Paul Kolb

The Motet Cycles Database and Gaffurius Codices Online

Over the course of two three-year research projects funded by the Swiss National Science Foundation and hosted at the Schola Cantorum Basiliensis, a team led by Agnese Pavanello has produced a substantial amount of original research on the late 15th- and early 16th-century compositional phenomenon of the motet cycle. The most famous of such cycles originated at the ducal court of Milan, with examples by some of the top composers of the day: Loyset Compère, Franchinus Gaffurius, Gaspar van Weerbeke and Josquin des Prez. Many of them survive in the famous libroni of the Milanese Duomo, four large choirbooks compiled by Gaffurius himself. The earliest of these cycles, the socalled motetti missales, were sung liturgically, with each individual motet taking the place of a chant from the Mass Ordinary or Proper. In the middle of the cycle is often a motet or motet section of chordal homophony meant to coincide with the Elevation.

Many of the central questions for this repertory concern the extent to which motet cycles are an exclusively Milanese tradition or a pan-European phenomenon. Are the elements of musical style associated with motet cycles unique to Milan, or were they inspired by their composers' northern roots? Are motet cycles analogous to other types of cyclic composition, from Mass Ordinary settings to multipartite motets? Did their influence extend beyond the bounds of the city, with long-lasting effects on musical style? Scholarship has long tended to prefer a more localized interpretation, not least because of the cycles' unusual musical-liturgical origins. This is supported by a transmission heavily centred on Milan as well as most of the named composers' documented associations with the city. Yet there are hints of wider transmission and broader influence. Two of the early missales cycles were copied unica into Munich, Bayerische Staatsbibliothek, Ms. 3154 in the 1470s in the area around Innsbruck. Later cycles, including those composed by Josquin, are much less clear in terms of function and origins. Finally, several cycles of varying lengths and uncertain function were published by Ottaviano Petrucci in his series of *Motetti* prints from 1502 to 1505.

Pavanello's projects build on these hints to ambitiously promote a more wide-ranging, interconnected interpretation of this repertory. The projects' print outputs are themselves impressive, including three edited books (Motet cycles between devotion and liturgy, ed. D. V. Filippi and A. Pavanello (Basel, 2019); Codici per cantare: I Libroni del Duomo nella Milano sforzesca, ed. Filippi and Pavanello (Lucca, 2019); and Reopening Gaffurius's Libroni, ed. Pavanello (Lucca, 2021)) and a themed journal issue (Journal of the Alamire Foundation, ix/1 (2017)). In what is perhaps even more stimulating for future research, the project has published two rich online databases relating to motet cycles and their sources: the Motet Cycles Database and Gaffurius Codices Online. Both websites are thoughtfully designed, attractive and user-friendly. Together, they represent an indispensable resource for anyone seeking to better understand the repertory and its sources.

The Motet Cycles Database (www.motetcycles.ch), released in spring 2018, 'aims at mapping the repertory of polyphonic motet cycles of the period c.1470-c.1510'. The database is primarily text-based, built on a series of four interlinked levels: cycles, motets, texts and sources. In the first level, each cycle is presented with numerous descriptive fields, including source information, musical and textual characteristics, a list of editions, bibliography and discography. In the second level, each motet is presented with similar descriptive fields as well as music incipits encoded in MEI (the Music Encoding Initiative; www.music-encoding.org) and presented visually using the Verovio engraving library (www.verovio.org). The text level presents full texts and translations with commentary on their liturgical and devotional associations. The source level contains the least information, instead sensibly linking to other online descriptions, bibliographies and image repositories-including Gaffurius Codices Online. Within each level are links to the relevant pages of the other levels: for example, a cycle is linked to the individual motets in the cycle, the texts of those motets, and the sources for the cycle. Each level is also searchable based on parameters relevant to that level. While I might quibble that the presence of a further level, 'motets in sources' (with a separate page for each transmitted version of a motet), contains little unique information and complicates the structure somewhat, the database is nevertheless intuitive to use, with extensive descriptive and analytical data easily available.

The quantity of cycles and motets presented in the database provides a strong argument in favour of giving this repertory serious consideration, but users should be aware that this quantity is determined by how the editors chose to define the repertory. The database is intentionally inclusive in nature: it defines a motet cycle as a 'group of self-contained pieces arguably conceived as such based on aspects of style, text, and transmission'. This definition is noteworthy for what it does not say: that the motets in a cycle were composed by the same person and intended to be performed consecutively. While the editors did not stray too far from the core repertory-most of the motets are found in the Milanese libroni-some of the cycles can only speculatively be considered 'cycles'. There are 58 listed cycles, of which some are variations of the same: Gaspar's cycle Quam pulchra es, for example, is presented as three separate items (C13a, C13b and C13c) to account for its three different transmitted configurations. Thirteen of the cycles contain only two or three motets each; it is unclear to me precisely what distinguishes them from two- or three-part motets. For many of the cycles in the database, while the constituent motets may be found one after another in a source and contain related musical and textual characteristics, the musical and codicological evidence does not prove a common compositional origin or a consecutive performance practice.

The way the data is presented is clear, though it also has the potential to mislead users who are less familiar with the relevant scholarly literature. Many of the more speculative 'cycles' were proposed in detail by Lynn Halpern Ward and Nolan Gasser, but their presentation here as relatively fixed entities belies the extent to which both Ward and Gasser demonstrated them to be flexible depending on their required function. As a browse through the database reveals, the transmission of the surviving cycles indicates a substantial amount of postcompositional editorial intervention, whether by scribes, music printers or the composers themselves. Taking this one step further, Fabrice Fitch has recently proposed that many of the motets in the libroni could be conceived of as 'modular compositions', making up pools of repertory that can be compiled in different ways for different occasions ('The cycle as modular composition: the Motetti missales of Gaspar van Weerbeke, in Gaspar van Weerbeke: New perspectives on his life and music, ed. A. Lindmayr-Brandl and P. Kolb (Turnhout, 2019), pp.151-76). The database clarifies the transmission of the motet repertory while masking the repertory's potential for further development and modification. This should be interpreted less as a criticism of the database than as a caution for users more familiar with more static genres.

Gaffurius Codices Online (www.gaffurius-codices. ch), initially published in early 2020, presents new digital images of the first three *libroni*, along with scanned photographs of the fourth. The new images, prepared by the mobile imaging service of DIAMM (the Digital Image Archive of Medieval Music; www.diamm.ac.uk), are of excellent quality. They are presented using the Mirador viewer, compatible with the International Image Interoperability Framework (IIIF), which allows users to view the *libroni* alongside each other or indeed any other compatible images, including those for the manuscripts on IDEM (the Integrated Database for Early Music; www. idemdatabase.org) and the extensive digital collections of the Bayerische Staatsbibliothek in Munich (www.digitalesammlungen.de).

While many users may approach the portal primarily as an image repository, its utility is multiplied by the inclusion of detailed codicological information and complete catalogues. Users can access the images and metadata in three different ways: by manuscript, folio or composition. In the 'Manuscripts' section, one can browse the images of a complete manuscript by folio or by composition, with a detailed description of the relevant source underneath the viewer. The 'Inventory' section has a list of the individual pages in each manuscript, which one can sort by incipit, music scribe or text scribe, and view along with commentary for that page. In the 'Catalogue' section is a numbered list of the pieces contained in each source, sortable by title, foliation and composer. The images for each piece can then be viewed along with commentary, bibliography and a list of editions.

I was initially confused by the presence of separate inventories and catalogues as these terms are frequently used synonymously. That said, there is a logic behind organizing the codicological details of individual manuscript pages separately from the bibliographic and analytical details about the compositions. This does mean that users may have to look at both the inventory and catalogue webpages to find all of the data concerning a specific composition. The presence of abbreviated metadata within the viewer about both pieces and manuscript pages alleviates this concern, making most of the relevant information available in each section of the website. In short, the portal presents the images in a way which is more intuitive, flexible and research-friendly than any comparable online manuscript database for early music. And, whereas DIAMM relies heavily on sometimes outdated descriptions and incomplete inventories, Gaffurius Codices Online has data which is complete, detailed and up-to-date.

In early 2021, Gaffurius Codices Online was supplemented by a digital critical edition of the core motetti missales repertory edited by Pavanello, Daniele V. Filippi and Cristina Cassia. All of the included cycles have been edited previously, though not always with critical commentary. The editors hope that their standardized presentation here will stimulate analytical comparison of the cycles. The edition includes a general introduction by Pavanello and an explanation of the editorial methods. For each individual cycle, the editors wrote an extensive introduction, a discussion of authorship and an evaluation of the sources. The texts of each motet are presented with translation and commentary. Like the incipits in the Motet Cycles Database, the editions are encoded in MEI and rendered using Verovio. Here, in addition to numerous presentation options and the ability to export to PDF, the critical apparatus is built into the digital viewer. The editions follow standard editorial practice for print editions in designating a main source as the basis for the edition; the user cannot toggle between the different manuscript readings for a motet. Images of the relevant folios from the libroni or the Munich manuscript are presented beneath each edition. The editions are reliable, and their presence significantly increases the accessibility of these cycles. Still, I would have preferred to see editions of previously unedited compositions, perhaps of groups of motets whose status as a cycle is debateable, so that users would better be able to judge aspects of cyclicity—and in turn the nature and extent of the motet cycle phenomenon—for themselves.

When seen side-by-side, the two databases present something of a paradox: on the one hand a compositional phenomenon that is broad in scope and influence, on the other a repertory that is closely tied up with the history of a single city. To some extent, this impression is not surprising, coming from two research projects focusing on motet cycles and their Milanese sources, respectively. Both databases are so effective because they present data in ways that are intuitively meaningful. At the same time, they are founded upon assumptions about the nature of a motet cycle, assumptions that are not uncontroversial. As much as anyone, Pavanello and her team know just how difficult it is to come to terms with this repertory; the questions raised here will long continue to be debated. Ultimately, we are now able to visualize this important repertory anew and to engage in fresh analysis of the music, sources and transmission, and we can be grateful that these projects have laid such a solid foundation for future research.

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