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Accordatura per l'Arpa ò Cembalo – a mysterious Roman manuscript on the tuning of the Italian *arpa a tre ordini*

Introduction, facsimile, transcription, and translation

Mara Galassi

1. Introduction

The text of the *Accordatura per l'Arpa ò Cembalo* has survived in two sources. The first, included in this article both in facsimile and in its transcribed form, is found in a larger manuscript most likely compiled by Girolamo Chiti (1679–1759), kept at the Biblioteca dell'Accademia nazionale dei Lincei e Corsiniana in Rome (Musica C.9.bis/2, fols. 15v–17r).¹ The second manuscript (P.135 olim Cod. 104, fols. 45r–47r) bears the title *N. 6 Accordatura per l'Arpa o Cimballo* and is located in the Biblioteca del Liceo musicale di Bologna² as part of the collection of manuscripts formerly belonging to Padre Martini (1706–1784). The latter source is part of a composite manuscript, compiled at an earlier stage and then conspicuously altered by the insertion of numerous fascicles at a later stage, as can be deduced from the incongruity of the table of contents in the front guard with the current succession of treatises contained within it.

¹ Enrico Carieri, *Catalogo del Fondo Musicale Chiti-Corsini della Biblioteca Corsiniana*, Rome: Accademia nazionale dei Lincei 1998, 165: Hieronimus Chiti Senensis/Presbit. Mus/Organistae in Provenz[a]no. (Autograph, beginning of the 18th century; 18 folios; 21×15 cm). Carieri, *ibid.*, suggests that Chiti compiled the manuscript before he moved to Rome. The manuscript was first made known by Patrizio Barbieri, see Patrizio Barbieri, *Acustica, accordatura e temperamento nell'Illuminismo veneto. Con scritti inediti di Alessandro Barca, Giordano Riccati e altri autori*, Rome: Torre d'Orfeo 1987, 250–252.

² A digital copy of the entire manuscript has been published on:
www.bibliotecamusica.it/cmbm/viewschedatwbca.asp?path=/cmbm/images/ripro/gaspari/_P/P135/, scan 63–65 (8.9.2018).

Girolamo Chiti and Padre Martini shared a common interest in history of music, and Chiti assisted Padre Martini in collecting any sort of material pertaining to this topic. In some cases, Chiti would send copies of his work, either in his own or in a copyist's hand, to Martini. At other times, Chiti would send his original material. Martini would then have it copied and subsequently send back either the copy or the original. In the case of *Accordatura per l'Arpa ò Cembalo*, the palaeographic evidence excludes the involvement of a professional copyist, both for the Roman and Bolognese sources.

Although the two sources do not present textual variations sufficiently significant to choose a *lectio probabilior*, we have opted to examine the Roman copy for the simple reason that, given its similarity to Chiti's other verified autographs, it likely is in his own hand. Furthermore, this source has been preserved within the author's own collection of books: Girolamo Chiti (Siena, 1679–Rome, 1759) – *maestro di cappella* in the Basilica of S. Giovanni in Laterano as well as chaplain and custodian of the chapel of S. Andrea Corsini – donated his library in 1757 to cardinal Neri Maria Corsini. In 1883, the collection, then a part of the Biblioteca Corsiniana, was again donated by prince Tommaso Corsini to the Accademia dei Lincei in Rome.

Shedding some light on Chiti's biography

In the attempt to examine the text of *Accordatura* within the context of Chiti's vast collection of musical manuscripts and treatises, a few biographical notes will be helpful.³ Girolamo Chiti first studied under Giuseppe Ottavio Cini (1660–1708) in Siena, where he was appointed *maestro di cappella* at the Collegio Tolomei in 1708. In 1712, Chiti moved to Rome in order to further his study of counterpoint with Giuseppe Ottavio Pitoni (1657–1743) and of the secular genres cantata and opera with Antonio Caldara (1670–1736), while also collecting a variety of treatises.⁴ Although Chiti returned to

³ See Arnaldo Morelli's essential article on Girolamo Chiti "*Tutte le professioni ed arti nobili hanno la loro storia*". *Girolamo Chiti e la storia come riferimento della pratica musicale*, in *Le note del ricordo. Il codice musicale M13 della Biblioteca dell'Accademia nazionale dei Lincei e Corsiniana di Roma*, ed. Emilio Sala, Padova: Nova Charta, 2015.

⁴ Ibid., 77, and 88, note 13.

Siena in 1713, in 1717 he was back in Rome where, with the help of cardinal Ottoboni, he was appointed *maestro di cappella* in the Pia Casa degli Orfani with its annexed church, Santa Maria in Aquiro.

Chiti's studies with Pitoni intensified from 1721 onward: teacher and student shared ideas on the musical style of the *da chiesa* genres. The two began to develop a method to learn counterpoint based on transcriptions and analyses of Palestrina's works, which was aimed at codifying the type of "perfect counterpoint", or "observable style" ("[contrappunto] perfetto detto stile osservabile").⁵ This period is also marked by Chiti's efforts to collect treatises in composition and theory by both contemporary and older authors, and both in manuscript and in printed form. However, in his secular compositions Chiti did not disdain to use what Pitoni, in his subdivision of the counterpoint styles, labelled as "flawed, arbitrary, modern" style ("[stile] difettoso, arbitrabile, moderno").⁶ However, Chiti stopped composing *intermezzi* for the theatre in 1723/24.

When Francesco Gasparini (1661–1727) died in 1727, Chiti was appointed *maestro di cappella* of S. Giovanni in Laterano. This was followed by his appointment as chaplain and custodian of the Cappella Corsini in 1735. The year 1745 marked the beginning of a long and historically invaluable epistolary exchange between Chiti and Padre Martini, which lasted until 1756 and produced an impressive 472 letters. The two men shared common musical ideas and an interest in collecting musical material. Therefore, their letters constitute an inestimable historical record that reveals information on their taste and musical aesthetics. The collection of letters also reveals the Bolognese erudite's efforts at gathering heterogeneous musical material for his ongoing work on a history of music. Thus, at the behest of Padre Martini, Chiti collected material – scores, theoretical and practical treatises on music both modern and old – often going in person to the archives of Roman

⁵ Ibid., 79, and 89, note 26.

⁶ Ibid., 89, note 26: "1° Perfetto detto stile osservabile. Palestrina e Benevoli / 2° Imperfetto detto lo stile tollerabile. Scarlatti [e] Principe di Venosa / 3° Corrotto detto lo stile variabile. Moderno / 4° Defettoso. Lo stile arbitrabile. Moderno".

churches or noble families, such as the Barberini.⁷ Chiti was therefore a musical “archaeologist”.

The content of the manuscript

A peculiarity of the *Accordatura* is that it seems to be the only treatise, among the many collected by Chiti, that deals with tuning systems. Even more striking is the fact that the treatise is dedicated to the harp, which was no longer in fashion at the time. Although its title includes “per l’Arpa o Cembalo”, no keyboard instrument is ever mentioned in the body of the work: its author writes exclusively about strings, strings in unison, and rows of strings. Therefore it is evident that the harp for which the *Regola* has been written is an instrument with three rows of strings.⁸

The problem of harp tuning was not unfamiliar to early theorists. Vincenzo Galilei wrote about tunings in the *Dialogo della musica antica et della moderna*,⁹ and a *Regola per accordare* is included in a somewhat problematic Florentine source for harp (Florence, Biblioteca del Conservatorio di Musica Luigi Cherubini, Ms. 3802), which contains dances transmitted in a num-

⁷ Ibid., 90, note 59.

⁸ Several different terms are used to identify this instrument: “*Arpa a tre registri*”, Bartolomeo Giobenardi (Jobenardi), *Tratado de la Música*, 1634, Madrid, Biblioteca Nacional de España, MS 8931, fols. 22r–28r, e.g. scan 110–126 in: <http://bdh-rd.bne.es/viewer.vm?id=0000077606&page=1> (28.6.2019), see also: Mara Galassi, *Dell’Arpa a tre registri ovvero il manifesto di Bartolomeo Giobenardi*, in: *Quaderni della Scuola Civica di Quartu Sant’Elena*, Monastir (Ca): Grafiche Ghiani 1999, 78–87; “*Arpa a tre reistri*”, Giambattista Basile, *Muse napolitane*, VII, 53, as cited in Elio Durante and Anna Martellotti, *L’arpa di Laura*, Florence: S.P.E.S. 1982, 102; “*Harpa triplex nostra quae non ita multis ab hinc annis in usu coepit esse*”, Giovan Battista Doni, *Appendice a’ trattati di musica*, in: *Lyra Barberina amphichordis*, Florence: Anton Francesco Gori, Stamperia Imperiale 1763, Vol. 2, 20; “[...] *nostre harpe grande (qu’on appelle double quoyqu’elle soit triple)*”, Marin Mersenne, *Correspondance*, Paris: C. de Waard and Pintard 1932, Vol. 7, 20; “[...] *nell’arpa, se non sieno di tre ordini [...]*”, Fabio Colonna, *La Sambuca Lincea*, Napoli: appresso Costantino Vitale 1618, Libro I, 3.

⁹ Vincenzo Galilei, *Dialogo della musica antica et della moderna*, Florence: Giorgio Marescotti 1581, 143.

bered tablature.¹⁰ Outside of Italy, instructions on how to tune the *harpa de dos órdenes* are given by Diego Fernández de Huete in the preface to *Compendio numeroso de zifras armonicas*.¹¹ Many manuals on the tuning of hook-harps and pedal-harps were to appear in later periods.

None of the biographical elements relating to Chiti seem to substantiate the plausibility of the hypothesis that he was at all familiar with the triple harp. It is therefore unlikely that he is the author of the *Accordatura*. Since, at the present state of research, there is a lack of documentary evidence that could circumstantiate theories either on the author's identity, or on the treatise's date or provenance, we feel it is appropriate to formulate some hypotheses on the subject:

1. Chiti could have collected the treatise during his earlier stays in Rome, i.e. before 1713 or after 1717, the year of his appointment as *maestro di cappella* in the *Pia casa degli orfani*. The variety of instrumental ensembles used in institutes of this type could well have included harps; there the young *maestro* could have been confronted with the technical problems connected with the instrument. The didactic structure of the *Accordatura* would be well suited for pedagogic use.
2. The field of research surrounding the *Accordatura*'s provenance is quite broad. Assuming that Chiti is not among the hypothetical authors, it is quite difficult to formulate a hypothesis on the treatises' origins. From the biographical information contained in the letters between Chiti and Padre Martini, we know that Chiti was a tireless visitor of churches, chapels, Roman religious institutes and private libraries belonging to Roman families. The city's long instrumental tradition could provide countless sources of documentation, starting

¹⁰ See Vincent Kibildis, *A Florentine harp tablature of the 17th century in the Ms. 3802 of the Biblioteca del Conservatorio di Musica Luigi Cherubini*, Master Thesis, Barcelona, ESMUC, 2019.

¹¹ Diego Fernández de Huete, *Compendio numeroso de zifras armonicas, con theórica, y practica, para harpa de una orden, de dos ordenes, y de organo*, Madrid: Imprenta de Musica 1702, 14–16.

from the archives in Vallicella or Chiesa Nuova, where Orazio Michi worked.¹²

3. Among the many collections of documents that Chiti may have examined, the one we thought deserved particular mention is the private library of the Barberini family, located in Rome and in Palestrina. Many harpists had connections with the Barberini family, not least the famous Marco Marazzoli. Indeed, we know that Chiti was on excellent terms with *abate* Ballerini, curator of both Barberini libraries. In a letter dated 28th June 1755 Chiti wrote to Padre Martini:

I have been acquainted and have had dealings with mister Ballerini for 14 years; he willingly assists me, particularly now that we often meet professionally; he is well-disposed towards what will be found, and will investigate, both in the Barberini library in Rome and in the library in Palestrina, when he will go there with the prince; all that is rare and pertinent to these matters will be found, so that you can be consoled by the fact of having two most precious servants.

Il signor Ballarini sono da 14 anni che ne ho cognizione e servizio, e lui più che volentieri mi favorisce, e molto più adesso, che come di servizio ci rivediamo spesso, ed è tutto propenso per ciò che si troverà, e cercherà tanto nella Barberina di Roma che in quella di Palestrina quando v'andrà col principe, come in tutto ciò che di raro e di tali materie ivi troverà, sì che si consoli aver due Suoi preziosissimi servi.¹³

4. To conclude, we feel it necessary to formulate one last hypothesis: that the *Accordatura per l'Arpa* was written out by Chiti himself after having observed a harpist tune his instrument. It is evident from the correspondence with Padre Martini that Chiti's curiosity and erudition brought him to collect treatises which were not always relevant to his daily musical practice – such as a treatise on harp-tuning would have been to a non-harpist – but could have been interesting for the compilation of Padre Martini's History of Music. This

¹² Giancarlo Rostirolla, Luciano Luciani, Maria Adelaide Morabito Iannucci, Cecilia Parisi (eds.), *Epistolario Giovanni Battista Martini e Girolamo Chiti (1745–1759)*. 472 lettere del Museo Internazionale e Biblioteca della Musica di Bologna. Rome: IBIMUS 2010, XXI.

¹³ Ibid., 751.

hypothesis would furthermore explain certain ambiguous passages in the text containing the description of tuning from B-natural to B-flat. Describing a change of tuning is no easy task for someone who is not familiar with the three rows of strings!

Description of the manuscript

The book containing the *Accordatura* (C.9.bis/2), preserved in the Biblioteca dell'Accademia nazionale dei Lincei e Corsiniana, has survived in a compiled form: it consists of different treatises on music theory, *canto figurato*, *sol-feggi*, antiphons, and motets. In most cases the fascicles correspond to text units. The text which has been the object of this study was compiled in the second fascicle, at the tail end of a general treatise on music and a shorter treatise on Gregorian modes and their intonations. It begins approximately in the middle of fol. 15v and ends on fol. 17v. The whole fascicle is written in the same neat, broad, flowing hand (probably Chiti's own), devoid of corrections. Though the content of this short treatise may not be immediately related to the other works in the book, it is codicologically coherent with the rest of the manuscript.

Some stylistic differences in the texts of the Roman source and the manuscript from Bologna are worth mentioning. They chiefly consist in:

- divergent spellings of the same word, (Ex. [1A]: “8:^a” and “Ottava”; Ex. [1A]: “và” e “va”; f. 16r, first line : “sarà” and “sirà”)
- different capitalisations (“istrumento” and “Istrumento”, fol. 15v, line 1)
- dissimilar transcriptions of solmisation letters (Ex. [10A]: “B.mi” and “Bfabemi”; Ex. [10C]: “B.fa b mi” and “Bfabemi”; fol. 17, fourth line: “b fa h mi b molle” and “Bfabmi B molle”).

In the following cases, some words have been left out; in others, they have been added:

In Rome, fol. 16r, Ex. [12A–E], only “8^a giusta” appears, whereas in Bologna each example is completed with the name of the note which must be tuned: Ex. [12] [A] – “Bfabemi sotto ottava giusta”; [B] – “Alamire sotto cromatico ottava giusta”, [C] –

“Gsolreut sotto ottava giusta”, [D] – “Ffaut sotto ottava giusta”, [E] – “elami sotto ott.^a giusta”.

In Bologna, fol. 46v one finds “Finis ad laudem Dei”, which is missing in Rome.

In Rome, fol. 16r, ninth line: „F fa ut diesis Cromatico“; in Bologna: „F faut[#] Cromatico“.

In Rome, fol. 16v, tenth line: “Bisogna cavar fuori b fa b mi per b molle”; in Bologna: “Bisogna cavar fuori Bfabemi B molle”.

In Rome, fol. 17r, first line: “[...] dopo pigliate quel primo b fa h mi che avete accordato [...]”; in Bologna: “[...] doppo pigliate quel primo Bfabemi che havete accordato [...]”.

In Rome, fol. 17r, third and fourth line: “[...] ed accordateci la sua Ottava sotto di dentro sotto”; in Bologna: “[...] ed accordateci la sua ottava sotto di dentro”.

In Rome, fol. 17r, fourth line: “Secondo Ordine”; in Bologna: “Terzo ordine”.

In Rome, on the fourth, fifth and seventh line of the same folio the text reads “b fa h mi”, whereas in Bologna one finds “Bfabemi”.

In Rome, fol. 17r, ninth line: “[...] e D la sol re puro [pure] in b molle, [...]”; in Bologna: “e Dlasolre puro [pure] cromatico in Bmolle”.

Comments

Two examples in the manuscript have been corrected by the scribe: in Ex. [10B] he erased the wrong notes and rewrote the correct ones – *d* and *f*[#] – above them, and in Ex. [17B] he erased the lower note, i.e. the B an octave below. Ex. [8B] lacks the note of the upper octave.

We would like to add three hypothetical musical examples (see Ex. 10bis, 11bis, and 17bis), since the given ones are not always complete or do not correspond to the rules:

- Addition to Ex. [10] (see p. 393 and p. 385, Ex. 10bis): Although the author of the *Accordatura* mentions the A-sharp later on, he gives no



Example 10bis



Example 11bis



Example 17bis

- rule for tuning it. The context of example [10A–D] is the most likely place where it should be inserted. The A-sharp could have been obtained as fifth above D-sharp, or as a major third from F-sharp.
- Addition to Ex. [11] (see p. 393 and Ex. 11bis): After Ex. [11], the author of the *Accordatura* advises to “continue tuning in octaves until the top F-sharp, beginning with A-sharp, and proceeding with B-flat, C-sharp, D-sharp, E-flat, and F-sharp *diesis cromatico*”, but he gives no musical examples.
 - Addition to Ex. [17] (see p. 395 and Ex. 17bis): In fol. 17r, lines 7 to 13, the rule for tuning A-flat is given, as well as for D-flat, but the musical examples are missing.

The compass of the harp here described extends from G' to c''' for the diatonic notes (see p. 395, Ex. [13] with the “cordone ultimo” G' as lowest pitch) and from $E\flat$ to $f\sharp'$ (*fa diesis cromatico*). But this $f\sharp'$ may probably be altered if needed, since on fol. 16r, after Ex. [11 A–E], the sentence “Si seguita ... F fa ut Diesis Cromatico”¹⁴ is to be read as follows: “continue tuning in octaves until the top F-sharp, beginning with A-sharp, and proceeding with B-flat, C-sharp, D-sharp, E-flat, and F-sharp *diesis cromatico*.” The applica-

14 See Transcription, p. 393.

tion of the term “cromatico” to the F-sharp seems out of place here; if it is not simply an error, it could hypothetically mean that this top string of the inner row could be also tuned to other pitches when needed: for example, top A-flat, top A-sharp, as *cromatici*, or G-sharp as *diesis*; see p. 385, Ex. 11bis for musical examples that realise this rule.

The rules collected in Chiti’s manuscript instruct the reader in the tuning of “Be quadrato”¹⁵ by way of a circle of fifths. Beginning on middle C, which has been previously tuned to another instrument, one tunes three “narrowed” fifths (*scarse*): C-G-D-A, the others “pure” (*giuste*): A-E-B-F#-C#-G# ascending, and C-F-Bb-Eb descending pure fifths. From Bb, one tunes the D# as a chromatic third. The A# is referred to as a different note from Bb, but the note one tunes it to is not mentioned. The only pure third, therefore, would appear to be between Bb and D#. Thus, we have different strings for Eb and D#, as well as for A# and Bb.

The last section, headed by the title “Regola per accordarla per b molle” (fols. 16v–17r), explains how to re-tune the external strings from Bb to Bb: the A#-string is lowered to Ab, tuned as a minor third to F; the D#-string is lowered to Db, tuning it as a pure fifth with the Ab previously obtained. The author of the *Accordatura* uses the term “cromatico” for notes such as Ab or Db. Patrizio Barbieri suggests that here the term “cromatico” indicates all notes which are not present in the keyboards of common harpsicords:

The *cembalo ordinario* had a harmonic extension from Eb to G#, while the *cimbalo cromatico*’s range extended, by fifths, from Gb to B#, with split keys for C#/Db, D#/Eb, E#/F, F#/Gb, G#/Ab, A#/Bb, B/B#. Therefore, Ab and A#, like Db and D# were called “note cromatiche” because they were not present on the *cimbalo ordinario*.¹⁶

To refer to the individual rows of strings, the author uses two distinct terms: “ordine” and “riga”. Strings are also sometimes referred to as being on the “outside” (*fuora*) or on the “inside” (*dentro*). While it is apparent from the rules that the “inside” row is the central row of strings with the sharps, flats

¹⁵ Meaning a modern C major scale in the outer rows.

¹⁶ I would like to thank Patrizio Barbieri for sharing this information with me by letter.

and *cromatici*, the term *fuora* is ambiguous: it can refer to both the left, and the right row of strings (viewed from the player's perspective).

Generally, the three *ordini* are numbered as first to third (*primo, secondo, terzo*). The *Primo* and *Terzo ordine* are the outer rows of strings, for the rules state that these must be tuned in unison to each other.¹⁷ Furthermore it is clear that the *Primo ordine* is the row of strings to the left from the player's perspective:¹⁸ it is the first row to be tuned, providing the basis for then tuning the other two rows; considering that the tuning key must be generally held in the right hand while plucking with the left, beginning to tune the left row of strings is by far the most ergonomic.¹⁹

One time the author uses the term *riga* synonymously to *ordine* in the last line of fol. 16v: in this case the *seconda riga* surprisingly indicates the right outside row and not the inner one; perhaps the author's intention was to refer to the "second outside row", after just having referred to the first one.

Since this final section presents some difficulties in interpretation, and the written rules do not always match up with the musical examples, we will present here a suggested reading of the Italian text of the final section. This reading can be easily compared with the facsimile of the manuscript and the

¹⁷ Fol. 17r, line 5.

¹⁸ Assuming that the strings are attached to the tuning pins on the left side of the neck of the harp and that the right hand plays in the upper register of the instrument, while the left hand plays in the lower.

¹⁹ Compare this numbering to Bartolomeo Giobenardi, *Tratado de la Música*, Madrid, Biblioteca Nacional de España, Ms. 8931, fol. 23r. "Il primo [registro] comincia dal primo C fa ut grave e si estende per ordine seguito, et uguale sino al D la sol re acuto de la quarta multiplicazione del diapason, e tutto questo registro viene a servire la mano sinistra. Il terzo [ordine] comincia di sopra dall'ultimo C solfa acuto, et con medesimo seguimento et ordine, se ne cala all'ultimo suo C sol fa ut che viene ad esser la prima ottava di C fa ut grave: et questo reggistro serve tutto intero alla mano destra. Il segundo viene ad essere quello di mezzo alli due detti per distanza uguale all'uno et all'altro di fuori, volendosi toccare è forza interporre li detti tra le corde delli ordini di fuora e sia con la mano destra o con la sinistra [...]". See also Marin Mersenne, *Harmonie universelle: Seconde partie*. Paris: Sebastien Cramoisy 1636, Livre troisieme, Proposition 24, 169: Mersenne numbers the rows of strings of the *harpe à trois rangs* from left to right, calling them "premier rang, second rang, troisieme rang".

complete transcription (see p. 390–397), as well as its English translation (p. 398–399).

<fol. 16v>

[...]

Regola per accordarla per b molle.

Bisogna cavar fuori b fa b mi per b molle ed accordare a la mi re Cromatico in b molle Cromatico [cioè scordare il la[#] in la b, entrambi detti cromatici] come si vedrà nel sottoscritto esempio.²⁰

[Ex. 17A–F]

Cominciate da b fa b molle sotto la Chiave di C sol fa ut di dentro [= di mezzo], e [con questo] accordate all’Unisono b fa b mi di fuori [=sinistra]; dopo pigliate b fa b mi in seconda riga²¹ [destra, l’altra fila esterna] con quel b fa b mi b molle di dentro [di mezzo, che è b], e [quest’ultimo] accor-

<fol. 17>

datelo maggiore [cioè il si della fila di mezzo da bemolle diventa bequadro, eventualmente accordato da sol, come terza maggiore]; dopo pigliate quel primo b fa h mi che [dal quale] avete accordato la prima volta [cioè il si di mezzo che è stato accordato bequadro]²² ed accordateci la sua Ottava sotto, di dentro sotto[. D]opo accordate la sua 8:^a sopra[. Il] primo b fa b mi nel Secondo²³ Ordine [destro] puro [pure] comincerete [ad accordare partendo] dal primo b fa h mi [destra] accordandoci [accordando] all’unisono l’istesso dal b fa h mi b molle [di sinistra], e poi la sua 8:^a sopra.²⁴

In quanto al b fa h mi molle. [Per quel che riguarda questa accordatura per b molle]

²⁰ See Transcription, 395, n. 4 for the explanation of Ex. [17A–F].

²¹ Here it seems that “seconda riga” refers to the other diatonic row, not the middle row: in the following sentence the author describes to tune the B of the *seconda riga* to the B *di dentro*.

²² Maybe for this reason in the Roman manuscript the B is named as b fa h mi, whereas in the manuscript in Bologna it is named b fa b mi.

²³ The manuscript in Bologna reads “Terzo Ordine”.

²⁴ The manuscript in Bologna reads: “le sue ottave sopra”. Confirming that this refers to the row of strings on the right hand side: the left row only ascends normally only one octave above middle C.

Bisogna Accordarci a la mi re cromatico in b molle [il la diesis in la bemolle] e D. la sol re²⁵ puro [pure] in b molle [e pure il re diesis in re bemolle], che cantando per b molle spesso si toccano. Comincerete dalla Chiave di F e farci 3:^a che sarà a la mi re Cromatico [la bequadro che però è corda cromatica essendo normalmente accordata come a la b o la diesis], [e successivamente] lo calarete mezza voce fingendo che quell'F fa ut sia re e a la mi re fa che sarà 3:^a minore.

Accordata che sarà questa [la corda del lab] [si farà la sua] quinta sotto che sarà D. la sol re Cromatico,²⁶ [cioè re bemolle] e l'aggiusterete in [mezzo alla] quinta giusta [sib–fa che è stata accordata come quinta pura]; tutti due [sia il reb testato su sib, sia il la b eventualmente testato su fa, sono terze] minori, poi d'8:^a in 8^a.

Acknowledgements

I would like to thank many people who assisted me in the transcription and understanding of this *Accordatura*. Without their generous help I would not have been able to reach the end of this text.

Martin Kirnbauer for having corrected my first transcription of the manuscript, Armando Carideo for having checked my transcription with the original manuscript in Rome, Patrizio Barbieri for having checked my transcription of the Bologna copy and for the many advises, Dinko Fabris for having addressed me to Giuseppina Crescenzo who sent me photos of the complete manuscript in Rome, Arnaldo Morelli for having drawn my attention to his fundamental article on Girolamo Chiti, and for having suggested that the *Accordatura* could be Chiti's autograph, Lorenzo Montez for writing the codicological description, Emma Huijsser for editing the musical examples, and finally Vincent Kibildis who, in Milan, on a very hot day with 38 degrees Celsius, helped me in understanding the last part of the *Accordatura*, translated it into English and checked with me the final text. I would also like to thank Martina Papiro for the patience in reading all the versions of this text and editing it.

25 Should be amended to “D. la sol re ‘cromatico’”.

26 See the hypothetical Ex. 17bis, p. 385.

2. Facsimile and transcription of I-Rli, Ms. Musica C.9. bis/2, fols. 15v–17r

Nono misto

In exitu Israel de Aegyptus

Domine Jacob de Populo Barbaro

Accordatura per L'arpa o Cembalo

Quando l'istrumento sarà accordato in tutto, sempre si deve cominciare dalla chiave di C solfaut questo C solfaut se si deve il Cimbalo o Arpa accordare con altro istrumento si farà unisono con il C sol fa ut del altro istrumento già accordato, e accordato che sarà il D: C sol fa ut si seguirà come si dirà nell'istesso foglio

D. la sol re va accordato 5^a sopra

8^a giusta C. sol fa ut
sotto va accordato

D. la sol re sotto va accordato 8^a giusta

Flamini sopra va accordato 5^a sopra

Flamini va accordato 5^a giusta

Flamini sotto va accordato con flamini 8^a giusta

D. fa blui sopra va accordato 5^a giusta

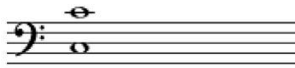
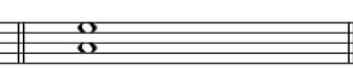
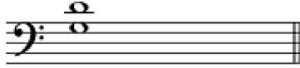
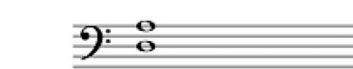
F fa ut sotto va accordato 5^a giusta

F fa ut sopra 8^a giusta

<fol. 15v>

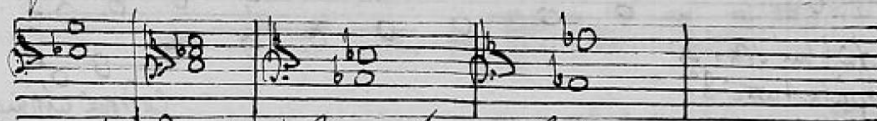
Accordatura per l'Arpa ò Cembalo

Quando l'istrumento sarà scordato in tutto, sempre si deve cominciare dalla Chiave di C¹ sol fa ut e questo C sol fa ut se si deve il Cimbalo ò Arpa accordare con altro stromento[,] si farà unisono con il C sol fa ut dell' altro istrumento già accordato, ed accordato che sarà il d[ett]o C sol fa ut si seguirà come si dirà nell'infrascritte Regole

[1A]  8.^a giusta C. sol fa ut sotto vā accordato	[1B]  G. sol re ut vā accordato quinta scarsa	[2]  D. la sol re vā accor= dato in 5.^a scarsa
[3]  D. la sol re sotto vā ac= cordato 8.^a giusta	[4]  A la mi re sopra vā acc: quinta scarsa	[5]  E la mi vā accordato 5.^a giusta
[6]  E la mi sotto vā accor= dato con E la mi 8.^a giusta	[7]  B. fa b mi sopra vā accordato 5.^a giusta	[8A] [8B]  F fa ut sotto vā accordato 5.^a giusta F fa ut sopra 8.^a giusta

1) "Chiave di C": C-clef.

Fatti che saranno tutti questi accordi sarà bene tornare da capo 8° e 5° con le 3^e in mezzo e se qualcuna scorderà verba che non saranno aggiustati bene le 5° che quali sono difficili. Ma venghiamo alli b muschi di due 5^e sotto e sopra con sue 8^e



F. fa ut con b fa Prova b fa con fa fa fa fa
B mi sotto quinta fa sotto 5^a fa fa fa
ta giusta giusta con fa fa
veniamo in stroa a 3 Dieji due Cromatici 8^a giusta

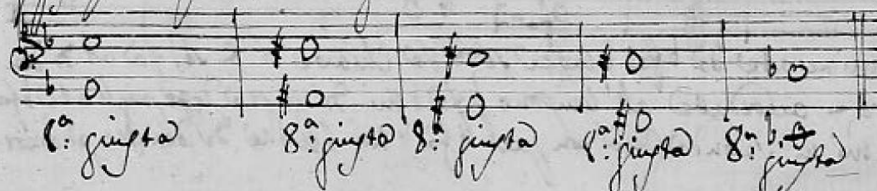


B. mi con f fa ut Prova B. fa b mi con D. la sol re 5^a Cromatica Prova
sopra quinta giusta



F. fa ut, sotto 8^a C. Al fant sopra C. Al fa ut 9. Al re ut 9. Al re ut sopra
giusta quinta giusta sotto 8^a giusta sopra 8^a giusta 8^a giusta.

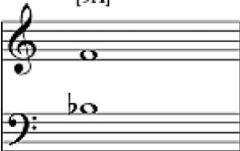
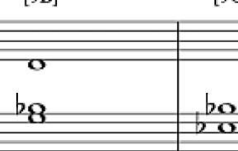
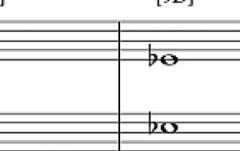
Si sequita d' 8^a in 8^a fino ad f fa ut cominciando d' Alantre Cromati-
a, Al fa b mi b mi b mi C. Al fa ut Dieji, D. la sol re, f la mi b mi b mi
f fa ut Dieji Cromatici
Pigliarsi poi a quelli che sequitano



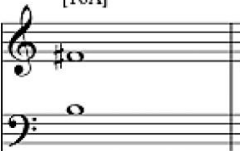
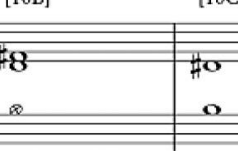
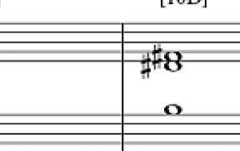
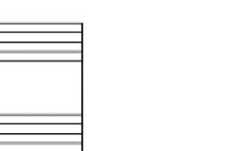
(8^a giusta) 8^a giusta 8^a giusta 8^a giusta 8^a b. fa giusta

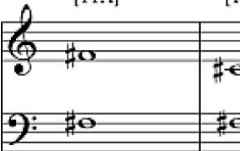
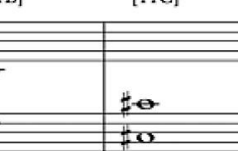
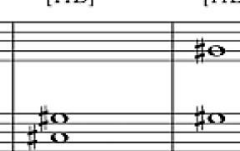
<fol. 16r>

Fatti che saranno tutti questi accordi sarà bene tornare da capo 8.^e e 5.^e con le 3.^e in mezzo, e se qualchuna scorderà verrà che non saranno aggiustate bene le 5.^e le quali sono difficili. Ma venghiamo alli b molli con sue 5.^e sotto, e sopra con sue 8.^e

[9A]	[9B]	[9C]	[9D]
			
F. fa ut con b fa B mi sotto quinta giusta	Prova	b fa con E la fa sotto 5. ^a giusta	E la fa sopra con E la fa 8. ^a giusta

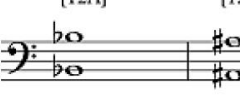
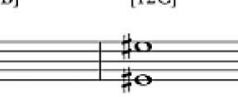
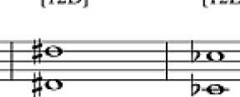
Viniamo in'oltre à 3 Diesis e due cromatici²

[10A]	[10B]	[10C]	[10D]
			
B. mi con f fa ut sopra quinta giusta	Prova	B. fa b mi con D. La sol re 3. ^a cromatica	Prova

[11A]	[11B]	[11C]	[11D]	[11E]
				
F fa ut. sotto 8. ^a giusta	C. sol fa ut sopra quinta giusta	C. sol fa ut sotto 8. ^a giusta	G. sol re ut sopra 5. ^a giusta	G. sol re ut sopra 8. ^a giusta

Si seguita d'8.^a in 8.^a sino ad F fa ut cominciando d'A la mi re Cromatico, B fa b mi b molle[,] C sol fa ut Diesis, D. la sol re, E la mi b molle F fa ut Diesis Cromatico³

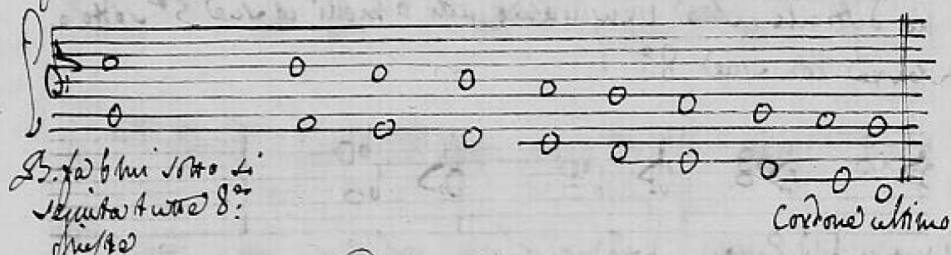
Ripigliasi poi à quelli che seguitano

[12A]	[12B]	[12C]	[12D]	[12E]
				
8. ^a giusta	8. ^a giusta	8. ^a giusta	8. ^a giusta	8. ^a giusta

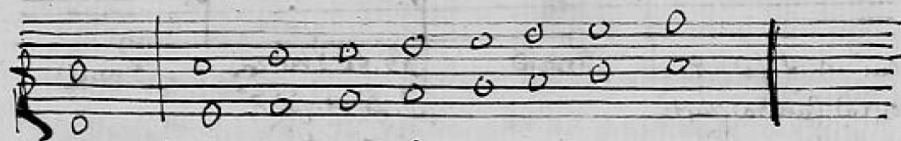
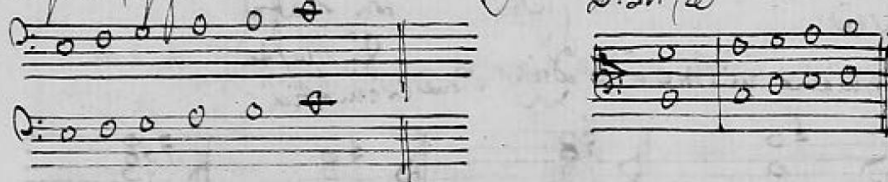
²) See also Introduction, Ex. 10bis.

³) See Introduction, text related to note 14.

Stendo fuori Li Dieci, e Li b'occhi dell'Ordine di mezzo Li (figu-
ra dal 1^{mo} Ordine)



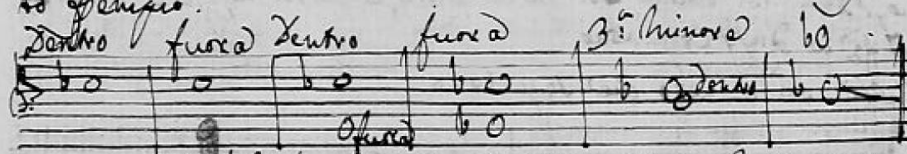
Dopo si ripiglia il 3:ordine all'unifono. g. 1812



sempre di deve in peso 8^{te} gravarsi le tue pinte sotto
e sopra e aggiustarle meglio.

Spetta per accordarla per 6 mesi.

Bisogna cavar fuori il fa b mi ~~z~~ b molle ed accordare al mi
Cromatico in b molle Cromatico come si vedrà nel sottopri-
sto esempio.



Cominciato da bfa b mi che sotto la chiave di c si fa ut di dentro e accordato all' unisono bfa b mi di fuori sopra si fa b e bfa b mi in seconda riga con quel bfa b mi b mi che di dentro, e accor=

<fol. 16v>

Essendo finiti li Diesis, e li b molli dell'Ordine di mezzo si ripiglia dal primo Ordine

[13]

B. fa b mi sotto si
seguita tutte 8.^e
giuste

Cordone ultimo

Dopo si ripiglia il 3.^o Ordine all'Unisono.

[14]

[15] D. sol re

[16]

Sempre si deve in queste 8.^e provarsi le sue quinte sotto e sopra per aggiustarle meglio.

Regola per accordarla per b molle.

Bisogna cavar fuori b fa b mi per b molle ed accordare a la mi re Cromatico in b molle Cromatico come si vedrà nel sottoscritto esempio.⁴

[17A]	[17B]	[17C]	[17D]	[17E]	[17F]
Dentro	fuora	Dentro	fuora	3. ^a minore dentro	
					fuora

Cominciate da b fa b molle sotto la Chiave di C sol fa ut di dentro, e accordate all'Unisono b fa b mi di fuora dopo pigliate b fa b mi in seconda riga⁵ con quel b fa b mi b molle di dentro, e accor=

4) Explanation of Ex. [17A–F]: [17A] and [17B] show the current tunings: B flat inside, and B natural outside. [17B]: the lower B seems to have been intentionally erased. [17C]: upper B flat inside has to go outside, as shown in [17D]. [17C]: the lower B natural outside has to be tuned as a flat as shown in [17D].

5) See Introduction, n. 21.

d'atelo maggiore dopo pigliato quel f^{mo} bfa 4^{mi} che avete
 accordato. La 2^{da} volta ad accordarci la sua 8^{va} sotto di
 dentro sotto; dopo accordato la sua 8^{va} sopra f^{mo} bfa 4^{mi} nel
 secondo ordine, pure comincerete dal f^{mo} bfa 4^{mi} accordan-
 dovi all'unisono. L'istesso bfa 4^{mi} b^{ma} , e poi la sua 8^{va}
 sopra. In quanto al bfa 4^{mi} b^{ma} .

Dopo accordarsi al mi re cromatico in b^{ma} di
 D. fa sol re pure in b^{ma} , che cantando g^{a} b^{ma} 4^{mi} 5^{ta}
 si toccano, comincerete dalla chiave di C. 4^{ta} 3^{a} che
 sarà Alamir cromatico. Lo calarete mezzo voce fingendo
 che quell' f^{mo} fa ut lia re è Alamir fa che sarà 3^{a} 4^{ta}
 accordato che sarà questa quinta sotto che sarà D. La
 sol re cromatico. L'aggiungerete in quinta giusta tutti
 due minori, poi di 8^{va} 4^{mi} 8^{va} .



<fol. 17r>

datelo maggiore [;] dopo pigliate quel primo b fa h mi che avete accordato la prima volta⁶ ed accordateci la sua Ottava sotto, di dentro sotto; dopo accordate la sua 8:^a sopra primo b fa b mi nel Secondo⁷ Ordine puro comincerete dal primo b fa h mi accordan= doci all'unisono l'istesso dal b fa h mi b molle, e poi la sua 8:^a sopra.⁸

In quanto al b fa h mi molle.

Bisogna Accordarci a la mi re cromatico in b molle e D. la sol re⁹ puro in b molle, che cantando per b molle spesso si toccano. Comincerete dalla Chiave di F¹⁰ e farci 3:^a che sarà a la mi re Cromatico lo calarete mezza voce fingendo che quell'F fa ut sia re e a la mi re fa che sarà 3:^a minore[.] accordata che sarà questa quinta sotto che sarà D. la sol re Cromatico,¹¹ e l'aggiusterete in quinta giusta; tutti due minori, poi d'8:^a in 8^a.

6) See Introduction, n. 22.

7) See Introduction, n. 23.

8) See Introduction, n. 24.

9) Should be amended to "D. la sol re cromatico".

10) "Chiave di F": F-clef.

11) See Introduction, Ex. 17bis.

3. Tuning for the harp or harpsichord (Summarized translation by Vincent Kibilidis)

When the instrument is completely out of tune, one must always begin tuning at middle C. If the harpsichord or harp is to be tuned to another instrument, this C should be tuned to the C of the other, already tuned instrument. Once this C has been tuned, one proceeds as will be explained in the following rules:

[Ex. 1–8]

Once all of these strings have been tuned, it is good to start again from the beginning, [testing] octaves and fifths with the third in the middle. And if any [third] is out of tune, you will see that the fifths, which are difficult [to tune] are not well adjusted (*aggiustate*). But let us proceed to the flats with their fifths below, and their octaves above:

[Ex. 9]

Furthermore, let us come to the three sharps [C-sharp, F-sharp, G-sharp,] and two *cromatici* [A-sharp, and D-sharp].

[Ex. 10–11]

Continue tuning in octaves until the top F-sharp, beginning with A-sharp, and proceeding with B-flat, C-sharp, D-sharp, E-flat, and F-sharp *diesis cromatico*.²⁷

Return then to the [notes] that follow:

[Ex. 12]

Having finished [tuning] the sharps and flats of the middle row [of strings], return to the first row.

[Ex. 13]

Then take the [strings of] the third row [of strings, and tune them] in unison [to the first row].

[Ex. 14–16]

These octaves must always be tested with their upper and lower fifths to better adjust these [fifths].

Rule to tune *per b molle*.

²⁷ See Introduction, p. 385, text related to n. 14.

B must be tuned in the outside rows as [B-]flat, and A-sharp must be tuned to A-flat, as will be seen in the following example:

[Ex. 17]

Start from the B-flat of the inside row, below middle C, and tune the B of the outer row in unison [to it]. Then take the B[-natural] of the second [outside] row, and tune the B-flat of the inside row to it[, so it will be a] major [third to the G]. Then take this first B [of the inside row, now B-natural, to] which you tuned the first time, and tune its octave below on the inside [row]; then tune its octave above. [Now all Bs on the inside row have been tuned as naturals.] Take the B of the second [outside] row then, and tune it in unison to the other outer B-flat, and then its upper octave.

As far as concerns the tuning with B-flat:

A-sharp must be tuned as A-flat, and D-sharp as D-flat, for these are played often when singing *per b molle*. Begin from F below middle C and tune a major third to it, which will be A-natural; then lower it by a half-step, pretending that said F be a D, and the A be an F, making [the interval between them] a minor third.

Once [this A-flat] has been tuned, [you will tune] its fifth below which will be D-flat, and test it [as minor third] in the pure fifth [B-flat – F-natural]; both [A-flat and D-flat must be tuned as] minor [thirds]. Then tune in octaves.

