, RV 415, and RV 423 are

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65 Ibid., 227.
66 Ibid., 275.
67 Ibid., 278 and 280.
similar with their solo compasses just over two octaves and, at the same time, characterised by the avoidance of the low C string). Later Kotsoni-Brown adds: ‘RV 407 has a rather modest compass, stretching from F to a’. The C string is hardly used here; the note F occurs only once in the solo part. In fact, the cello part is largely confined to the upper two strings. The neglect of the C string may be related to the string issue.’ Kotsoni-Brown’s point about string issues would be more plausible if Vivaldi did not use the C string liberally in some of his other works for cello (like, for instance, in sonatas RV 40, 41 and 43).

RV 408; F.III.5
Three C-string notes appear, all three in the first movement: F quaver (bar 36, doubled), Eb quaver (bar 38, doubled) and F quaver (bar 55, not doubled). Apart from these three notes, the compass G-b♭’ is playable in the first position with extension on the G-tuned tenor/bass.

RV 409; F.XII.22
Catalogued by Ryom as a cello concerto, it is a concerto for cello and bassoon. No C-string note appears, the compass A#-a’ (once b’) can be played in the first position of the G-tuned tenor/bass.

It is somewhat ironic, that this concerto – without any need for the use of the C string – was, as Kotsoni-Brown reports, the first Vivaldi cello concerto to be published:

One cello concerto of Vivaldi (RV 409) was published, along with three violin concertos – RV 390, RV 327, RV 258 – following an agreement between the Turin library and the publisher Ricordi on 25th March 1929. These same works, with the addition of another Vivaldi concerto (RV 152) and a Stradella concerto, were later transcribed and arranged for a bigger ensemble before their second publication in 1936.

Kotsoni-Brown notes that ‘The opening of RV 409 presents difficult intervals that, when played, call for a number of fingering extensions, which can affect the accuracy of intonation’.

Kotsoni-Brown’s example for the opening of RV 409

Contrary to Kotsoni-Brown’s observation, finger extensions can be eliminated and replaced by changes of positions. However, on the C-tuned cello, for the quoted opening the player needs to employ the uncomfortable fifth playing position on the top (a) string. The same passage on the G-tuned instrument is in the more comfortable first playing position on the top

69 Kotsoni-Brown, 247.
70 Ibid., 270.
71 Ibid., 30.
72 Ibid., 108.
(e') string. The G-tuned instrument, with easier technical demands, is a strong contender for this concerto.

**RV 410; F.III.17**

Two C-string notes appear. There is a crotchet F (bar 28, first movement) but the note is doubled in the bass. There is also a quaver F (bar 211, third movement). Apart from these two notes, the compass is G-b♭'; first position with extension on the G tenor/bass. The concerto is in F major; the possibility of the designation for an F-tuned tenor/bass must not be ruled out.

Kotsoni-Brown’s observation is of particular interest:

RV 410 (already identified as the most conservative of the four cello concertos) has the narrowest pitch range (from low F to bb' just over neck position). It should be noted that, apart from the single instance of F, the low C string is not used at all, with the result that the piece is basically played in the “safe” middle register, avoiding any sharp changes in register...The fact that it might point towards the possible employment of an instrument with a non-sonorous C string for this concerto should not be ignored...Note that here the writing for the solo is not particularly “cellistic”; it creates awkward spacing of the fingers... these difficulties could be resolved by employing the thumb.\(^{73}\)

Kotsoni-Brown’s suggestions need to be challenged. The chances of Vivaldi catering for a ‘non-sonorous C string’ for this concerto, allocated by Kotsoni-Brown to the period of 1729-1732, are very low. As far as known, Bach’s solo cello suites – using the C string to great effect – were composed earlier. By 1729-1732 composers did not need to worry about non-sonorous C strings. Vivaldi is liberal with the use of C strings in his cello sonatas and in some of his cello concertos. It is true that, on the C-tuned cello, the technical difficulties described by Kotsoni-Brown are of note. But playing this concerto on a G-tuned instrument places the difficult passage, referred to by Kotsoni-Brown, into a comfortable first playing position. Indeed, as Kotsoni-Brown suggests, the use of thumb on the C-tuned cello can be a solution for an advanced player. But the use of the G or F-tuned instrument for this concerto is another possibility and reduces the technical difficulties.

**RV 411; F.III.14**

Three C-string notes appear, all three are in the third movement. A quaver F in bar 92 is not doubled but the quaver C in bar 94 could be played by the bass while the quaver C in bar 96 is doubled. The C notes present very difficult string crossings. Apart from these three notes, the compass is G-a' which is accommodated in first position of the G tenor/bass.

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\(^{73}\) Ibid., 122.
Vivaldi, RV 411, third movement (Allegro molto)

RV 413; F.III.12
Apart from two semiquaver notes (F#, E) and a quaver D – all three notes in bar 223, third movement – the C string is not necessary. There are several high passages (notated in the G2 clef). The compass G-d'' requires stretching up to fourth position on the G tenor/bass and, notably, to extremely high positions (that is, up to the very challenging ninth position) on the C cello.

RV 415; F.III.22
There is no C-string note, the compass G-b' fits into the first and second playing positions of the G tenor/bass.

Kotsoni-Brown raises doubts about the concerto’s authenticity: ‘… this concerto should be excluded from the Vivaldian canon in the present state of knowledge.’\textsuperscript{74} Talbot omits it from his list of Vivaldi works because it is ‘now considered spurious’.\textsuperscript{75} Whether the concerto is by Vivaldi, as has been assumed for many years, the issue of the actual instrument/tuning is still of interest. Kotsoni-Brown emphasizes undue technical difficulties:

The technical level of the solo writing in RV 415 is advanced… There are a few string-crossing passages with tricky fingering in high positions and an occasional use of the thumb… In addition, some fast passages require a number of position changes, confident fingering and good articulation at the same time…\textsuperscript{76}

The difficulties accurately described by Kotsoni-Brown disappear, if the concerto is performed on the G-tuned instrument (where only first and second playing positions are required for this piece). Indeed, Kotsoni-Brown suspects that another instrument (than the C-tuned cello) may need to be considered:

The compass of the solo part – G-b' – excludes the use of the C string, something also noticed in a few of Vivaldi’s cello concertos. This restriction might be associated with the experimental period in the construction of the violoncello and it might denote a particular instrument for which this work was written, differently constructed from the one we know today.\textsuperscript{77}

\textsuperscript{74} Ibid., 260-265.
\textsuperscript{75} Talbot, \textit{The Vivaldi Compendium}, 217.
\textsuperscript{76} Kotsoni-Brown, 265.
\textsuperscript{77} Ibid., 264.
RV 418; F.III.18
The solo part goes very high – top note is f” – and stays high for long passages. C-string notes are problematic for technical reasons. The semiquaver F (bar 30, first movement) is doubled and arguably creates strange voice-leading. The use of C string as a pedal note (in bars 276-282, third movement) causes very difficult string-crossings, yet the note is doubled in the bass throughout. There are several long passages where playing on the C-tuned cello is almost impossible, yet using the G-tuned tenor/bass would minimise these technical difficulties. The compass of G-f” reaches up to the sixth position on the G tenor/bass.

Vivaldi, RV418
First movement (Allegro)

Third movement (Allegro)

RV 422; F.III.4
Apart from a dotted crotchet E doubled in the bass – bar 163, third movement – the compass is G-a’ which can be played in the first position of the G tenor/bass.

Kotsoni-Brown offers three possible solutions for technical difficulties in this concerto:

A passage in the finale of RV 422 combines fast fingering with skillful string crossing...The first bar of this passage can be played in two ways, neither of which is entirely satisfactory. The first solution involves an extension of 1-4 between the octave Es, which creates many problems with accuracy in the intonation. The second solution – in order to avoid this rather awkward spacing – makes use of the G string, thus causing a number of unnecessary bow jumps to the A string, which are difficult to play in this fast
tempo if a good tone quality and a clean sound, free of the middle strings, is to be maintained. Possibly, the best alternative would be to employ the thumb in this passage.\textsuperscript{78}

There is a fourth solution, which Kotsoni-Brown does not offer: the use of the G-tuned instrument.

As Kotsoni-Brown tells us, RV 422 is the only one of Vivaldi’s cello concertos that has survived in three distinct versions: the autograph manuscript is in Turin, non-autograph separate parts are held in Wiesentheid and a non-autograph score survives in Dresden.\textsuperscript{79} Most interestingly, the copyist of the Dresden score was no less than Johann Joachim Quantz. This is the Quantz who clearly specified that for solo works cellists should use small instruments.\textsuperscript{80} Quantz does not mention tuning, but without doubt, the G-tuned version is small enough for virtuoso possibilities.

**RV 423; F.III.25**

There is no C-string note in this concerto. The compass of A-b♭ can be played in first position with extension on the G tenor/bass.

Kotsoni-Brown writes in connection with RV 423:

Despite the creation and further development of the new instrument, which allowed a good sonority throughout its pitch range, some composers avoided the C string in their writing for it… It is conceivable that, in the early stages of solo cello writing, a factor conditioning this general tendency may have been a residual fear of the low sonorities of the bass instrument… The bass tessitura obviously lacked the brightness of the high pitches… It was not until much later that the unique expressive qualities of the low register of the cello were to become fully exploited…\textsuperscript{81}

Notwithstanding the merits of Kotsoni-Brown’s reasoning, there is a strong possibility that at times composers avoided writing for the C-string because they wrote for the G-tuned cello. Kotsoni-Brown notices that the compass of RV 423 is particularly small:

The lowest note in RV 423 is, in fact, A…The range of two octaves and a semitone covered by the solo part make this concerto the one with the narrowest solo compass of any Vivaldi cello concerto…\textsuperscript{82}

**RV 424; F.III.9**

No C-string note appears. The solo part goes very high and stays there (partially notated in the G2 clef) for long passages. The compass: B-f# requires moving up to sixth position on the G tenor/bass.

\textsuperscript{78} Ibid., 107-108.
\textsuperscript{79} Ibid., 273.
\textsuperscript{80} Quantz, Versuch, 212.
\textsuperscript{81} Kotsoni-Brown, 21-22.
\textsuperscript{82} Ibid., 247.
Kotsoni-Brown considers Ryom’s tentative suggestion that this concerto was converted from one intended as a violin concerto.\(^83\) She rejects this possibility on the ground that the solo part had no corrections in the manuscript.\(^84\) However, it cannot be ignored that the solo cello part rises to a particularly high register and that the G2 violin clef is employed for long passages. Notwithstanding Ryom’s opinion, according to which the instrumentation of a concerto solo part cannot be altered,\(^85\) perhaps Vivaldi wrote this concerto to be performed alternatively either on a violin or on a G-tuned cello (although clearly, in some solo passages, transposition an octave higher would have to be implemented when playing the cello part on the violin). Vivaldi’s second period as a teacher at the Ospedale della Pietà was 1723-1740. Kotsoni-Brown dates RV 424 as from 1729-1732,\(^86\) therefore within Vivaldi’s second Pietà period. It is not impossible that, for practical reasons, Vivaldi created works with interchangeable instruments and interchangeable performers in mind. Indeed, this is exactly what Vivaldi specified in RV 544 (as seen below)!

RV 544; F.IV.5

F major concerto for violin, violoncello, strings and basso continuo or Il Proteo o sia il mondo al rovescio [Proteus or the world upside down]. The concertante cello part is notated in the C4 clef throughout; there is no C-string note. The compass of c-a' is playable in first position on the G tenor/bass. Vivaldi wrote the following hand-written comment in the manuscript: ‘Il Violino Principale puo suonare li soli del Violoncello et al rouescio il Violon puo/suonar li soli del Violino suonandoli come stano.’ (The principal violin can play the cello solos and, in reverse, the violone can play the violin’s solos as they are written.)\(^87\) In Malipiero’s edition there is a slight variation, presumably correcting Vivaldi’s mistake: ‘Il Violino Principale pueda suonare li soli del Violoncello et al rovescio il Violoncello puede suonare li soli del Violino...’ (The principal violin can play the cello solos and, in reverse, the cello can play the violin’s solos...).\(^88\) Thus, arguably, Vivaldi seems to confirm his occasional use of the G tenor/bass: surely violinist and cellist could only swap parts easily if they played similarly tuned instruments.

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\(^{83}\) Ibid., 215.
\(^{84}\) Ibid., 219.
\(^{85}\) Peter Ryom, Les manuscrits de Vivaldi, Copenhagen, 1977, 310: ‘In general, the soloist(s) of any composition cannot be substituted: the register, sonority, technique, etc., are elements that are so closely linked to the individual parts that the replacement with other performance media cannot be effected simply.’
\(^{86}\) Kotsoni-Brown, 280.
\(^{87}\) Peter Ryom, Répertoire des oeuvres d'Antonio Vivaldi, Copenhagen, 1986, 648.
\(^{88}\) Istituto Italiano Antonio Vivaldi, [Collected Works of Vivaldi], cxxxv, Milan, 1952, 1.
RV 546; F.IV.6
Concerto in A major for violin, violoncello, strings and basso continuo or *Concerto con 1 violino et 1 violoncello obbligato all’ Inglese*. The solo cello compass is A-`a`, playable in first position on the G tenor/bass.

Bettina Hoffmann seeks to identify the identity and nature of the ‘violoncello all’inglese’, for which Vivaldi seems to have written only this one composition. Michael Talbot suggests that the violoncello obbligato was probably intended for the [C-tuned?] cello and that the qualifier ‘all ‘Inglese’ was an afterthought: Vivaldi was contracted to teach viola all’inglese at the Pietà, thus he might have envisaged the use of the ‘English viola’ (in fact, a viol) for performances there. However, Hoffmann offers a different opinion. Having examined the solo part for the violoncello all’inglese in RV 546, she concludes that the unique terminological description corresponds to a unique organological identity. Hoffmann proposes that the concerto’s first movement contains certain arpeggio passages that are uncomfortable to play on the ordinary cello, on the five-stringed cello, and the bass viol alike. She compares bars 8-17 of the *Fuga Presto* section of a viola sonata (by an unknown author), the manuscript of which is housed in the Estensian collection (as E.M. 70) at the Austrian National Library, with bars 70-74, first movement, RV 546. Hoffmann proposes that Vivaldi’s RV 546 and the anonymous viola sonata E.M.70 were composed for an instrument whose bottom three strings were tuned to A-e-`a`: therefore, says Hoffmann, the instrument was not identical with the viola all’inglese where the tuning corresponded with the D-G-c-e-`a-d’ bass viol tuning. According to Hoffmann, the violoncello all’inglese could be regarded as a kind of violoncello d’amore. However, with only two compositions for proof – one of which is designated as a viola sonata – Hoffmann’s violoncello d’amore idea seems a bit fanciful. It is, nevertheless, interesting that the viola sonata excerpt discussed by Hoffmann is notated in the C4 tenor clef (rather than the C3 alto clef). It is of further interest, that originally the piece was in the collection of the Paduan degli Obizzi family. As discussed earlier, several pieces in this (Estensian) collection could be attributed to the G-tuned tenor/bass. Indeed, the violoncello all’inglese solo part of RV 546 is eminently playable in the first playing position on the G-tuned tenor/bass.

Of the cello concertos examined above, seven, that is RV 399, 403, 408, 410, 411, 422 and 424, include slow movements with only a solo cello and basso continuo. Mostly, the

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solo playing of an orchestral cellist contrasts with the concertante part. The two cellos occupy two different registers, with the soloist staying higher (usually notated in the C4 tenor clef) and the accompanying basso continuo cellist representing the lower register of the C-tuned cello. The possibility of two types of cellos (C and G) participating should not be ruled out.

While Vivaldi’s use of the C string was minimal or non-existent in some of his cello concertos, in other cello concertos he made a deliberate feature of the C string even in pieces where the actual number of C-string notes are not plentiful (like in concertos RV 412, 414, 419 and 421). At times Vivaldi used C-string notes in abundance: without doubt, the C-tuned cello was envisaged for concertos RV 398, 400, 401, 405, 416, 417, 420. However, Vivaldi’s liberal use of the C string in some of his works is a sharp contrast to his total avoidance of the same string elsewhere (as in cello concertos RV 409, 415, 423, 424, 544 and 546).

We cannot prove with certainty that Vivaldi composed for the G-tuned cello (or that he ever considered the F-tuned cello). However, the evidence in his compositions suggest the likely use of such instruments. Vivaldi was a pragmatic composer, often writing for students at the Pietà. His compositions were meant to be performed; he would have not intended extreme technical difficulties for his performers. As some of Vivaldi’s cello concertos are almost unplayable on the C-tuned cello but can be realised without difficulties on the G-tuned cello, Vivaldi’s possible use of the latter must be considered. Furthermore, as several of his cello concertos use a minimal number of C-string notes – mostly harmony notes already doubled in the continuo – it is possible that Vivaldi deliberately composed some concertos to be played either on the C-tuned or the G-tuned cello, even if a few (C-string) notes would be lost on the G cello.

**Boccherini and the alternative cello**

The small cello in Boccherini’s 1787 inventory is intriguing. For what kind of music was it used? In his highly informative article about Boccherini, Christian Speck writes that ‘Certain structural properties in several of his compositions for the cello lead one to suspect that Boccherini may have used a five-stringed instrument, a cello piccolo, in the performance of certain pieces, such as the sonata “L’Imperatrice”’. We do not know the measurements of Boccherini’s small cello and, crucially, we do not know how it was tuned. However, a large number of Boccherini’s cello compositions do not require the use of the C string and the first cello parts of several of his string quintets with two cellos also lack C-string notes. In theory

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91 See Chapter 3.2.a.
92 Speck, ‘Boccherini as Cellist’, 197.
one could use the C-string in higher positions for notes above G in some of this music but in practice it would not be sensible to do so. Speck writes:

Above all, Boccherini’s string quintets, which are mostly scored for two cellos, offer technically demanding solo passages for the cellist. The composer could have intended a particular instrument for the performance of the demanding first cello parts in some quintets. This conjecture is supported by corresponding title additions in the parts of, for example, the edition of the six string quintets, Op.27 (1779), published by Pleyel in Paris in 1813 as Op.49: ‘The first cello can be replaced by an alto cello’. This assumption may stem from Pleyel. However, it may stem from Boccherini who sold all his compositions together with rights to Pleyel (letter dated 17 July 1797). All the same, it is highly suggestive that Pleyel proposed an ‘alto violoncello’ as an alternative instrument, which would have been unusual around 1813. The publisher would certainly have been able to achieve more sales with an arrangement of the string quintet for the standard quintet scoring of two violas. If Pleyel had intended this scoring, however, he would surely have described the alternative instrument as ‘alto viola’. 93

The suggestion for the alternative instrument – that is for an alto cello instead of the first cello – had already surfaced fifteen years before Speck’s quoted date of 1813. In Pleyel’s 1798-1799 publication of Boccherini’s 12 quintets, alternative parts are included for the first cello and alto violoncello. Their music is identical but an octave apart, with the ‘Alto-Violoncello’ notated in the C3 alto clef. Other examples include 12 quintets (published again by Pleyel, c.1804-1812) with the ‘Alto-Violoncello’ (C3 clef) and cello (C4 and F4 clefs) sometimes in the same register, sometimes an octave apart. The 24 quintets, Pleyel c.1810, also have alternative ‘Alto-cello’ (C3 clef) and first cello (C4, F4 clefs) parts. Following in the footsteps of Pleyel, the alternative alto cello is also suggested for the 93 Boccherini quintets published in Paris by Janet et Cottelle between 1818 and 1822. In four out of six Boccherini quintets in Enrico Pole’s edition (Milan, 1949) first cello parts are notated in the C4 tenor clef and they do not require the C string. Pole mentions that title pages in the first edition of four of these quintets – G377, 339, 300 and 376 – suggest the ‘Alto-Violoncello’ for the first cello part.94 Speck observes that ‘The alto and soprano registers are usually preferred for the solo part, both in Boccherini’s sonatas and in his concertos for cello’.95

Out of the nineteen cello sonatas catalogued by Gérard,96 eleven (G4, 5, 8, 10, 12-16, 18, 19) do not have a single note on the C string. This is all the more remarkable, as Boccherini employs a great variety of technical devices: he includes frequent double stops, extremely high registers, virtuoso runs and all manner of display. The G9 F major sonata has only one

93 Ibid., 208-209.
94 These quintets were first published by Pleyel c.1811-13.
95 Speck, ‘Boccherini as Cellist’, 199.
C-string note, that is a semiquaver F# in the first movement. The G17 sonata in C major has quite a number of notes on the C string, but the remaining six sonatas have less than a handful: these notes are either doubled in the bass, or, intriguingly, basso continuo notes appear one octave higher at the same time. In the A minor cello sonata, discovered/edited by Speck and published in 1991, the very few C-string notes (bars 4, 35, 36, 37, 58 and 68 in the first movement) are either doubled in the bass or could be replaced by the bass. Speck’s other discovery, the A major ‘L’Imperatrice’ sonata, does not have a single note on the C string. There is no C-string note in the works for two violoncellos (G74-75).

Five of the twelve cello concertos examined (G476, G477, G480, G481 and G483) use either no C-string note or just less than a handful: usually in octave repetitions, often doubled by the bass. Another concerto, not in Gérard but edited by both Pais (Padua, 1988) and Speck (Mainz/London, 1994), contains no C-string note.

Why did Boccherini, the virtuoso cellist, avoid the C string in so many of his extensive and impressively imaginative compositions for the cello? A few decades earlier the lowest strings of large violoncellos were difficult to tackle satisfactorily but by Boccherini’s time (1743-1805) the quality of the C string was no longer a problem. It is, of course, possible that Boccherini did not use the C string in many of these compositions, because the cello parts contain the chief melodies, therefore they need to sit higher than the harmony parts. In such context the four strings are unlikely to be treated equally, even to the extent of leaving out the lowest string altogether. On the other hand, Boccherini’s presumed frequent use of only three of the four strings on the C-tuned cello begs the question whether Boccherini’s small cello was tuned to G and whether he composed for it. We have no evidence regarding the tuning of this instrument but if it was tuned to G (as it could easily be the case with a small instrument), the possibility of Boccherini composing for such tuning should be considered. Furthermore, Boccherini’s cello compositions which do not go below the note G could be performed with both tunings: the C-tuning explores the very high registers of the big instrument without using the lowest string, while the G-tuning facilitates less taxing technical demands in lower positions on all four strings.

Speck suggests that cellist and composer Stefano Galeotti (1723-1770) probably influenced Boccherini’s early musical development. Boccherini was Galeotti’s junior by 20

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97 Winding gut C strings with metal (in order to obtain good quality sound) was well established by the mid-18th century. (See Chapter 2.1.d.)
98 Date of death is 1770 in MGG, Personenteil, 2002, vii, column 432; but 1790 in NGDMM, 2001, ix, 435.
years; their paths crossed several times. Speck adds that Galeotti published 18 cello sonatas and wrote at least 12 cello concertos.\footnote{Ibid. However, neither MGG nor NGDMM lists any Galeotti cello concertos.} If we add Galeotti’s set of six sonatas for two cellos, his output of sonatas is larger than suggested by Speck. In the 20 extensive sonatas (that is, in four sets of six but with four sonatas appearing in two of the sets), the lack of C-string notes is striking. Indeed, in the six sonatas for two cellos there is not a single C-string note in either of the cello parts (both of which are notated in the C4 clef throughout). Of the single cello sonatas only one uses the C string liberally\footnote{Galeotti, No.6, Six Solos for a Violoncello with a Thorough Bass, London, 1766.} while two sonatas do not have any C-string note at all.\footnote{Galeotti, Nos.1 and 2, Six Sonatas for a Violoncello and Bass, London, c.1770.} In the remaining eleven sonatas C-string notes are very rare; only one or two occur per sonata, usually at cadences and doubled in the bass. Most interestingly, these cadences are not necessarily identical in different publications. For instance, the last bar of the first movement of a D major sonata seems to have an odd mix-up between solo cello and bass\footnote{Galeotti, No.3, Sei sonate per violoncello solo e basso, Paris, c.1767.} but the same bar in the same sonata is mixed up differently in another publication.\footnote{Galeotti, No.2, Six Solos for a Violoncello with a Thorough Bass, London, 1766.} Did perhaps publishers (or copyists) add some C-string notes where originally there were none? Of course, the removal of C string notes could also have occurred through publishers’ interference. Either way, Galeotti’s material is so extensive and so varied, that the near absence of C-string notes in his large output cannot be ignored.

Apart from Speck (and my own study of 2005), modern-day scholars do not consider the possibility of an instrument other than the regular C-G-d-a cello for Boccherini’s cello parts. This is puzzling, as several studies of various lengths examine Boccherini’s relevant compositions, including his two-cello quintets in which – as evident in publications by Pleyel during Boccherini’s lifetime – one of the two cellos might have been intended for an alternative instrument. Admittedly, modern authors were not concerned about alternative instrumentation – they were looking for evidence in other dimensions – but, in the light of Pleyel’s publications, it is surprising that the alto cello (that is Pleyel’s specification, possibly with Boccherini’s approval) or another alternative instrument is not mentioned in these studies.\footnote{Modern-day authors examining Boccherini’s cello parts and two-cello quintets include Ellen Amsterdam (1968), Valerie Walden (1998), Christian Speck (2005), Elisabeth Le Guin (2006), Christian Orth (2007 and 2011), Loukia Myrto Drosopoulou (2008 and 2012) and Brian Andrew Carter (2013).} Amsterdam and Carter do not consider any technical issues of cello playing; Walden, Le Guin and Orth examine possible connections between Boccherini’s clef notation
and thumb position on the cello; Drosopoulou looks at clefs without considering thumb position. Let us look at these studies.

Ellen Amsterdam is primarily concerned with the stylistic and formal features of Boccherini’s string quintets, and collation of diverse musical sources. Amsterdam reports that – in addition to Boccherini’s string quintets – she also examined a large number of virtually unknown string quintets of the late eighteenth and early nineteenth centuries, mostly scored for two violins, viola and two cellos. Composers of these quintets include the Austrians Carl Ditters von Dittersdorf and Michael Haydn, the Italians Gaetano Brunetti and Giovanni Giuseppe Cambini, and the Anglo-French George Onslow. According to Amsterdam, Brunetti composed at least 63 works in this genre, and Cambini about 100. If Amsterdam’s data are correct, it is of interest that Brunetti appears to have composed only 44 string quartets although Cambini might have written as many as 149. In comparison with their regular string quartets, the number of string quintets by Brunetti and Cambini is significant. However, Amsterdam does not question why such a large number of compositions in the genre might have been produced. Neither does she consider alternatives to regular cellos. The point of departure for Amsterdam’s study of Boccherini’s quintets was Janet et Cotelle’s early nineteenth-century edition of 93 of these works. Published in separate parts, this edition includes – as mentioned above – an alternate first cello part for an ‘alto cello’. Amsterdam does not raise any question about the nature of the alto cello; she seems to assume a viola for this alternative part.

For preparing his critical edition of Boccherini’s string quintet in B♭ major, G312, Brian Andrew Carter used two sets of manuscript parts as well as a manuscript score – all dated 1779 and all specified for two violins, viola and two cellos – but also two sets of parts from early French editions: 1. Pleyel’s 1802 edition for two violins, viola and two cellos (apparently with an optional second viola part to replace the first cello part in cases when accomplished cellists were not available to play the demanding first cello part); 2. Janet et Cotelle’s 1822 edition, also with six parts, again apparently including an optional second viola part. In some sections of the quintet Carter notes discrepancies in the second-cello part, which appears an octave higher in each of his manuscript sources than as presented in both

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published versions. These instances are caused by octave displacement in the lower octave in Pleyel’s and Janet et Cotelle’s edition. By reporting these discrepancies, Carter seems to confirm that reading cello parts an octave lower was presumed performance practice in Boccherini’s time. However, as we will see further, the acceptance of this practice is a far from foregone conclusion either in contemporary or in modern studies; the application of alternative instruments instead of octave displacement must remain an option to consider.

Significantly, Boccherini did not provide any instructions for the technical aspects of his cello parts – such as fingering – and he did not write a cello method. Nevertheless, several modern authors (including Walden, Le Guin and Orth) discuss what they interpret as Boccherini’s apparently extensive use of thumb position – that is, the use of left thumb in addition to the four playing fingers that create pitches – which he supposedly notated by clef changes. This position is mostly used when the pitches are high, therefore high playing positions need to be used with the aid of the thumb. However, it is possible that in some compositions (where thumb position is required extensively) the music is not suited well to the instrument at hand: it in fact may sit better for an instrument with a higher string available, thus making thumb position unnecessary.

The notion of Boccherini’s use of clefs for indicating thumb position appears to originate from the famed cellist and composer Bernhard Romberg (1767-1841). However, although he firmly states that there is a connection between Boccherini’s clefs and the thumb position, Romberg does not tell us how he knows that Boccherini intended to use this system. Of our three modern authors who discuss Boccherini’s thumb position signage via clefs, only Valerie Walden refers to Romberg. Interestingly, of the three authors she seems the least confident in believing the suggestion that thumb position was signed via clef notation. Although not referring to Romberg, Le Guin appears to be certain. Referring only to Le Guin, Orth is even more certain and provides several music examples to demonstrate what he believes is Boccherini’s clef notation for thumb position. Let us now consider these three studies.

Walden discusses but does not confirm a connection between changes of clefs in notated cello music and the position of the thumb on the fingerboard. She refers to Bernhard Romberg who, as quoted by Walden, writes:

Boccherini has used all the clefs employed in Music with the greatest precision. In his works, it is immediately perceived what position the thumb should occupy in playing the Thumb passage. Thus he noted his music in the Bass-clef as high as the D above the first

111 Valerie Walden, One Hundred Years of Violoncello, Cambridge, 1998, 76-78.
leger line in the common position. He wrote in the Tenor-clef as high as the upper D but always without using the thumb. For the Thumb-passages he began with the Contr’alto in B as far as C, he used the Soprano-clef from D to F, and the Violin-clef from G and upwards. In the Tenor-clef he wrote as far down as the G.

Walden adds that, according to Romberg, Boccherini himself began to find too many moveable clefs confusing and eventually adopted the sole use of the bass, tenor and treble clefs. As quoted by Walden, Romberg wrote:

A practice has hitherto prevailed, of playing those notes which are written for the Violoncello in the Violin-Clef, an octave lower than the pitch of the Violin. Far from being inclined to sanction such a practice, I am decidedly and strongly opposed to it…Unfortunately, however, several celebrated Composers have noted the Violin-clef in Violoncello-music, an octave higher than it should be played.

Walden obtained her Romberg quotes from the English edition of Romberg’s violoncello method. It is not known who created the English version but this edition (as well as a French edition) appeared possibly up to a year earlier than the German version. However, the latter could reasonably be assumed to be the original as Romberg was a German cellist and composer. At any event, there are some notable differences in the English and German versions. In Walden’s quote (above), Boccherini used all the clefs employed in music with the greatest precision; in Romberg’s German version ‘Boccherini hat die verschiedenen Schlüssel in allen Lagen am richtigsten gebraucht’ that is to say that Boccherini used the various clefs in all playing positions most appropriately. The difference here is more a question of nuance than substance, but Walden omits an interesting comment by Romberg (although it appears in the English version): Romberg writes that it would have never occurred to Boccherini to write for the treble clef an octave higher than played; he was just too good a composer to tolerate two different usages of the treble clef in his compositions.

Even more interesting is a further comment (also omitted by Walden from the English version): ‘It is true that, in later editions of his work, the Violin-clef has been set an octave higher, but it must surely have been done contrary to the wish of this celebrated master.’

Whether we consider the German original or its contemporary English version, Romberg offers only his opinion but no evidence about Boccherini’s usage of clefs. We cannot ignore Romberg, a significant cellist and composer, just twenty-four years younger than

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113 Mentioned (under Romberg) without any title, MGG, Personenteil, 2005, xiv, column 336.
114 Romberg, Schule, 61.
Boccherini. It is possible that in the late 1790s Romberg visited Boccherini in Madrid. However, in his important cello method, Romberg provides only his interpretation of Boccherini but does not tell us his evidence. Walden writes that ‘With regard to fingering techniques, those of Boccherini are the most difficult to reconstruct, owing to a lack of notation in those works which remain.’ She offers two music examples by Boccherini, but qualifies her suggested fingerings by saying that ‘if one uses Romberg specifications’ and ‘if the hand settings suggested by Romberg are applied’. Walden does not tell us whether she agrees with her Romberg-inspired fingerings which are admittedly playable, but the thumb of the player would be under constant strain while the quality of the tone produced would be unpleasant.

Boccherini did not mark fingerings, so fingering in his works is open to interpretation. One can reach Romberg’s quoted ‘upper D’ (that is the note d") in the tenor clef without using the thumb but many players would employ the thumb (placing it a fourth below) for this note. How do we know (and how did Romberg know) that Boccherini always played such notes without using the thumb? The note B♭ immediately below middle C as well as the middle C – both notes specified by Romberg for thumb position on the D string – can easily be played with the thumb still behind the cello’s neck. Romberg wrote his method for the C-tuned cello and he seems to have taken for granted that Boccherini wrote only for this instrument. Yet a G-tuned instrument would create very different fingerings, often avoiding the necessity for thumb playing. We cannot ignore the system, complained about by Romberg, which assumed that treble-clef passages for the cello should be played an octave lower than the notated pitches show. If such a system was used at a time when Romberg’s preferred notation (of showing real pitches) was also in use, misunderstandings or various interpretations would have resulted by reading the staff notation either as written or an octave lower. As, indeed, misunderstandings or various interpretations could have also occurred regarding the actual instruments used. Crucially, surely an alternative solution to the problem of high positions was to play on an instrument with a higher string available.

Boccherini’s assumed use of the thumb position – discussed by Walden with reference to Romberg – is discussed by Elisabeth Le Guin at length. She takes Boccherini’s extensive use of thumb position for granted. However, unlike Walden, Le Guin does not use

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117 Luigi Boccherini 1743-1805; Bernhard Romberg 1767-1841.
119 Walden, *One Hundred Years*, 134.
120 Ibid., 135.
Romberg as evidence. In fact, Romberg is not mentioned at all in Le Guin’s extensive study, neither in her text nor in her bibliography. However, she is firmly of the opinion that Boccherini used changes of clefs to imply thumb position without ever dictating it. But why would Boccherini shy away from ‘dictating’ fingerings, why would he hide behind clef changes? Boccherini was not shy about dynamic markings, tempo markings and about a great variety of other markings including bowing types. Interestingly, Le Guin explains that the tone quality in thumb position is ‘hard and bold’ as opposed to the tonal quality when applying fingerings without the use of the thumb:

Thumb-stopped notes will also have a tone quality somewhat different from those stopped by the other fingers, since it is the side of the thumb that makes contact with the string; joints are considerably less flexible under sideways pressure, and there is less flesh on the side of the digit. Vibrato becomes more difficult. Thumb tone could be described as rather hard and bold.

Le Guin emphasizes that Boccherini was not the only composer to use the thumb but he used it more than anybody else:

...Boccherini has an informal reputation among cellists as the inventor of thumb-position on the cello. This is not strictly true; there is plentiful evidence in the works of Boccherini’s Parisian contemporaries Jansson, Bréval, and especially the Duports that the use of the left thumb in the upper register was already a familiar technique. What is true is that Boccherini exploited, expanded, and emphasized thumb-position to an exceptionally degree. He uses it more than anyone else; it is very much his signature.

Why is Le Guin so confident about her assumption; why would Boccherini choose to use ‘hard and bold’ tone quality more than any other composer? Without specific fingerings by him, we cannot be sure of the extent of Boccherini’s use of thumb. We know that Duport specified the use of thumb with the 0 sign (although in Bishop’s English translation the Q sign replaces the original 0 sign). However, the absence of any thumb position sign in Boccherini’s cello writing surely raises questions. Perhaps Boccherini did indeed use his extensive clef changes as indicators for thumb position changes. On the other hand, perhaps much of his high register writing for the cello was intended for another instrument, not for the C-tuned cello, hence the use of thumb would be irrelevant. It is of note that the concept of the ‘alto violoncello’ (surely a significant feature in Pleyel’s and Janet et Cotelle’s editions of Boccherini’s string quintets) is absent from Le Guin’s book. Yet she includes such a little

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122 Ibid., 21.
123 Ibid., 19.
124 Ibid., 276, n.3
known concept as ‘the rather daunting invention of tenor-clef-up-an-octave, to my knowledge unique to Boccherini’.\textsuperscript{126}

Christian Orth continues Le Guin’s assertion of Boccherini’s clef usage for signalling thumb positions.\textsuperscript{127} Romberg is not mentioned at all (as he is not mentioned in Le Guin’s extensive study either); Orth’s acknowledged source for Boccherini’s supposed clef notation for thumb position is only Le Guin. Orth examines old editions with Boccherini’s original clef notation. He looks at the first edition of the Op.10 quintets, published as Op.12, Veiner, Paris, 1774;\textsuperscript{128} Op.13 quintets as Op.20, Venier, Paris, 1776; Op.18 quintets as Op.17, La Chevardiere, Paris, 1776; and the Op.24 quartets as Op.27, Paris, Seiber, 1778-1779. Orth also looks at Pleyel’s editions of 24 quintets as Op.37, 1799-1811; of 12 quartets as Op.39, 1798; and of 12 quintets as Op.47, 1813. In his discussion of the above works Orth states that the C1 and C3 clefs are used only for thumb position sections, that is to say that the thumb comes on after a change to the C1 or C3 clef.\textsuperscript{129} However, he adds (most confusingly) that the G2 clef may be used variously between thumb activities but, nevertheless, when the thumb is not needed in higher registers, only the tenor and treble clefs are used.\textsuperscript{130} Regarding the C1 and C3 clefs, Orth’s suggestion is not entirely without merit as C1 and C3 notation for cello parts surely indicates high registers on the cello without having to notate outside the five-line stave. On the other hand, Orth’s comments about high position passages without the use of thumb being notated only in C4 tenor and G2 treble clefs is unclear. In fact, when read an octave lower than notated (as so often in Boccherini’s time), G2 treble clef passages would mostly be played in four-finger neck positions. Orth states that his examples are meant to be read at pitch. But are they? Le Guin’s and Orth’s arguments for thumb position use in Boccherini’s original C1 and C3 clef notation may make practical sense but it is not clear if Boccherini deliberately intended to sign thumb positions with his clefs or whether the scenario simply arose from high register passages (needing the use of thumb) notated within the stave. There is also the possibility, as Speck and I have argued, that some of Boccherini’s cello parts were intended for an instrument other than a regular cello that is for an alto-violoncello (the nature of which is not clear) or for the G-tuned cello-type tenor violin.

\textsuperscript{126} Ibid., 21.
\textsuperscript{128} Specified as Op.10 in Boccherini’s autograph catalogue but published as Op.12.
\textsuperscript{129} Orth, ‘Zum Daumenaufsatz’, 221.
\textsuperscript{130} Ibid., 222.
Let us examine Orth’s examples of some of Boccherini’s cello parts in old editions with original clef notation. As we have no hard evidence about Boccherini’s intentions, only by examining such examples can we opine if Boccherini’s clef notation is linked to his thumb position usage.

Orth’s first example starts in the C4 clef, moves to the C3 clef three bars later and concludes in the F4 clef for the last two bars.131

Keeping to thumb position, as assumed by Orth, for the twenty-two bars notated in the C3 clef, is a tall order for the thumb and is likely to compromise tone quality (especially in the double-stop section of bars 27-30). The highest pitch in Orth’s excerpt is the note c'' (notated here in the C3 clef) which in fact can be played in the sixth position, without using the thumb, on the C-tuned cello. Consequently, Orth’s assumption for connection between the C3 clef and thumb position is arguable. On a G-tuned cello the note c'' is in the third playing position on the e’ string, hence the use of thumb would not arise. Interestingly, the lowest note in this example is G. If this applies throughout, and not only in the section presented by Orth, the G-tuned cello may be a strong candidate for the part.

131 Ibid., 223.
Orth’s *second example* is for the C-tuned cello as C-string notes are plentiful.\(^\text{132}\)

First movement and bars 1-38 of the second movement, Op.24 No.5 Quartet, first edition as Op.27 No.6, Sieber, Paris, 1779, G193

However, the idea that the change to the C1 clef (from the F4 clef) in bar 12 of the 1\(^{st}\) movement indicates thumb position raises questions. If played in thumb position, the first note (b♭') would have to be held with the thumb during a tied-over semibreve and minim, that is during six crotchet beats, thus resulting not only in discomfort for the player but also in inferior sound quality for the long-held note. A similar passage after change from the F4 clef to the C3 clef (in bars 54-55) would cause the same problem, although here the note g' (rather than the note b♭') is held for the duration of six-crotchets. Orth’s assertion about the G2 clef usage (stating that when the thumb is not needed in higher registers, only the tenor and treble clefs are used) also needs to be considered here: the change into G2 clef in bar 22, 1\(^{st}\) movement, clearly needs the use of the thumb as the notes rise to the top part of the cello’s fingerboard. This applies also to the G2 section further in the movement (bars 63-64) and in the 2\(^{nd}\) movement (bars 19-22). There are only two possibilities: 1. Voice-leading indicates that – contrary to Orth’s assumption according to which all pitches in his examples are *all’ottava reale* – the C1, C3 and G2 clefs could be read an octave lower, thus played in neck

\(^{132}\) Ibid., 224-7.
positions, in the first movement; 2. If read at pitch, treble clef notes must be played using the thumb.

In Orth’s third example the C1 clef appears in the Trio for bars 53-59 but, because of voice leading, an argument can be made for reading the passage an octave lower than notated, therefore without the use of the thumb. On the other hand, if the notation is read at pitch, the thumb position is indeed needed.


The fourth example is again clearly for the C-tuned cello.


The part may indeed start in thumb position; it is notated in the C3 clef in the first two bars. However, even the high notes in bar 1 could be achieved minus thumb, as the notes can easily be played in lower neck positions. Staying in thumb position throughout bars 6-12 and 16-20 could be extremely uncomfortable, resulting in questionable tone quality.

Ibid., 227-8.
Ibid., 228.
There is no reason why the long C₃ passages (for example, in bars 1-12) should be played in thumb position in Orth’s fifth example.¹³⁵

First cello, bars 1-12, 1st movement, Quintet, Op.28 No.6, first edition, Pleyel, Paris, 1799-1804 also as Op.37 No.15, G312

The thumb position is a good solution for the beginning of bars 1, 3, 40 and 42 in the sixth example but surely, from the quaver upbeats within these bars, the neck position would offer the most sensible solution in spite of the unchanging C₃ notation.¹³⁶


Unless the cellist is a masochistic virtuoso wishing to reach the highest registers of the cello, the C₁ passages in Orth’s seventh example should surely be played an octave lower than written: voice leading would not be compromised and the tone quality for the long passages (alternating with C₄ sections) would be superior.¹³⁷ Significantly, this part is for the second cello; the notion that a second cello part would go up to f" that is a thirteenth above middle C needs to be carefully considered regarding octave placement.

¹³⁵ Ibid., 230.
¹³⁶ Ibid., 231-2.
¹³⁷ Ibid., 233.
The two cellists playing the cadenza in the eighth example have to be exceptional virtuosos. Reading the C1 and G2 passages an octave lower is a more likely alternative.

138 Ibid., 234-5.
It is difficult to be sure why in Orth’s ninth example Boccherini keeps long sections in the C4 and F4 clefs but puts the exposed solo cello part into high violin-like registers and notates it in the C1 clef.¹³⁹ It is true that higher registers are likely to be heard clearer in an ensemble, but the cello is not a high-register instrument. The possibility of Boccherini’s intention to play here the C1 as well as G2 passages an octave lower must not be ruled out.


Orth’s tenth example presents Pleyer’s (or Boccherini’s?) alternative arrangement of the first cello part, just discussed, for Alto-Violoncello.¹⁴⁰ On paper the part looks as if it was written for a viola player that is in the C3 and G2 clefs. However, a viola is unlikely to be

¹³⁹ Ibid., 242.
¹⁴⁰ Ibid., 243.
identical with an alto-cello, hence the mystery of the latter remains to be solved. The original cello and alternative alto-cello parts are notated mostly in the same register. Interestingly, in bars 48 and 49 the original first cello part is notated one octave above the alto-cello. Unless we assume that those G2 notes in the cello part are meant to be read an octave lower!


The sole music example provided by Orth in another paper\textsuperscript{141} shows (probably unintentionally) that – with no notes under G – the first cello is unlikely to use the C-string in the entire 1\textsuperscript{st} movement of the Op.49 No.1 quintet (G365), while the second cello part contains a great many C-string notes. In a further paper Orth again discusses the use of

moveable C clefs indicating thumb position.\textsuperscript{142} This time Orth specifies Bréval as his source for evidence. He states that – in order to show thumb position – Jean-Baptiste Bréval uses soprano, alto and treble clefs in his cello parts. Orth reasons (with the aid of a quotation from Bréval) that Bréval knew Boccherini’s works and hence he was familiar with Boccherini’s use of clefs for indicating the use of thumb. However, the French ‘position du pouce’ (thumb position) expression is not included in Orth’s Bréval quotation:

\begin{quote}
C’est ici le lieu de dire un mot des Clefs. La basse est peut être le seul Instrument qui les employe toutes, et les anciennes musiques, d’autres plus modernes comme les ouvrages du célèbre Boccherini en sont la preuve.

Je n’examinerai point si autrefois les différentes voix ont nécessité différentes clefs, et si partant de ce principe on a du l’appliquer par suite aux Instruments. Je sais seulement que la Clef de Sol convient à toutes les Voix, et qu’aujourd’hui l’on s’en sert avec la Clef de Fa, pour exécuter toutes sortes de Musiques sur le Violoncel.\textsuperscript{143}

This is the place to say a word about clefs. The bass is perhaps the only instrument which uses all of them, and ancient pieces of music, as well as other more modern ones such as the works of the celebrated Boccherini, are the proof of this. I shall not go into the question of whether in the past the different voices required different clefs, and of whether, proceeding from this principle, it must consequently have been applied to instruments. I only know that the treble clef is appropriate for all voices, and that nowadays it is used together with the bass clef to perform all kinds of music on the violoncello.\textsuperscript{144}
\end{quote}

In fact, on the previous page Bréval does actually explain thumb (pouce) position but he indicates the thumb with the fingering sign of ss (with a horizontal line across).\textsuperscript{145} Furthermore, throughout his \textit{Traité} Bréval uses two clefs: the G2 clef to be read an octave lower and the F4 clef. Last but not least, as shown, Bréval’s text quoted by Orth does not mention thumb position at all, let alone connections between clefs and thumb positions.

The issue of clef choice is also addressed by Loukia Myrto Drosopoulou.\textsuperscript{146} She points out, that, in manuscript copies of some of Boccherini’s string quintets (that is of those played at the Prussian Court), the high-register notes of the violoncello are notated in treble clef, while of the C clefs only the tenor clef is used. Drosopoulou reports non-autograph markings including ‘Wie ist’\textsuperscript{147} and ‘Violin’ in the cello part of the autograph score for the Op.39 No.3 quintet with cello and double bass. These markings suggest to Drosopoulou that Boccherini’s other C-clefs were re-written by the copyist – probably Schober – according to

\begin{footnotes}
\item[145] Bréval, \textit{Traité}, 136.
\item[147] ‘Wie ist’ may translate into ‘As it is’.
\end{footnotes}
the house style at the Prussian Court. As reported by Drosopoulou, the ‘Violin’ annotations appear immediately before solo cello passages: these sections are notated in the C1 soprano clef in the autograph, but subsequently appear in the treble clef in manuscript copies. On the other hand, the ‘Wie ist’ annotations appear below Boccherini’s C4 tenor clef passages but are copied unchanged in the same clef. Drosopoulou argues that the annotations refer only to the changing of clefs. However, notwithstanding Drosopoulou’s argument, we cannot be sure that these annotations do not go beyond the house style of clef usage. Drosopoulou reports that ‘Parker has concluded that these are markings concerning the performance of this work and intended thus for the use of performers’. In fact, Mara Parker makes several suggestions as to what kind of performing instructions these annotations might denote but she also adds that her comments are purely speculative. Neither Parker nor Drosopoulou mentions the possibility of the participation of a tenor violin, yet the annotation ‘Violin’ and the acceptance of the tenor clef by the copyist make speculation of this kind reasonable. In his critical catalogue, Gérard reasons that this quintet could be performed by two cellos (instead of a cello and double bass), therefore he lists it among Boccherini’s two-cello quintets as G339. Hence, evidently, the possibility of alternative instrumentation is not out of the question. Drosopoulou shows throughout her thesis that Boccherini’s string quintets contain a large variety of dynamic, articulation and special-effect markings. However, Boccherini did not make fingering suggestions for his cello parts. Furthermore, arguably, he left the door open for possible alternative instrumentation. Apparently alternative possibilities were often explored by Boccherini: Drosopoulou suggests that ‘Boccherini’s practice of transcribing his works and thereby reusing them for different situations might have occupied a more extensive part of his musical activities than generally thought today’.

Drosopoulou provides an intriguing example for the string quintet Op.27 no.4 (G304), 1779. In his catalogue Gérard specifies two movements for this quintet: I. Sostenuto, II. Tempo di Minuetto. Drosopoulou presents bars 9-17 as a manuscript example, supposedly from the second movement which, according to Drosopoulou, is titled as Allegro Giusto (that is, not Tempo di Minuetto as shown by Gérard). This example is apparently a written-out cadenza for the 1st violin and 1st cello. However, Janet et Cotelle’s edition of the same quintet (as No. 34, Book 6, Paris, 1819) shows neither this cadenza nor any movement titled Allegro Giusto. The movements in Janet et Cotelle correspond with Gérard’s specification – that is,
Sostenuto and Tempo di Minuetto. The existence of this double cadenza is mentioned by Gérard and is confirmed by Boccherini scholar Rudolf Rasch. Drosopoulou’s example, bars 9-17, second (?) movement, Op.27; No.4, G304

Further confirmation of Drosopoulou’s source is provided by the Staatsbibliothek of Berlin but yet again in a different division and with different titles (than specified by Janet et Cotelle and Gérard): I. (without title) and Cadenza a tempo giusto, II. Tempo di Minuetto, III. Trio. Drosopoulou’s written-out manuscript example presents the violin and the cello in the same register – b’ to b” compass – and both parts are notated in the treble clef. It is not clear if the cello is meant to be played as written, or an octave lower or by another instrument than the regular cello. The mystery deepens when we look at the Cadenza in the actual manuscript source specified by Drosopoulou. Bar 9 in Drosopoulou’s example is actually bar 10 in the source. More importantly, the cello in the source is notated in the C1 clef for bars 1 to 11, thus producing different pitches in bars 9-11 from those shown by Drosopoulou (who writes treble clef but leaves the notes in their original places). Drosopoulou’s error is a 21st-century example of how misreading and misunderstandings of Boccherini’s cello parts can occur. (The source also raises the question whether the cello part is read an octave lower or played by an alternative instrument). Below see image of the original source.

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151 Email message, 20th June 2016.
152 Email messages, 30th June and 21st July 2016.
153 D-B KHM 472; scanned image provided by the Staatsbibliothek, Berlin, 22nd July 2016.
Book 6 in Janet et Cotelle’s edition (containing string quintets G301-306, hence also including the G304 quintet under discussion) provides six parts, including an alternative part for the so-called ‘Alto-Violoncello’ to replace the first cello. All six first cello parts are notated in G2 and F4 clefs. The G2 clef material may have to be read one octave lower than notated although fingering is not provided (hence we cannot be sure about octave placements). Second cello parts are mostly in the F4 clef; many C-string notes are used. The viola parts are in C3 throughout, while the Alto-Violoncello parts are notated predominantly in C3 with occasional G2 passages. Alto-Violoncello and first cello parts contain either exactly the same notes or they are one octave apart. Alto-Violoncello parts are written for the viola register, thus their lowest note is one octave below the middle C. The lowest note for first cello parts is two octaves below the middle C while the highest note depends on whether the G2 notation is interpreted as written or one octave lower. It is unclear why the alternative Alto-Violoncello part was provided: was it intended for a (second) viola player, for a cellist or for a tenor violinist? Or for any of these three instruments, depending on availability of instrumentalists? The possibility of a five-stringed violoncello piccolo should also be considered. The first cello part reaches e♭'' if read as notated in the G2 clef. This is extremely high and uncomfortable on a regular cello, reaching almost the top end of the fingerboard near the bridge. In fact, this register is high even on a G-tuned tenor violin (or five-stringed C-G-d-a-e’ violoncello piccolo), with two octaves (minus a semitone) above the top open string e’. Thus it is reasonable to assume that the first cello part for the cadenza in G304 is to be read an octave lower than notated if played on a regular CGda cello or, alternatively, it is meant to be played by another instrument.

In her 2012 online paper Drosopoulou re-cycles the essence of her PhD thesis. She presents her G304 manuscript example (although this time with accurate pitches) and comments that the first cello part is ‘in an extreme high register’. She does not discuss the possibility that the part might have been intended to be read an octave lower, nor that another instrument (rather than the regular cello) might have been used as an alternative for this part.

As discussed earlier, Speck draws attention to the fact that Boccherini possessed a small cello as well as a regular-sized cello. He points to the possibility of this small cello being the alto violoncello specified in some of Pleyel’s editions of Boccherini’s string collection.

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154 Collection des quintetti de Boccherini pour deux violons, alto et deux violoncelles), Janet et Cottelle, Paris, 1819.
155 Drosopoulou, ‘Articulation Markings in Manuscript Sources of Luigi Boccherini’s String Quintets’, Rivista di musicologia del Centro Studi Luigi Boccherini, v, Italy, 2012.
156 Ibid., 2.
quintets, although he does not rule out a five-stringed piccolo cello either. Indeed, he suggests that some of Boccherini’s two-cello quintets may have been intended for an alto cello or a five-stringed piccolo cello in place of one of the regular cellos. However, Speck seems unsure as to what an alto cello in reality is; he makes no suggestion as to what it might be. Nevertheless, referring to pianist Sophie Gail’s visit to Boccherini in 1803, Speck wonders whether the old viola with missing strings seen by Gail in Boccherini’s study was in fact Boccherini’s small cello.¹⁵⁷

As far as I am aware, Speck is the only modern-day scholar to suggest the possibility of either a five-stringed piccolo cello or an alto cello (the nature of which is not clear) for Boccherini’s two-cello quintets or for any of his other compositions for the cello. However, as a direct response to Speck’s paper, I pointed out that a large number of Boccherini’s important cello compositions do not use the C-string and that the first cello parts in several of the string quintets with two cellos also lack C-string notes. I argued that some of Boccherini’s cello parts might have been intended for the G-tuned cello-type tenor violin.¹⁵⁸

As discussed above, there is considerable confusion as to how to read cello parts from Boccherini’s time. Octave displacement was not adapted uniformly, so at times misreading the intended registers could have occurred. In spite of suggestions by several practitioners and scholars, there is no hard evidence to show that Boccherini used clef notation to indicate high-register thumb position on the regular cello. Equally, we have no reliable evidence – such as fingering or other clear technical instructions of any kind – as to which instrument was intended for many of Boccherini’s technically demanding high-register cello parts. However, much of Boccherini’s music for the cello implies the possibility that it could work better on an alternative instrument which might be tuned to G-d-a-e’. On this G-tuned instrument the need for high-register thumb position would be eliminated or at least greatly reduced. It must be stressed that organically this instrument is no different from the regular violoncello (hence it was often confused with it) except for its different tuning and size. It is also of importance that there are no particular idiomatic or technical features of this instrument other than much better playing facilities in the repertoire under discussion. In other words, from the technical point of view, there is only one significant attribute which backs the plausible suggestion for the G-tuned instrument in many of Boccherini’s

¹⁵⁷ Ibid., 197.
compositions: this attribute is the easy first position but also at times second to fourth position playing instead of the often extremely difficult high-register thumb position playing. There is no clear evidence for the use of this instrument but, equally, there is no clear evidence against it. On the other hand, the ‘alto-violoncello’ suggested (but unfortunately not defined) in many of the early publications (by Pleyel and Janet et Cotelle) tips the balance towards the probability of alternative instrumentation – possibly including the G-tuned violoncello – for some of Boccherini’s cello parts.

We cannot be sure why Boccherini composed at least 125 string quintets (not counting his later transcriptions for this genre), 113 of which are assumed to be scored for two cellos, two violins and one viola. The cellist Duport brothers might have inspired Boccherini to compose some or even most of these two-cello works. Or perhaps the cellist Boccherini wanted to play chamber music with his cellist patrons in the Spanish and German courts. We do not know for sure which register of the instrument was meant to be used in some of Boccherini’s cello parts. Suggestions that Boccherini used moveable C-clefs to indicate fingerling for the thumb is only speculative: there is no hard evidence to prove Boccherini’s intentions. We do not know what an ‘Alto-cello’ was like, what Boccherini’s own small cello measured and how it was tuned. However, we do know that Boccherini made transcriptions of his own works and that he was a pragmatic composer adjusting to circumstances. We also know that Boccherini did not write any cello method and that he did not provide fingerings for his cello parts. Based on what we know and also, crucially, on what we do not know, we cannot eliminate the possibility that some of Boccherini’s cello parts were intended for the G-tuned small cello either specifically or as an alternative when circumstances so demanded.
Chapter 5: Conclusion

Members of the violin family were made in different sizes from the outset. Holman emphasizes this point as of particular importance in comparison with the instrument’s ancestors:

The instrument differs from the Vielle and the rebec in that it was made from the first as a family in several sizes.¹

Boyden and other authors have specified that tenor violin was the term for certain types of viola, mostly of larger size, but also for an instrument rather like a small cello although with the lowest string tuned to F or G.² The cello-type, that is, the small cello with F/G-based tuning seems to have disappeared from use. Our examination aimed to establish if there was any evidence that this cello-type tenor was in use in any period of time. Several questions needed answers.

1. Did theorists say anything about this instrument’s tuning and measurements?
2. Was there a distinctive and accepted name for the instrument with such tuning?
3. How small/big was this F/G-tuned cello that is the cello-type tenor violin and did it have any particular idiomatic/technical features?
4. How widespread was the use of the F/G-tuned instrument and was it favoured in particular national/regional centres by particular instrument makers?
5. Did composers write for this instrument?

Let us summarise our findings.

1. As seen in Chapter 2, F/G-based tunings within the violin family are clearly specified by Zacconi (1592), Praetorius (1619), Hizler/Hitzler (1623), Banchieri (1609, 1611) and Kircher (1650).³ F-tuning within the violin family is specified also by Mersenne although he does not allocate this tuning to any particular instrument. Praetorius indicates various sizes of instruments within the violin family with illustrations in his Theatrum instrumentorum, and Mersenne specifies mathematical relationships between the various sizes. However, theorists do not provide measurements. Nevertheless, notwithstanding exceptions, tunings determine sizes. The top strings of F/G-based instruments would have been vulnerable to frequent breaking, if relevant instruments were not small enough. The F/G tuning – mid-way between that of the viola and the cello – implies a size between the viola and the cello. The theorists above (and the tenor violin entry in the Cassel inventory of 1613⁴) demonstrate the existence

¹ Holman, Four and Twenty Fiddlers, 4.
² See Chapters 1 and 2.2.b.ii.
³ Chapter 2.1.c; Table 4.
⁴ Chapter 3.2.a.
of the F/G-based tuning during the 16th century as well as the first half of the 17th century. However, there seems to be no mention of such tuning in theoretical writings after Kircher: this might have led people to believe that the F/G-tuning fell into disuse at some point.

2. Terminology used by theorists varies considerably, and not only because of the use of different languages. Zacconi (Tenor Viole da braccio) and Hizler/Hitzler (Tenor-Geige) allocate the F/G-tuning to the tenor, while Praetorius (Bass-Geig de Braccio) and Banchieri (Primo violino per il basso and Prima Violetta Basso) allocate it to the bass. Thus, evidently, the recent and so far unresolved controversy (concerning the problem of whether to allocate the term ‘tenor violin’ or ‘small bass violin’ to our F/G-tuned instrument) has its roots in the 17th century. Kircher does not imply either tenor or bass function: he calls his G-tuned instrument ‘Violone’. Clearly, terminology on its own cannot be relied upon for verifying the existence/usage of the F/G-tuned tenor/bass. However, apart from specified F/G tunings (as quoted above), there is indisputable indication by contemporary witnesses – partly by use of terminology but also by reference to fingering and instrument hold – that the violin family did include a member or perhaps more members which in size would be between the viola and the cello. This instrument (or these instruments) could be played hooked to the player’s coat or played on the shoulder or between the legs. Modern writers drew contradictory conclusions from these earlier sources. Disagreements about the name, tuning and function of the viola pomposa, the violoncello piccolo and other instruments – in size and tuning between the viola and the cello – are still unresolved. However, in spite of varying opposition from a small number of authors, the past existence of the F/G-tuned cello-type tenor is acknowledged by several 20th-century scholars.

3. Our survey of relevant measurements, inventories, museum catalogues and surviving instruments indicates that – notwithstanding the limited reliability of data in some of these sources – violas and cellos (as well as instruments in-between, that is those with a back-length between 45 and 70cm) were made in a variety of sizes. As is well known, the large type cello, tuned to BB♭, has eventually been slightly reduced in body-size, and was tuned one tone higher to C. The lowest strings of BB♭ instruments sounded unsatisfactory on

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5 Chapters 1 and 2.2.b.ii.
6 Chapter 2.2.b.ii.
7 Chapter 3.1.b.
8 Chapter 3.2.a.
9 Chapter 3.2.b.
10 Chapters 3.4.a and 3.4.b.
instruments which were not large enough. Gimping, that is, ‘overwinding’ the C string with thin silver wire – thus resulting in covered, ‘overspun’ strings – has solved the problem of sound quality and consequently offered more flexibility for smaller sizes with C-tuning. However, there is no evidence to suggest that our tenor/bass instrument between the viola and the cello was cut down in size at any point (or that it implied an instrument specifically made for children). Organically the F/G-tuned tenor/bass is no different from what we now know as the regular violoncello (hence it was often confused with it): the differences are in the size and tuning. It needs to be clarified that this instrument has no particular idiomatic or technical features other than greater facility of playing for some of the repertoire assumed to be written for the cello and – owing to its tuning – the production of a different tone colour from that produced by the regular cello (as well as by the C-tuned five-stringed violoncello piccolo).

4. Larger than 45cm violas and smaller than 70cm cellos – that is, instruments in size between violas and cellos – seem to have been in evidence in Europe during the Baroque period as well as at earlier and later times. Notwithstanding the likelihood of artistic errors – and even accepting that accurate representation of instruments would not always be the artist’s primary concern – our iconographical examples indicate that such instruments were quite common.11 As often mentioned in the relevant literature, the first known and generally accepted iconographic evidence for three sizes of the violin family – assumed to be the violin, the viola and the cello – is in Ferrari’s 1534-36 fresco, painted in the cupola of what is usually referred to as the ‘Saronno Cathedral’. 12 It now transpires that the three instruments are more likely to represent the violin, the viola and the F/G-sized tenor/bass. Crucially, this means that – as Bonta alluded to it13 – the smaller F/G instrument might have preceded the emergence of the bigger cello. Our surviving instruments confirm that instruments of dimensions between those of violas and cellos were made in various sizes from the beginning of violin building, that is, from the 16th century (Amati family, Cremona). As demonstrated by our 55 examples,14 a variety of sizes (ranging from 45 to 70 cm back-length) continued to be built up to and including the 20th century (Parramón, Barcelona). Instruments from Italy and Germany feature highly but surviving instruments include examples from all across Europe. Unsure of their purpose, many of these instruments have been stored out of sight by museums. We cannot establish with certainty if these tenor-register instruments were

11 Chapter 3.3.
12 Ibid.
13 Bonta, ‘Corelli’s Heritage’, 519.
14 Chapter 3.4.
favoured in particular national or regional centres and if there were any particular makers who were specifically important in building such instruments.

5. Our search for the use of the tenor instrument has been restricted to the G-tuned version. It transpired that composers might have been somewhat careless over the centuries: they appear to have written for the instrument, but they have not specified its tuning. Alternatively, perhaps composers were not at all careless. It is feasible that they did not mind which instrument – the C cello or its smaller G sibling – negotiated their compositions. On the other hand, the F- and C-tuned instruments appear under the same name in Praetorius’s *Syntagma musicum*: both are called Baβ Viol de Braccio.\(^\text{15}\) This shared name could also explain why composers would specify the cello for their compositions when – in reality – at times they had the F- or G-based tenor/bass instrument in mind.

As seen in Chapter 4, we cannot prove with certainty that the composers under our focus intended to use the G-tuned tenor/bass. However, internal musical evidence indicates this possibility. In *L’Orfeo* Monteverdi might have deliberately matched his five-part instrumental ensemble of the Ritornelli and Sinfonie to his five-part C1 C1 C3 C4 F4 (S S A T B) chorus, thus implying two violins, viola, tenor violin and bass violin. Bach specified the violoncello piccolo several times, but he has not specified what exactly he meant by violoncello piccolo. As more often than not Bach notated these solo parts in the G2 treble or C4 tenor clef, it is possible that, when not requiring the C string, Bach’s piccolo cello was tuned to G-d-a-e’ in order to allow easier access for violinists to tackle the part (when cellists were not available). Boccherini had two cellos: a big cello and a small cello.\(^\text{16}\) In some of his cello parts Boccherini used the C string liberally, but in many of his other cello parts – including some of the alto cello parts in his string quintets – he did not use it at all. Thus it is reasonable to assume that, at least at times, Boccherini’s small cello was tuned to G and he composed for it. We do not know what kind of cellos Vivaldi had at his disposal but, like Boccherini, in some of his cello parts he made much use of the C string while elsewhere he avoided it. When using the G cello for parts not requiring the C string, some difficult left-hand leaps and uncomfortably high playing positions on the C cello’s top string are avoided. Vivaldi wrote many of his compositions for his students (who presumably included beginners as well as advanced players), thus he might have made use of the technically less demanding

\(^{15}\) Praetorius, 26.
\(^{16}\) Chapter 3.2.a.
G-tuned cello. When Vivaldi recommends swapping between the solo violin and solo cello (in RV 544), he may be implying octave transposition between the g-tuned violin and G-tuned cello. (Sammartini’s concerto for piccolo cello or violin, referred to in Chapter 3, shows that interchangeable violin/cello parts were not unique to Vivaldi’s concerto.)

Caldara’s 44 exercises were designed to explore the cello. Leaving out C-string notes throughout all 44 exercises seems unlikely. It is more likely that the G-tuned cello was the designated instrument for the whole volume. On the other hand, Ozzanignas’s triple-version sonatas are powerful indicators for the side-by-side existence of C and G cellos. These sonatas also demonstrate that, other than tuning (hence tone colour) and size, there are no specific features which characterise the tenor instrument. However, some compositions sit better on the G tenor than on the C cello.

Did composers at times make mistakes by writing for the G-tuned instrument but incorporating a few C-string notes? Our examination shows that the possibility of such errors must not be ruled out. It is possible that the three C-string notes in Tartini’s D major concerto are included due to an oversight as, apparently, Tartini also made an error in his designation for the viola in the title.

Based on the available evidence, it is proposed that the past usage of the G-tuned tenor/bass is not in doubt. (In due course, further investigation will be needed to establish how extensively the F-tuned tenor/bass was used.) But why did the G-tuned tenor/bass go out of use at some point in time? Two important reasons need to be considered. First, it never had a name which truly represented its function. The more frequently used term ‘tenor violin’ deprived the instrument of its occasional bass function while the occasional ‘small bass violin’ term did not indicate its tenor tuning. Riley suggests a large tenor viola or a small tenor cello for the Basso di Viola part in a composition in Kircher’s treatise, Musurgia Universalis (1650):

Among the compositions is a Symphonia pro chelybus (Symphony of Violins) scored for Duoi Violini, Alto e Basso di Viola (Two Violins, Alto Viola, and Bass Viola). The designation ‘Bass Viola’ probably indicates a large tenor viola or a small tenor cello, since the part is written in the tenor clef. Although the term ‘tenor violin’ draws attention to the octave tuning between the violin and the G-tuned tenor/bass, it is possible that Riley’s ‘tenor cello’ term would have done more justice to the function and longevity of the instrument. Another reason for the disappearance

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17 Vivaldi was employed as a teacher at the Ospedale della Pietà, a home for abandoned children, from 1703 to 1709, and then again from 1711 for several years. (Talbot, ‘Vivaldi’, NGDMM, 2001, xxvi, 817-818.)

18 Riley, 100.
of this ‘tenor cello’ is the unfortunate assumption that such instruments were made for children. Yet, significantly, none of our iconographical images shows children playing such instruments. It is likely that children played small cellos over the centuries, as they do now, but iconographical evidence refutes the argument that the small instruments under our investigation were merely children’s cellos. Crucially, William Baker’s surviving five-piece set splendidly demonstrates the small tenor (cello) in an ensemble of all-adult instruments.  

Although the past existence of the tenor instrument cannot be in doubt, its usage depends on personal opinion. I will conclude with specific views by two distinguished Baroque experts: Peter Holman and Nikolaus Harnoncourt.

Within his substantial output – including ‘The English Royal Violin Consort in the Sixteenth Century’ (1982-83), ‘Col nobilissimo esercitio della vivuola’ (1993), *Four and Twenty Fiddlers* (1993), *Henry Purcell* (1994) and *Life after Death* (2010) – Holman makes interesting observations about Baroque stringed instruments as well as instrumentation when not specified by composers. Earlier I referred to Holman’s views about the function of the F-tuned tenor/bass, his interesting comparison of hardware/software relationship to that between instruments and their functions as well as his suggestion of instrumentation for the five-part Sinfonia in Act 3 of Monteverdi’s *L’Orfeo*. I also mentioned and argued Holman’s interpretation of the important evidence which he presents about ‘tenors’ and ‘low tenors’ in the Caroline Court Orchestra: Holman argued that his evidence referred to identical instruments, I argued that the low tenor might have been the cello-type tenor.

There are two other aspects where Holman’s extensive research/analysis is of great interest but where additional or alternative interpretations may be appropriate. One aspect concerns the Lord Chamberlain’s order of 12th April 1631 in respect of the Twenty-four Violins, the other is Holman’s interpretation of instrumentation in five-part string ensembles.

It is essential to note that Holman’s interpretation is based on the widely-held premise that, up to at least the early 18th century, French five-part scoring comprised one violin (‘dessus’), three violas (‘haute-contres’ and ‘tailles’) and a bass (‘basses’). This assumption is well established and has been accepted over the centuries. However, as I argued in my section on tuning – in particular, in my extensive discussion on Mersenne – it is possible
that, at least at times, the ‘taille’ was an F-c-g-d’ instrument, that is a tenor rather than a viola. The well-established one violin/three violas/one bass formation for French five-part scoring appears to be the norm but, arguably, my alternative interpretation – based on Mersenne’s evidence and therefore including the F-tuned tenor – is also possible.

Holman provides an interesting account of how, in imitation of the French Vingt-quatre Violons, the royal violin band changed into the Twenty-four Violins. This change is mentioned in Holman’s *Henry Purcell* but is discussed more extensively throughout his *Four and Twenty Fiddlers*. In the 17th century French violinists joined the band creating an important presence in number as well as in musical influence. Holman reports a particularly strong French influence in the 1630s. The leader Estienne Nau – Stephen Nau in the anglicised version – exercised full control over the band. The Lord Chamberlain’s order of 12th April 1631 demands discipline and obedience from the musician but, crucially, it also specifies the names/numbers of the players and the instruments they played:

Estienne Nau, Davis Mell, Nichola Picatt – Trebles
John Woodington, Theophilus Lupo – Contr(ato)r
James Johnson, Leonard Mell, John Heydon – Tenor
Thom(as) Lupo, Robert Parker – Low Tenor
John Hopper, Thomas Warren, Rich(ar)d Dorney, Rob(erg)t Kindersley – Basso

Holman’s interpretation is as follows:

It seems that we are dealing here with a five-part orchestra with a single violin line. The use of the word ‘contratenor’ suggests that the second part was alto-range, and was played by violas, not a group of second violins, just as ‘low tenor’ suggests that the fourth part played a third inner part, not a first bass part… Thus the fourteen players were probably divided into three violins, two first violas, three second violas, two third violas, and four bass violins.\footnote{Holman, *Four and Twenty Fiddlers*, 235.}

One cannot fault Holman’s interpretation. However, the evidence for c-tuned instruments playing the third viola parts is not absolutely unequivocal. The Twenty-four Violins, at this stage clearly only fourteen players, were modelled on the French Vingt-quatre Violons to which, as discussed earlier,\footnote{Chapter 2.1.b.} Mersenne refers while specifying his stringed instruments and their tunings. If, as I argued, the Vingt-quatre Violons included Mersenne’s F-tuned instrument, it is worth considering that Nau might have tried to include this tenor in the Twenty-four Violins. In this case the instruments specified in the 1631 order might have consisted of first violins, second violins, violas, tenor violins and bass violins. Or violins, first and second violas, tenor and bass violins. On the strength of only the 1631 order we cannot be sure.

\footnote{Holman, *Four and Twenty Fiddlers*, 235.}
\footnote{Chapter 2.1.b.}
In his 1982 paper, as also elsewhere, Holman suggests that

...French string layout up to at least the early eighteenth century consisted of one violin part, two or three viola parts played by instruments of different sizes tuned in unison, and a bass part played on large B♭, F, c, g instruments. Holman adds that

What evidence there is suggests that the English court string consort conformed to these scorings, at least until the Civil War... a detailed list of the group from 1631 divides the fourteen players into three ‘Trebles’, two ‘Contratenors’, three ‘Tenor’. Two ‘Low tenor’ and four ‘Basso’, a layout that very strongly suggests one violin part, three violas and bass. As late as 1666 Matthew Locke was still using the same scoring, as the clefs, the range of parts and the style of writing for a five-part ‘Band of Violins’ in his great anthem ‘Be Thou exalted Lord’ shows.

As seen above, Holman’s suggested instrumentation for the Locke anthem is based on the well-established French string layout. Locke’s autograph score (referenced by Holman and still in the Bodleian Library) shows G2, C1, C2, C3 and F4 clefs for the Band of Violins, therefore the French string layout is feasible. However, bearing in mind that Locke does not specify instrumentation, these clefs also offer alternative possibilities. Holman suggests that Peter Le Huray’s scoring for three violins, viola and bass viol is ‘most improbable’. Nevertheless, Huray’s reading of the G2, C1 and C2 clefs as those for three violins has merit, as has Holman’s allocation of the C1, C2 and C3 clefs for three violas. In addition, my own interpretation (which includes the F/G-tuned tenor) may also be of merit. With its small ambitus of f–g’, the C3 part is indeed playable on the viola (as suggested by both Le Huray and Holman) but it is also playable on the F/G-tuned tenor violin. However, as the lowest note of the part is ‘f’ (below the middle c), the F-tuned tenor may be better suited to the part than the G-tuned version. At any event, Locke’s score contains ambiguity: one cannot assume that C1, C2 and C3 clefs were played by the same type of instrument, nor that they were played by three different types of instrument; violin, viola and F/G instrument.

Peter Holman’s extensive and significant research on violins (as well as on viols) does not aim to focus on the tenor between the viola and the cello. He acknowledges its past existence but does not concentrate on its use in compositions. Furthermore, as seen throughout his writing, Holman seems to be viola-orientated in repertoire where alternative readings may have a preference for the tenor. Without clear specifications by composers, as often seen in the Renaissance and Baroque periods, instrumentation may perhaps be just a question of individual interpretation.

29 Ibid, 59.
In the second half of the 20th century, conductor/cellist/viol player Harnoncourt was among the first musicians to experiment and then subsequently to specialise in authentic Baroque instruments. He founded the Concentus Musicus of Vienna in 1953. Having argued with Gerhard Stradner (who referred to Harnoncourt negatively during our public argument\textsuperscript{32}), I wrote to Harnoncourt and asked him for his views. Although this correspondence took place in 2004-2005, it is still relevant to 20th-century (as well as earlier and later) practical thinking. Harnoncourt wrote:

Regarding your question about the violoncello piccolo or/and tenor violin: I think the whole question/problem is a question of opinions. Mr. Stradner, the former director of the Instrumentenmuseum im Kunsthistorischen Museum and a former viola player, has very clear views. I have not. I think that in the 16th-18th centuries musicians thought very practical [sic], and the names they gave to instruments were not systematic. Even the tuning was dictated by necessities and possibilities, like the double bass still in the 19th century (especially in Italy). So a “normal” violin could be tuned up to e’, if the pitch was not too high. The breaking point of the highest string was a very important threshold (as on the harpsichord), because the most beautiful sound is close to that point. The violin and the (rather big) cello were the edges; between them we find a great number of instruments with narrow sides (to be played on the arm) up to 58 cm body-length and with broad sides (to be played like a cello) from c. 45 cm body-length on. In general, those instruments had four strings. I have played a lot of them and tuned them sometimes G d a e’, sometimes C g d a, as required. I believe in a very pragmatic use: instrument makers made what was needed and what sounded good. With a big viola played like a cello you can spare three “normal” viola players. The normal viola is simply too small. As nobody can really prove anything, I can give you just my opinion.\textsuperscript{33}

\textsuperscript{32} Agnes Kory’s tenor violin lecture recital, 12 November 2003, Österreichische Nationalbibliothek, Vienna.
\textsuperscript{33} Letter from Nikolaus Harnoncourt, 25th April 2005.
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Appendix 2

Type IV centre ornament (with the double monogram BN) on the back of Julia Wilson’s instrument.

Type IV centre ornament (with the double monogram BN) on the back of Mark M. Smith’s instrument.
Appendix 3

Type II or Type III trefoil pattern on the back of Julia Wilson’s instrument.

Type VI floral motif on the front of Mark M. Smith’s instrument.