Paul Kolb

Collaboration between Composers and Scribes in the Gaffurius Codices*

Franchinus Gaffurius was a man of many hats. In 1484 he became choirmaster of Milan Cathedral, a position he held until his death in 1522. He was also a prolific composer of sacred music, having composed numerous masses, motets, Magnificats, and hymns, as well as a few secular works.[1] Most notably, he was a music theorist, having written several treatises including the influential *Practica Musice*, first published in 1496.[2] The articles in both *Grove Online* and *MGG Online* highlight these three aspects of his career, calling him a "theorist, composer, and choirmaster" ("Musiktheoretiker, Komponist und Kapellmeister").[3] Finally, he arranged for the compilation of four large choirbooks for the cathedral of Milan, much of which he copied himself: Milan, Archivio della Veneranda Fabbrica del Duomo di Milano, Librone 1 (*olim* Ms. 2269), Librone 2 (*olim* Ms. 2268), Librone 3 (*olim* Ms. 2267), and Cassette Ratti, n. VII, 34–43 (*olim* Ms. 2266) [Librone 4]. These *libroni* have been the subject of a substantial amount of recent research, in particular that which resulted from the project

* Thanks to Nicole Schwindt, Christiane Wiesenfeldt, and Roman Lüttin for the invitation to present at the Troja Conference in Heidelberg. Collaboration that took place in the workshops of music scribes in the Early Modern Era has long been well known, for example in that of Petrus Alamire. Just as evident is that the boundary between composers, singers, scribes, etc. is often fluid: a single person could have any or all of these functions. We can thus imagine that collaboration between composers and scribes was widespread, even if evidence of such collaboration is often hard to grasp.

1 Most of these are edited in Franchinus Gafurius, *Collected Musical Works*, ed. Lutz [Ludwig] Finscher, Corpus Mensurabilis Musicae 10 (Rome, 1955–60), as well as in the first six volumes of the series Archivium Musices Metropolitanum Mediolanense (Milan, 1958–66).

2 Franchinus Gaffurius, *Practica Musice*, Milan: Le Signerre for Lomatio, 1496.

3 Bonnie J. Blackburn, "Gaffurius, Franchinus," Grove Music Online, https://doi.org/10.1093/gmo/9781561592630.article.10477 (14/08/2025), and Walter Kreyszig and Ludwig Finscher, "Gaffurio, Franchino," MGG Online, https://www.mgg-online.com/mgg/stable/46861 (14/08/2025).

"Polifonia Sforzesca" led by Agnese Pavanello at the Schola Cantorum in Basel.[4] The detailed work on scribes and compilation is easy to visualize on the well-conceived image database, *Gaffurius Codices Online*.[5] Thanks to this research, we are now well-placed to analyze instances of collaboration between composers and scribes in these sources.

As is well known, Librone 1 contains an ownership note written by Gaffurius in June 1490, after the manuscript was completed and bound:

> Liber capelle ecclesie maioris Mediolani *factus opera et solicitudine Franchini Gaffori* laudensis prefecti prefate capelle, impensa vero venerabilis Fabrice dicte ecclesie, anno Domini m cccco lxxxxo, die 23 junii.
>
> Book of the chapel of the cathedral of Milan, *made through the careful agency of Franchinus Gaffurius* of Lodi, head of the said chapel, at the expense, however, of the venerable vestry board of the said church in the year of the Lord 1490, on the 23rd of June.[6]

In the note, as here translated by Daniele Filippi, Gaffurius claims agency for the entire manuscript, even though he himself only copied five of the twenty-four gatherings.[7] One could more literally translate the Latin "factus opera et sollicitudine" as "made through his work (opera) and through his care (sollicitudine)", with "opera" potentially referring to those gatherings he actually copied, and "sollicitudine" referring to those whose copying he oversaw. Following Filippi's interpretation of the payment documents, Scribe A, probably to be identified as the priest Giovanni Pietro da Pozzobonello, started copying music in Librone 1 in 1484 or 1485. On the basis of the payment records, Filippi argues that it is not clear that Gaffurius was actually supervising this work, though as newly appointed choirmaster, and indeed given the claims of his ownership note, it seems hard to imagine that he was not closely involved. With Scribe B, the payment records leave less room for doubt: he was subcontracted by Gaffurius himself. Gaffurius was reimbursed for this scribe's work in May 1490, which is not long before the book

4 https://www.fhnw.ch/plattformen/polifonia-sforzesca/ (14/08/2025). The relevant outputs of this project include the edited collections *Codici per cantare. I Libroni del Duomo nella Milano sforzesca*. Studi e saggi 27, ed. Daniele V. Filippi and Agnese Pavanello (Lucca, 2019), and *Reopening Gaffurius's Libroni*. Studi e saggi 40, ed. Agnese Pavanello (Lucca, 2021), as well as the online Motet Cycles Edition https://www.gaffurius-codices.ch/s/portal/page/editions (14/08/2025).

5 https://www.gaffurius-codices.ch/s/portal/page/home (14/08/2025).

6 Text and translation (with my emphasis) from Daniele V. Filippi, "The Making and Dating of the Gaffurius Codices: Archival Evidence and Research Perspectives," *Reopening Gaffurius's Libroni* (cf. fn. 4), pp. 3–58: p. 8. An image of the ownership note is available at https://www.gaffurius-codices.ch/s/portal/item/3213 (14/08/2025).

7 Here and hereafter, D. Filippi, "The Making and Dating of the Gaffurius Codices" (cf. Fn. 6).

Composition	Folios	Scribe
Magnificat primi toni	32v–35r	Scribe B
Magnificat sexti toni	35v–37r	Scribe B
Magnificat octavi toni	37v–39r	Scribe B
Magnificat primi toni	40v–41r	Scribe B
Magnificat primi toni	41v–43r	Scribe B
Magnificat sexti toni	43v–45r	Scribe B
Magnificat sexti toni	45v–46r	Scribe B
Magnificat sexti toni	46v–49r	Scribe B
Magnificat octavi toni	49v–51r	Scribe B + Gaffurius
Magnificat octavi toni	53v–56r	Scribe B
cycle(?) *Beata progenies*	64v–67r	Scribe B
Sponsa dei electa	67v–68r	Scribe B
cycle(?) *Hortus conclusus*	68v–71r	Scribe B
Quando venit ergo	71v–72r	Scribe B
cycle(?) *O sacrum convivium*	72v–74r	Scribe B
Gaude virgo gloriosa	74v–75r	Scribe B
cycle(?) *Prodiit puer de puella*	75v–80r	Scribe B
Ave mundi spes Maria	80v–81r	Scribe B
Regina celi	81v–82r	Scribe B
cycle *Salve mater salvatoris*	84v–93r	Scribe B
O beate Sebastiane	93v–95r	Scribe B
Virgo dei digna	96v–97r	Scribe B
Salve mater salvatoris	179v–181r	Scribe A
Stabat mater	181v–183r	Scribe A

Table 1: Music in Librone 1 composed by Gaffurius, copied by other scribes

must have been bound, which is to say, prior to the ownership note written the following month. And Scribe B copied a lot of music by Gaffurius (see Table 1).

Gaffurius's Music Copied by Other Scribes

This is one category of collaboration in the *libroni*: pieces composed by Gaffurius but copied by other scribes. In a literal sense, such pieces are clear examples of collaborations between composer and scribe: because Gaffurius oversaw the choirbook production and subcontracted the scribes, and because these were sources he would be using on a daily basis as choirmaster, we can expect that he was closely engaged in the copying process.

That said, the collaboration in most of these cases was probably quite simple: Gaffurius gave his personal copy of a composition to the scribe, who then copied it into the book-in-progress. Gaffurius's hand does not appear on most of these

openings, so it is difficult to point to any interventions on Gaffurius's part. In some cases, one can find different layers of copying, as on the second opening of the *Magnificat sexti toni* (fols. 44^{v}–45^{r}).[8] The opening contains three sections, "Deposuit", "Suscepit", and "Gloria Patri", all copied by Scribe B, but the two latter sections were added later in significantly darker ink. (The subsequent openings appear to continue with the lighter ink of the "Deposuit".) One might expect the scribe to have copied out all of the music for one voice before starting on the next one. Here the first section was copied before the second and third, and yet the scribe probably knew that Gaffurius planned to provide the final two sections later. For pieces with four voices, Gaffurius's scribes usually kept the superius and tenor fully on the verso side, and the contratenor and bassus fully on the recto side. The spacing of this opening is unusual given that the "Suscepit" was a duo between the two voices on the right-hand side, leading to that page containing significantly more music. But it is not clear that this would have been done any differently if the scribe had planned the copying of all three sections before starting on the first. Rather, the fact that the music on the recto side fits as well as it does (with only one staff having had to be slightly extended to the right) might suggest that the scribe had a good idea of what was coming.

As a more blatant example of collaboration, in his *Magnificat octavi toni* (fols. 49^{v}–51^{r}) Gaffurius added an additional movement after Scribe B had already copied most of it.[9] The additions are in a much lighter ink and with significantly smaller noteheads. Joshua Rifkin has argued that this "Esurientes" was added after the manuscript had been bound;[10] and yet, given that the first layer was probably copied shortly before it was bound, the addition need not be much later. Without the "Esurientes", there would have been a lot of space left blank, which is somewhat unusual in this section of the manuscript. But we can nevertheless be fairly confident that Scribe B did not anticipate anything else being added, certainly not another movement of the same Magnificat: he used unique, decorative section-break lines which were otherwise used only at the ends of final sections, suggesting that he thought this was the end of the piece. If he *had* anticipated a duo like this "Esurientes" between the tenor and bass (here called "Contragravus"), he might have spaced the "Fecit potentiam" somewhat differently, perhaps leaving one less blank staff between the upper and lower voices.

8 Images of the two openings of the Magnificat are available at https://www.gaffurius-codices.ch/s/portal/item/3806.

9 Images of the two openings of the Magnificat are available at https://www.gaffurius-codices.ch/s/portal/item/3809.

10 Joshua Rifkin, "Munich, Milan, and a Marian Motet: Dating Josquin's Ave Maria … virgo serena," *Journal of the American Musicological Society* 56 (2003), pp. 239–350: p. 254, n. 31.

Gaffurius Copying Music by Other Named Composers

A second category of collaboration would be pieces copied by Gaffurius but composed by someone else. One thinks immediately of Josquin Desprez, who, according to Rifkin's more recent arguments, was probably in Milan for much of the period between 1483 or 1484 and 1489.[11] But Josquin is poorly represented in the *libroni*, and none of his works therein were copied by Gaffurius. A more promising option is Gaspar van Weerbeke, a colleague of Gaffurius in Milan from 1489 to 1495.[12] Gaspar had previously worked in the Sforza court choir for nearly a decade, for at least part of which he was "vice-abbate" and head of the "cantori di camera", before departing to join the papal chapel in Rome in 1481, that is, three years before Gaffurius's arrival in Milan. Returning to Milan in 1489, Gaspar would have been in his late thirties, around the same age as Gaffurius himself, and highly regarded as a composer. Gaffurius knew both Josquin and Gaspar, a fact which is confirmed in his 1508 treatise, *Angelicum ac divinum opus musice*, where he mentions a discussion he had with both of these composers – on which more later.[13]

Gaspar's work is well represented in the *libroni*. And yet, here too we run into problems. Most of Gaspar's music in Librone 1 was probably copied while he was still in Rome, certainly the two complete motet cycles *Ave mundi domina* and *Quam pulchra es* copied by Scribe A. Elsewhere, analysis of the copying process does not provide many hints about how the collaboration may have functioned. So we have to look elsewhere for evidence of an exchange of ideas between composer and scribe.

This brings us to the notation, a topic on which Gaffurius as theorist had much to say. Notably, Gaffurius was one of only a few theorists who promoted a hard distinction between mensuration and proportion, a distinction with significant implications for the notation of mensural music. To recapitulate: following the influential *Libellus cantus mensurabilis secundum Johannem de Muris*, discussions of mensural music in the fifteenth century usually begin with a definition of the note

11 Joshua Rifkin, "Milan, Motet Cycles, Josquin: Further Thoughts on a Familiar Topic," in *Motet Cycles Between Devotion and Liturgy*, ed. Daniele V. Filippi and Agnese Pavanello. Schola Cantorum Basiliensis Scripta 7 (Basel, 2019), pp. 221–335: pp. 251–88.

12 Here and hereafter, see Gerhard Croll, Andrea Lindmayr-Brandl, and Paul Kolb, "Weerbeke, Gaspar van," *Grove Music Online*, https://doi.org/10.1093/gmo/9781561592630.article.30008 (14/08/2025).

13 Franchinus Gaffurius, *Angelicum ac divinum opus musice*, Milan: Gottardo Ponzio (Da Ponte), 1508.

values.[14] Then the relationships between these note values are defined using the concepts of modus, tempus, and prolatio, thus:

> duplex est modus, scilicet perfectus et imperfectus: perfectus, quando longa valet tres breves, imperfectus, quando valet duas.
>
> there are two types of modus: perfect modus, when a long is equal to three breves, and imperfect modus, when a long is equal to two breves.

Likewise, there are two types of tempus and prolatio, defining the relationships – perfect or imperfect, major or minor – between breves and semibreves, and between semibreves and minims. This is followed by discussions of imperfection, alteration, and dots, discussions which are dependent on the preceding definitions of modus, tempus, and prolatio. Finally, the theorist discusses how to distinguish between the mensurations, describing signs of mensuration, as well as introducing the concept of coloration. Taking fifteenth-century theory literally, mensurations simply tell musicians which rules of imperfection and alteration they have to follow, and thus how long the notes are in context.

Proportions, by contrast, give precise information about a tempo change from one section to the next: the sign $\frac{2}{1}$ indicates *proportio dupla*, or that two notes in the section following the sign should be equal in duration to one note in the section preceding the sign; $\frac{3}{1}$ indicates *proportio tripla*; and $\frac{3}{2}$ indicates *proportio sesquialtera*, etc. This was first described by Prosdocimus de Beldemandis in 1408 in his *Tractatus practice de musica mensurabili*.[15] And yet, despite the relatively straightforward definitions – mensuration signs indicate the mensurations, proportion signs indicate relative tempo – their functions almost invariably overlapped. As Anna Maria Busse Berger demonstrated, mensuration signs were long used to indicate proportional tempo, and fractions were long used to indicate not just proportional tempo but also changes of mensuration. When Prosdocimus first introduced his proportion signs, he indeed clarified that notes sung in sesquialtera proportion are effectively sung in perfect mensuration: they can be

14 Here and hereafter, *Ars practica mensurabilis cantus secundum Iohannem de Muris. Die Recensio maior des sogenannten "Libellus practice cantus mensurabilis,"* ed. Christian Berktold. Veröffentlichungen der Musikhistorischen Kommission 14 (Munich, 1999). See also Karen M. Cook, *Music Theory in Late Medieval Avignon. Magister Johannes Pipardi*. RMA Monographs 37 (Abingdon, 2021), esp. pp. 18–38.

15 Edited in Edmond de Coussemaker, *Scriptorum de musica medii aevi. Novam seriem a Gerbertina Alteram*, vol. 3 (Paris, 1869), pp. 200–28: pp. 218–19, electronic version: *Thesaurus musicarum latinarum* (https://chmtl.indiana.edu/thesauri/tml/15th/PROTRAP1, 22/05/2025). See also Anna Maria Busse Berger, *Mensuration and Proportion Signs: Origins and Evolution* (Oxford, 1993), pp. 164, 166–67.

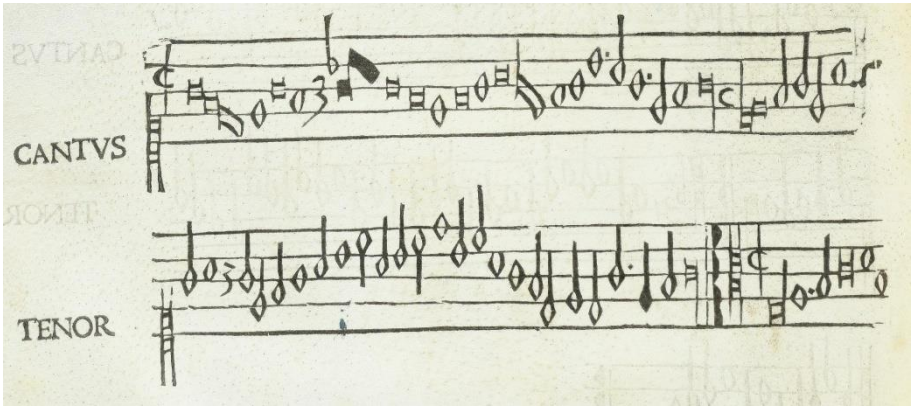

Fig. 1: Gaffurius, *Practica Musice* (Milan, 1496), copy Dresden, Sächsische Landesbibliothek – Staats- und Universitätsbibliothek, Ink.2426(2), sig. gg iii^{v} (detail), urn:nbn:de:bsz:14-db-id4910781027

perfected, imperfected, and altered.[16] By the late fifteenth century, the signs 3, ¢3, or similar were extremely common, usually indicating both a sesquialtera proportional tempo change as well as a change to a perfect mensuration, usually perfect tempus. These signs of sesquialtera are also sometimes used at the beginnings of pieces effectively to indicate a faster triple meter; in these instances there is no proportion, because there is nothing for the music to be proportional *to*.

Famously, Johannes Tinctoris and then Gaffurius after him objected to this state of affairs. In his *Practica Musice*, Gaffurius gives the example in Figure 1 to show what should be avoided. The first sesquialtera section in the Cantus, indicated only by the sign 3, has to be interpreted as if it were in perfect time. Because of the "similis ante similem" rule, breves in perfect time followed by breves have to be perfect: here, coloration is used to imperfect breves as necessary. The second sesquialtera section, on the second line and again indicated by the sign 3, has to be interpreted in major prolation. The note sequence semibreve-minim-minim-semibreve (pitches d″ b′ c″ a′), for example, is interpreted with the first semibreve perfect and the second minim altered.

The example that follows shows how something similar *should* be notated, according to Gaffurius (see Figure 2). Not only is the sesquialtera proportion indicated with a proper fraction – $\frac{3}{2}$ instead of 3 – but if the proportion coincides with a change of mensuration, then the proper mensuration sign should precede the fraction. Here ϕ follows ¢ to indicate a change from imperfect time to perfect time;

16 A. M. Busse Berger, Mensuration and Proportion Signs (cf. fn. 15), pp. 185–86.

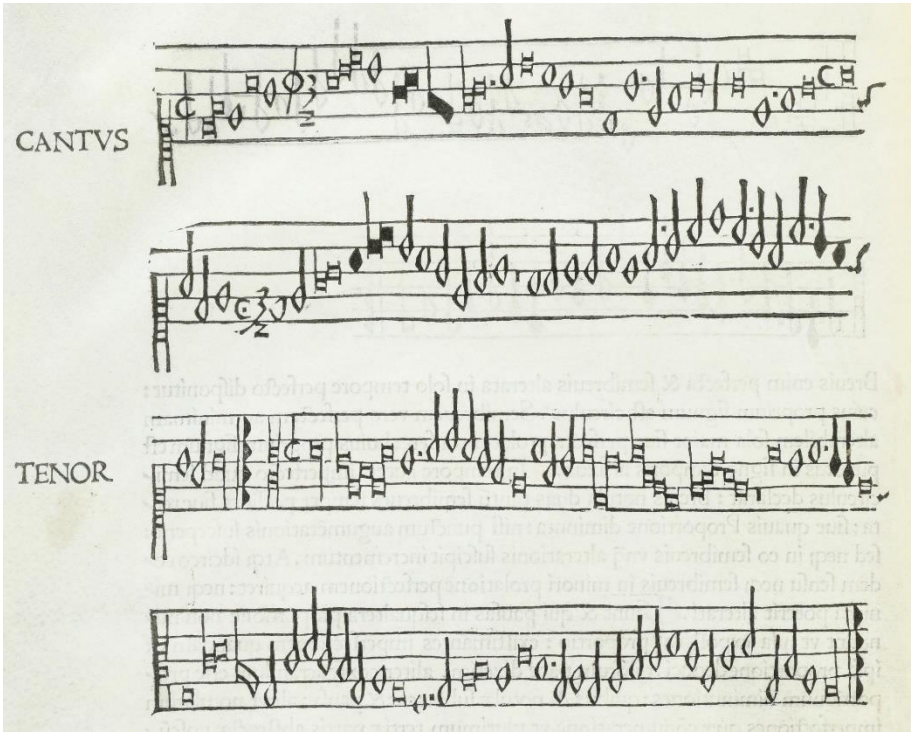

Fig. 2: Gaffurius, *Practica Musice* (Milan, 1496), copy Dresden, Sächsische Landesbibliothek – Staats- und Universitätsbibliothek, Ink.2426(2), sig. gg iiij^{v} (detail). urn:nbn:de:bsz:14-db-id4910781027

𝐂 follows 𝐂 to indicate a change from minor prolation to major prolation.[17] The mensuration is indicated by the mensuration sign; the proportional tempo change is indicated by the fraction $\frac{3}{2}$.[18]

17 Gaffurius was not the first person to use such signs: an earlier example of the change 𝐂 to Φ_2^3 can be found in a Kyrie by "Egidius Cervelli" in Vatican City, Biblioteca Apostolica Vaticana, S. Pietro B.80, fols. 143^{v}–144^{r}, mentioned by Jeffrey Dean in "Towards a Restoration of Tinctoris's L'homme armé Mass: Coherence, Mensuration, Varietas," *Journal of the Alamire Foundation* 5 (2013), pp. 11–40: p. 26.

18 That said, the stroke through the 𝐂 or 𝐎 is related to the proportion, not to the mensuration. When using the proportional fraction, Gaffurius does not change from a cut to uncut sign, or vice versa, instead maintaining consistency such that the tempo change is indicated only by the fraction. By contrast, Dean, "Towards a Restoration" (cf. fn. 17), pp. 25–34, argues that Tinctoris does not use the stroke for a mensuration sign which also has a fraction: the fraction alone is used to understand the proportional change.

In a recent article, Francesco Rocco Rossi demonstrated how the notation of numerous compositions in the *libroni* is unusual in that it explicitly follows Gaffurius's theoretical prescriptions.[19] His analysis was aimed towards attributing some of the anonymous compositions in the *libroni* to Gaffurius, in particular the motet *Tropheum crucis* (Librone 1, fols. 31^{v}–32^{r}).[20] This five-voice composition begins with all voices signed C and finishes with a section in sesquialtera. In two of the voices, the sesquialtera section is indicated with the very Gaffurian sign $\mathrm{C}\frac{3}{2}$, making major prolation explicit. In these voices, the rests have to be counted with each semibreve equal to three minims. The other three voices simply have the fraction $\frac{3}{2}$. These voices have to be counted in minor prolation; for example, the note sequence semibreve-minim-minim-semibreve (at the end of the Tenor primus and also found in the Contragravis) has no perfection or alteration. These same two composite signs, with the same effect, were used by Gaffurius in the "Crucifixus" of a mass in Librone 2 (fols. 97^{v}–98^{r}), as discussed by Jeffrey Dean.[21]

While notational philosophy and habits might be useful for considering attribution, it is just as interesting to consider how Gaffurius and his scribes dealt with this issue. In fact, the problematic notation of sesquialtera was precisely the topic of Gaffurius's discussion with Josquin and Gaspar:

> De questi inconvenienti ne advertite gia molti anni passati Jusquin despriet & Gaspar dignissimi compositori: qui quanquam acquieverunt sententie nostre tamen ab assueta eorum corruptela difficile diverti potuerunt.
>
> Many years ago now, I warned the most worthy composers Josquin des Prez and Gaspar [van Weerbeke] about these inappropriate [practices]; they welcomed my opinion, but it was difficult to make them give up their nasty habit.[22]

Dean suggested that this conversation took place in 1489, and indeed both Josquin and Gaspar would have been in the city that Spring. But Gaffurius's remark leaves open the possibility that he had this conversation with the two composers at different times, in which case that with Josquin could have happened earlier, and that with Gaspar could have happened later. Regardless, when Gaffurius copied music by Gaspar, he appears to have left it as Gaspar notated it, respecting the composer's notational intention above his own theoretical principles. As an example, Gaffurius copied Gaspar's short motet *Ave stella matutina* into Librone 1 (fols.

19 Francesco Rocco Rossi, "Le pratiche mensurali nei quattro libroni di Gaffurio: una risorsa per possibili attribuzioni", *Studi musicali*. Nuova serie 10 (2019), pp. 155–92.

20 Images available at https://www.gaffurius-codices.ch/s/portal/item/3799 .

21 J. Dean, "Towards a Restoration" (cf. fn. 17), p. 29. Images available at https://www.gaffurius-codices.ch/s/portal/item/4854 .

22 F. Gaffurius, Angelicum ac divinum opus musice (cf. fn. 13). Text and translation here from J. Dean, "Towards a Restoration" (cf. fn. 17), p. 28, fn. 52.

116^{v}–117^{r}).[23] The motet is notated with all voices given the initial sign ¢, with a sesquialtera section signed 3, again in all voices. Not only does this 3 not have a denominator, as Gaffurius complains about, but the music following the sign is in perfect time. Coloration is used frequently *not* to indicate proportional acceleration – as would be the only interpretation in imperfect time – but instead to hold notes at their imperfect values and avoid alteration – an interpretation proper to perfect time. Also, the rests have to be counted as if the breves are perfect. One might suggest that Gaffurius was just copying from his exemplar and did not risk an attempt at "fixing" the notation for fear of inserting additional mistakes. And yet, hypothetically, it would not have been difficult for Gaffurius to adjust the notation to make it accord with his theory: simply (1) change the signs to $\frac{3}{2}$, (2) remove the coloration, and (3) add some extra rests. Or, even more straightforwardly, he could simply have changed the signs to ϕ$\frac{3}{2}$.

This piece is not an outlier: when Gaffurius and his scribes copied music by other named composers, they maintained the notational practices of those composers – or at least, they did not renotate the music to accord with Gaffurius's principles. Surveying instances of sesquialtera in Libroni 1, 2, and 3, Rocco Rossi lists thirty-three instances that conform with Gaffurius's principles, and eighty-two instances that do not.[24] Most of those in the former category are pieces by Gaffurius himself or without attribution. Rocco Rossi suggests that at least some of the anonymous works may also be by Gaffurius.[25] All of the pieces by Gaspar, and all of those by Josquin with one tiny exception, whether they were copied by Gaffurius or other scribes, do not accord with Gaffurius's principles.[26] We know that Gaffurius exchanged ideas with Josquin and Gaspar about the notation of their music, and yet Gaffurius chose not to force his ideas on these composers' music.

For someone always on the lookout for scribal intervention, in particular as concerns notation, this is not what I was hoping to find. I have previously argued on the basis of theoretical writings by Prosdocimus, Tinctoris, Sebald Heyden, and Henricus Glarean that notational aspects were considered as something different or separate to the composition itself: all of those theorists suggested in one way or another that the notation could be changed (whether corrected or simply

23 Images can be found at https://www.gaffurius-codices.ch/s/portal/item/3861.

24 R. Rossi, "Le pratiche mensurali" (cf. fn. 19), appendixes 1 and 2 (pp. 184–92).

25 Ibid., pp. 180–83.

26 The Josquin exception is in the Credo of the Missa L'homme armé sexti toni (Librone 3, fol. 138^{r}), where the bass alone has a brief sesquialtera section (with the duration of one perfect breve) signed $\frac{3}{2}$ and without a change to major prolation. The image can be found at https://www.gaffurius-codices.ch/s/portal/item/5147.

modified) while respecting the intentions of the composer.[27] I wanted to suggest that scribes, especially those who also considered themselves to be theorists, might legitimately take agency over the notation that they copied. The notation is thus arguably one of the first places that we might expect to find some sort of collaboration. On the one hand, if Gaspar and Josquin truly "welcomed" Gaffurius's opinion as he claimed, why not be open to change their notation, if only in the theorist's own choirbooks? On the other, why would Gaffurius not be willing to take agency to change the notation himself? Clearly he believed what he said. To repeat: firstly, these choirbooks are a primary example of where we might expect to find collaboration between composers and scribes, especially since some of the composers and scribes were colleagues with similar career profiles. Secondly, the notation is a primary element where we might expect to find evidence for this collaboration, especially when we know the composers and scribes discussed these very issues. To see Gaffurius simply recopying the notation of his contemporaries, despite understanding it to be fundamentally flawed, shows that he respected them not only as composers but also as *notators* of their music. Perhaps he himself did not feel entitled to change it.

In the first category of collaboration—between Gaffurius the composer and the scribes under his supervision—the notation ultimately tells us little. All of the sesquialtera sections in pieces attributed to Gaffurius are in line with his theoretical principles, whether they were copied by Gaffurius or one of his scribes (see Table 2). Again, we can assume this is simply because the scribes were precisely following the composer's exemplars.

Gaffurius Copying Anonymous Works

There is one final potential category of collaboration: between Gaffurius the scribe and the composers of the anonymous works. Scholars including Rifkin have proposed that many of the anonymous works in the *libroni* were by Gaffurius.[28] Rocco Rossi's list included ten anonymous compositions that conformed to Gaffurius's mensural/proportional theory (see Table 3), and about the same number that do not. Rocco Rossi was particularly convinced that *Tropheum crucis* was by Gaffurius, but otherwise only suggested the possibility that Gaffurius was the composer.[29] If Gaffurius was not the composer of *all* of them, then either the scribes took it upon themselves to change the notation – which seems unlikely given the scribal

27 Paul Kolb, "Composers, Scribes, and Notational Agency," paper given at the Medieval and Renaissance Music Conference, Edinburgh (virtual), July 2020.

28 J. Rifkin, "Munich, Milan, and a Marian Motet" (cf. fn. 10), p. 254.

29 R. Rossi, "Le pratiche mensurali" (cf. fn. 19), pp. 180–83.

Composition	Folios	Scribe
Magnificat primi toni	Librone 1, 33v–34r	Scribe B
Beata progenies	Librone 1, 64v–65r	Scribe B
Ave mundi spes Maria	Librone 1, 80v–81r	Scribe B
Missa Omnipotens genitor, Qui tollis	Librone 2, 11v–12r	Scribe C
Missa Primi toni brevis, Osanna	Librone 2, 47v–48r	Scribe A
Missa sine nomine, Crucifixus	Librone 2, 97v–98r	Scribe F
Missa Sancte Caterine, Crucifixus	Librone 2, 106v–107r	Scribe F
Missa O clara luce, Crucifixus	Librone 2, 120v–121r	Scribe B
Missa sine nomine, Kyrie II, Et in terra, Crucifixus, Osanna, Agnus II and III	Librone 2, 178v–191r	Scribe C
Missa montana, Quoniam, Crucifixus	Librone 3, 111v–114r	Scribe K (some text written by Gaffurius)
Missa sexti toni irregularis, Crucifixus	Librone 3, 157v–158r	Scribe G

Table 2: Sections with sesquialtera in compositions by Gaffurius, copied by scribes under his supervision

practice elsewhere in the *libroni*—or the unnamed composer or composers, perhaps other local singers, were influenced by Gaffurius's ideas; that is to say, there was genuine collaboration between the composer and scribe. It is unlikely that a musician would independently make these notational choices given how rare they were, and given that most of these pieces were copied before Gaffurius's *Practica Musice* was first published. So, if Gaffurius was not the composer of one or more of these, close collaboration between composer and scribe seems likely if not unavoidable.

I do not ultimately think that "Gaffurian sesquialtera" is enough to prove authorship, nor do I necessarily agree with Rossi that a more complete compositional exposition of the theory as in *Tropheum crucis* makes a piece more likely to be by Gaffurius: an understanding and acceptance of his theory is necessary in all of these cases. This notational practice is, after all, unusual. And yet there is a good case to make that all of the anonymous pieces with "Gaffurian sesquialtera" in Librone 1 are actually by Gaffurius: they were all copied by Gaffurius himself and are in gatherings that contain only attributions to him. We are left then with four pieces (the last four listed in Table 3). The first of these is a Sanctus, of which the Osanna is signed $\mathrm{O}\frac{3}{2}$ in all voices (Librone 2, 34^{v}–35^{r}). The sign is effectively identical to C3 or 3 in standard practice, with the circle here making the tempus perfectum explicit. Renotation from standard practice to Gaffurian practice would

Composition	Folios	Scribe
Sola in sextu	Librone 1, Iv–1r	Gaffurius
Tropheum crucis	Librone 1, 31v–32r	Gaffurius
O Jesu dulcissime	Librone 1, 104v–105r	Gaffurius
Reformator animarum	Librone 1, 105v–106r	Gaffurius
O beata presulis	Librone 1, 108v–109r	Gaffurius
	Also copied in Librone 2, 6v–7r	Scribe C (music)/ Gaffurius (text)
Uterus virgineus	Librone 1, 110v–111r	Gaffurius
Sanctus (in the Osanna)	Librone 2, 33v–35r (at 34v–35r)	Scribe A
Missa Sine nomine (in the Gloria)	Librone 2, 69v–72r and 143v–144r (at 69v–70r)	Scribe E
Te deum	Librone 2, 204v–209r (at 208v)	Scribe F
Salve mater pietatis	Librone 3, 199v–200r	Gaffurius

Table 3: Anonymous works with "Gaffurian sesquialtera"

have required nothing more than adding the circle and the denominator 2. The other three pieces have a final section with the sign $\frac{3}{2}$. These sections all need to be read without a shift to perfect time or major prolation. Prior to any stylistic analysis to consider authorship, I do not know whether it is more likely that Gaffurius was the composer, or that Gaffurius collaborated closely with the composer on notation.

To sum up: these are sources where we know collaboration of some sort is happening between Gaffurius and his scribes. They provide an obvious opportunity for Gaffurius to have worn his many hats at the same time: to apply his theory to the music he directed at the cathedral, and to take advantage of his connections to well-known composers to collaborate on notational questions. The evidence that I have presented points to somewhat more superficial collaboration: it appears that the scribes – including Gaffurius himself – were mostly copying directly from their exemplars. There may have been behind-the-scenes collaboration on notation that is not visible to us in these sources, but it appears that Gaffurius and the scribes under his supervision largely respected the intended notation of his renowned contemporaries. There are plenty of cases of scribes being interventionist – I have written, for example, about the Salzburg schoolmaster Johannes Stomius and his partbooks from the 1530s and 40s, where various interventions of text, music, and presentation were intentional and purposeful.[30] In Milan, on the other hand,

30 Paul Kolb, "Scribes at Work: Notation and Transmission in the Stomius Partbooks," *Journal of the Alamire Foundation* 12 (2020), pp. 89–112.

our scribes may simply have been more practically oriented, putting music on the page, and adding music to empty pages or empty space later on. Collaboration to this end must have been fairly regular. Gaffurius's influence can be seen in numerous elements throughout the choirbooks: in his own compositions and their structural makeup, in the choice of the other repertoire, in the presentation of motet cycles as *motetti missales*, and even in the notation. The *libroni* thus give us a unique view into the notational implications for his theory, and help to show Gaffurius as a complete musician in both theory and practice.