A Preliminary Investigation on Event Modeling in Music: Performances and Their Reception*

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Abstract

As a performing art, music is deeply rooted in events occurring over time. Examples of *music events* are concerts, rehearsals, and recordings. Therefore, when modeling and analyzing music information, an event-driven approach can be necessary. Our goal is to discuss some preliminary steps towards the development of an ontology for modeling and reasoning over music events. The motivations for this study are grounded on musicology with the objective of supporting musicologists by providing computational models and tools to create and analyze datasets. Because of the large scope of this investigation, we focus here on *performances*. In particular, we look at the connection between performances and their *reception*, first, because musicologists are often interested in studying how repertories are critically received, second, because the intersection between them offers interesting research challenges.

Keywords

music, musicology, reception, performance, ontology

1. Introduction

Our knowledge about music, as a performing art, is deeply bound up with individual moments. Concerts are events. So are rehearsals and recording sessions. However, musical events are found in other contexts too: the sum of moments that constitute the act of writing music, its publication and arrangement, travels of the musicians/composers from one place to another, and the critical analysis of music by journalists and scholars can all be considered events. Viewed from the standpoint of knowledge representation and data modeling, these are both a challenge and an opportunity, particularly once we see these in relation to the discipline of musicology, which is turning increasingly to digital archives for information about music, in all its riches (see, for example, [1, 2, 3, 4]). Given the broad spectrum of events one might be interested in, we focus here on *performances* (with examples from the Western Art Music tradition) and,

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in particular, on the connection between performance (the act of *musical* interpretation) and *reception* (the act of *critical* interpretation). Both are events, and both are the object of keen interest for musicology. To take but an example, we might be interested in the (recorded) performances of J.S. Bach's sacred cantatas (works for voices and instruments for the Lutheran liturgical calendar) conducted by Nikolaus Harnoncourt (a noted scholar-performer devoted to the historical understanding of Early Music). We might also be interested to know how these readings of Bach's pieces were *critically received*, as we learn through a famous review of a commercial release of Harnoncourt's renditions that was penned by noted music scholar Richard Taruskin [5]. How should we model these types of data? How might we do so in a way that would make them useful to musicological inquiry? If data on these performances and their reception were formally structured and made available through digital platforms that collect other data on similar subjects, then the data could first be preserved for future use and second be analyzed through computational means. This could support musicologists' investigations, such as comparing different critical interpretations of the same performances or analyzing the circulation of musical works over time and space.

The purpose of this paper is to present *preliminary steps* toward developing an ontology that can model performances and their reception, making music data on (critical and musical) interpretation computationally explorable. While in fact there are existing research and application results for the representation of music (see [4, 6] for reviews), the link with reception remains almost unexplored. The remainder of the paper will discuss some of the core requirements that the ontology should satisfy (Section 2) and focus on the analysis of the state of the art (Section 3), discussing the advantages and shortcomings of existing ontologies with respect to our requirements. We will also present two existing datasets that could benefit from uniform access through an ontology for modeling information around performances (Section 4). Finally, we conclude the paper by addressing open challenges for research (Section 5). The ontology remains to be developed as part of future work.

2. Motivations: Insights and Requirements

According to the Britannica Encyclopedia,[1] a performance is a "[...] process during which musical ideas are realized and transmitted to a listener." The crowd who attended the concert by the great virtuoso pianist Lang Lang held at Carnegie Hall in New York City on March 12, 2025[2] of course went to a generous selection of pieces by composers like Chopin (among others). But they also went to hear Lang Lang's particular interpretation of these pieces, just as on another night they might have attended a performance of Shakespeare's *Hamlet* with the expectation that would witness something exciting, or new, or unique reading of the author's (or in this case, composer's) written text. In other genres and settings audiences might have different expectations for a given event. In the case of a performance by a jazz trio, the "musical works" performed would matter almost not at all (few such concerts would announce the program, although the performers and audiences might have fun guessing how a given tune or chord were transformed along the say). Similarly, different experts in Hindustani music might announce a

[1] https://www.britannica.com/art/musical-performance.
[2] "Lang Lang, Piano": https://www.carnegiehall.org/Calendar/2025/03/12/Lang-Lang-Piano-0800PM.

raga for a given evening concert, but most members of the audience would be listening not for a "work", but instead a rendition according to the rules of a given genre or master's style. In the case of Early Music (roughly: European music up to about the year 1600), which is at the heart of our interests in musicological research, performances are perhaps best called "realizations" of texts that leave many decisions to the musicians themselves–choices of instruments and voices, application of ornaments, any many other expressive details that were never part of the original notation. Clearly this music changes from event to event, in ways that a scholar like Taruskin was keen to point out [5]. The advent of sound recording has brought still other complexities to this mix. What was once performed in a concert hall or studio can be in fact captured and heard again in new contexts. And what seems to be a single utterance (at least to those of listening through earbuds) is likely to have been assembled from multiple takes in a studio.[3]

This is all to say that musical events are complex objects that require care if we are to model them in ways that make them accessible to machines no less than humans. From a general musicological perspective, studying the changing presentation of musical works helps us detect new meanings latent within them, and understand how they relate to a particular set of circumstances in their reception, which might vary according to historical moment, place, or audience as well as the nature of the sources telling us about it. An ontology that helps point to particular performance of works will be a key part of connecting information on their creation with the qualitative dimensions of how they are received and understood.

Semantic Web (SW) languages and technologies seem a good way to advance these aims. At a formal level, reasoning systems can help us detect inconsistencies in the data. But they can do much more than this, for they also allow us to infer things that are only *implicit* in the data, further expanding their analytical potential. To make a simple example, the performers of the rendition of a work should be present at the same temporal span of the rendition itself. SW ontologies can also support the alignment of data to the FAIR principles [8] for online data publishing or support the integration of multiple datasets produced by different organizations. This can be useful to reach broader perspectives on the data. Finally, by following Linked Data approaches, SW data can be linked to dedicated Web resources for music like RISM[4] and MIMO[5], among others, to make the data more interconnected. Hence, the SW can allow us to connect different performances with each other – linking up different creators, interpreters, and critics, with the times, places, and contexts in which they occur, even without having to replicate these data, or extract and copy them to storage systems different from the original ones. This can be interesting for the fields of *Reception History*, in which scholars attempt to explain how the meaning of a work changes across time/place, and *Performance Practice*, in which musicians explore changing approaches to ornamentation, phrasing, tempo, and timbre [9, 10].

What would the requirements of such an ontology look like for the performing arts in general and musical performances in particular? An ontology for modeling and connecting performances and their reception should enable the representation, querying, and reasoning of (at least) the information presented in the Table 1 in the form of (functional) requirements. Specifically, R1-R5 are basic requirements for performances, performers, and musical works.

[3] See [7] for considerations on the same lines in the context of theater performances.
[4] https://rism.info/.
[5] https://vocabulary.mimo-international.com/InstrumentsKeywords/en/.

R6-R9 refer to reception. Note that R9 may require reasoning about contradictory perspectives on the same performance. This is common in reception analysis, where critics may strongly disagree with each other. Therefore, an ontology capable of satisfying this requirement must be able to reason over these types of claims without encountering logical inconsistencies.

Table 1
Examples of requirements for an ontology of performances and their reception

id	Requirement	Examples
R1	Retrieve performances by date (location).	What performances took place in the Opera Garnier (Paris) in 2024?
R2	Retrieve performances by genre.	What are the performances of sacred music?
R3	Retrieve the music pieces heard in a performance.	What musical pieces were played during the Anniversary Gala 2025 of the Garnier?
R4	Retrieve performers by role.	Who were the soloists in the Anniversary Gala 2025 of the Garnier?
R5	Retrieve performances by artist.	Which performances featured Lang Lang?
R6	Retrieve performances that were followed by additional performances due to critical acclaim.	Which additional performances were added following the critical success of Mortier's staging of Beethoven's Fidelio at the Garnier in 2008?
R7	Retrieve performances where the composer was present at the premiere. Retrieve his/her performing role (if any).	Was Igor Stravinsky present at *The Rite of Spring* Paris premiere of the work in 1913? Did he take any role in the premiere?
R8	Retrieve critical commentary on specific performances.	What did Taruskin say about performances of works by Renaissance composers?
R9	Retrieve critics who agree or disagree in their evaluations of performances.	Which critics agreed or disagreed in their reviews of contemporary opera productions staged at the Opera Garnier in the 2010s?

3. Ontologies in the State of the Art

There exists different ontologies for music data management and knowledge representation (for a review see [6]). For reasons of space, we limit our discussion to (i) the Polifonia Ontology Network, (ii) the DOREMUS project, and (iii) the Music Ontology, considering the central role that the modeling of events plays in these ontologies.

Polifonia Ontology Network. A number of SW ontologies for the representation of music have been presented in the context of the European (H2020) project *Polifonia* [1]. Among these, the Music-Meta (MM) ontology is particularly relevant for our purposes.[6]

[6]https://github.com/polifonia-project/ontology-network .

For the modeling of music events, MM covers (at least) the classes: (i) `CreativeAction` for "[...] activities related to the creation, production, or development of artistic works, including music" (OWL file, see footnote 6); (ii) `MusicalPerformance` for "[a] live or recorded rendition of a musical composition. It encompasses the act of performing music, whether by musicians, singers, or other performers, to convey the intended [...] interpretation of the composition."

The formal axiomatization of the MM ontology provides only a few axioms for characterizing the intended meaning of these classes. For example, creative actions involve agents who are music artists, and musical performances are intended to "create" musical entities. At the data level, various relations can be used, for example, to model the place or time related to a specific performance, among other information.

The Doremus project. The ontology of DOREMUS[7] focuses on the representation of data relative to classical music [3]. It has been developed to support the modeling and integration of different sorts of music information, from written sources to performances and recordings. The ontology is based on a nowadays outdated version of LRMoo [11] for representing music entities through the notions of *work* (class `F1 Work`), *expression* (`F2 Expression`), *manifestation* (`F3 Manifestation`), and *item* (`F5 Item`). In addition, since LRMoo is ultimately based on CIDOC-CRM [12], the DOREMUS ontology relies on this latter ontology to distinguish between different types of entities (objects, agents, temporal entities, etc.).

The representation of performances is done through the general LRMoo's class of `F31 Performance`. Following the documentation of LRMoo, this class "[...] comprises activities where an instance of [`F1 Work`] is presented or communicated directly or indirectly to an audience, such as a theatrical play or musical work" [11, p.7]. Similarly to LRMoo, performances in the DOREMUS ontology can be represented at different levels of granularity; e.g., a larger concert can include various performances of different pieces. The axiomatization of the ontology is mainly limited to taxonomic relations, whereas at the data level, by relying on both LRMoo and CIDOC, it provides various relations for the specification of data instances.

Music Ontology. The Music Ontology (MO)[8] is likely one of the earliest projects for the application of the SW in music [13]. It has been mainly developed for the structured description of popular music on the Web; for this reason, although similarly to the DOREMUS ontology it relies on (a previous version of) LRMoo, it has been sometimes perceived as lacking the expressivity needed for modeling music from a cultural heritage or scholarly perspective [3].

The modeling of events in the MO, among which performances, is based on the Event Ontology.[9] Similarly to the ontologies previously presented, MO provides only a simple taxonomic representation for most of its modeling elements with various relations used at the data level; these allow the representation of the subevents in a larger event, the time (or place) when (where) an event occurs, the agents involved in the event, etc.

[7] https://data.doremus.org/; it includes a SPARQL endpoint to access data.
[8] http://musicontology.com/; ontology files:https://github.com/motools/musicontology.
[9] http://purl.org/NET/c4dm/event.owl.

Remarks. The three surveyed ontologies offer three alternative but (apparently) similar perspectives on the domain of music. In particular, the core distinctions of LRMoo are adopted in both the DOREMUS ontology and the MO. In contrast, MM is grounded on its own conceptual foundations, partly motivated by ambiguities in LRMoo [6].

In relation to the requirements in Section 2, in the cases of R1-R5, the ontologies appear adaptable of satisfying them. On the other hand, the connection between works, performers or performances and the dimension of reception, as required by R6-R9, remains scarcely explored. This is even more evident for requirement R9, as existing ontologies lack the formal means to automatically reason to compute claims that agree or conflict with each other.[10]

In the Polifonia library, some work in this latter direction has been presented in [14], where the authors develop an ontology design pattern to make annotations of scores. The approach could be extended to represent scholarly claims but this is not addressed by the authors, nor they mention interest for this topic. A different strategy is presented in [4]. Here, the Ontology for Analytic Claims in Music (OMAC) has been designed for the formal modeling of scholarly claims at different levels of granularity. OMAC provides a framework that can be applied to different domains by specializing it with the required modeling elements. In addition, it covers a logical machinery that can account for conflictual claims without running into contradiction (as required by R9). While currently focused on written music, OMAC is compatible with event modeling and can be extended to support the set of requirements outlined in this study.

As noted, the MM, MO, and the DOREMUS ontologies provide only light-weight formalizations, mainly limited to taxonomic representations, domain/range constraints for relations, and a few other types of axioms. This design choice may be motivated by pragmatic considerations: simpler ontologies often scale better in data-intensive applications and are more tractable computationally [15]. Nonetheless, more expressive formal representations can serve critical functions: they make the intended semantics of concepts explicit, support automated reasoning that aligns with expert knowledge, and constrain modeling practices to avoid unintended or logically inconsistent patterns. For example, in MO, the class `Performance` lacks an axiomatization that distinguishes it from other event concepts in the ontology, limiting its utility. Similarly, as said, a musical performance in MM is an event that "creates" a musical entity "indicat[ing] that the `CreativeProcess` is responsible for generating, composing, producing, or otherwise creating the mentioned `MusicEntity`" (OWL file of MM, footnote 6). This remains however generic as one needs to clearly distinguish between different kinds of events depending on whether a musical work is literally created, performed, or otherwise (see the Conclusions for more discussion on this). From this perspective, the usual trade-off for ontology design between conceptual expressivity and operational efficiency must be carefully balanced.

4. An Application Scenario

We report in this section on two datasets to analyze the types of information they represent, their level of granularity, and the underlying models they adopt (when available). Our goal is to understand the kinds of information these datasets prioritize for preservation, the requirements

[10]These considerations hold also for other ontologies in the state of the art, such as the Performed Music Ontology (https://performedmusicontology.org/), which are not presented in the paper due to space limitations.

they reflect, and their respective similarities and differences. As we will see, the datasets constitute an application scenario for an ontology of music performances and their reception, enabling if not their full integration, at least a uniform access layer across them.

We focus on datasets developed by academic or cultural institutions for purposes of scholarship and dissemination, namely: (i) the Early Music Concerts Database[11], and (ii) the Carnegie Hall knowledge-base.[12] While many other datasets on musical performances exist – examples are JazzCats[13] and Dezède[14] – our selection is motivated by four main factors. First, one of the datasets (the Early Music Concerts Database) has a focus on Early Music, which aligns with our research interests. Second, the datasets, especially the Carnegie Hall knowledge-base, can be related to (textual) information about the reception of performances. Third, these resources remain relatively underexplored in the broader research community; by highlighting them, we aim to draw attention to their potential for scholarly investigation. Fourth, the authors of this paper are engaged in ongoing collaborations with the producers of the datasets, who have expressed interest in aligning their work with other initiatives.

We will make examples relative to the composer Josquin des Prez (second half of 15th - beginning of 16th century), who was no less a pivotal figure in his own time than Mozart or Beethoven were in theirs. And among his works, one piece in particular (a work for four-voice choir known by its Latin incipit *Ave Maria …virgo serena*) can serve as a good point of inquiry for our efforts. The piece brings with it all of the usual complexities of works from the years around 1500: none of the existing sources for it can be conclusively tied to the composer himself, nor does any of them spell out much more than the notes, rhythms and general alignment of words and music. Many things are left to the discretion of individual and their directors, including accent, phrasing, pacing, and other expressive details. We know that these sorts of things must vary from one performance (or rendition) to the next. But to make sense of these (and to connect them with critical assertions about those events) we need to be attentive to the data. What do these look like? Here we consider two digital representations of two concerts that featured Josquin's piece: the first concerns a concert held in Brussels in 1946; the second an event held in New York City in 2015.

Concerts database. The Early Music Concerts Database "[...] catalogs concert programs of Medieval and Renaissance music from roughly 1915 through 1960. It aims to answer questions of how the early music canon was formed and how scholars, performers, and audiences alike rediscovered long-lost repertoires" (from the Website, see footnote 11).

Tables 2 and 3 (partially) show examples of records in the relational database that have been extracted from performances' programs. At the current state, the documentation exposes two tables: the "concert" table (e.g., Table 2), providing information on performances, and the "work" table (Table 3) giving information on the pieces played during performances. In the examples, the tables show information related to the performance of Josquin's *Ave Maria … virgo serena*.

[11] https://concertsdatabase.org/ .
[12] https://data.carnegiehall.org/sparql/.
[13] https://jazzcats.cdhr.anu.edu.au/
[14] https://dezede.org/. Dezède will be considered in more detailed applications of our study.

Table 2
From the Early Music Concerts Database: Concert Choral (1946-03-08)

Date	Program Title	Ensemble / Larger Org.	Location	Direction	Program Source
1946-03-08	Concert Choral	Nederlandsch Kamerkoor	Conservatoire Royal de Musique de Bruxelles, Brussels, Belgium	Félix de Nobel	Nederlands Muziek Instituut, Nederlands Kamerkoor, Box 18

Table 3
From the Early Music Concerts Database: *Ave Maria ... virgo serena* by Josquin

Standardized Name of Work	Probable Composer	Voices	Date and Concert Name	Genre
Ave Maria ... virgo serena	des Prez, Josquin	4	8 March 1946: Concert Choral	motet

Carnegie Hall knowledge-base. The RDF knowledge-base developed and maintained by the Carnegie Hall Data Lab stores data about performances that took place at the Carnegie Hall. The data is organized according to various SW resources assembled together in a light-weight ontology (see remarks below).

Tables 4-5 (partially) show an example of how the data are organized. In particular, the first table represents a concert (instance of `schema:Event` from Schema.org[15]) that took place in (`schema:location`) the Weill Recital Hall of the Carnegie Hall on (`schema:startDate`) May 6, 2015.[16] During the concert, various musical pieces were played, each performance being represented as a sub-event (`schema:subEvent`) of the whole concert. One of these was the performance of Josquin's *Ave Maria* (identified by the Internationalized Resource Identifier (IRI): http://data.carnegiehall.org/works/93901), see Table 5. As it can be seen from both tables, for each (sub-)event, the knowledge-base specifies various information, including the rather surprising fact that this particular group (a chamber ensemble from Florida State University) was not a quartet of singers (as Josquin might have imagined) but instead a quartet of saxophonists. Of course in this rendition the piece would be stripped of its sacred text, but might gain much by way of expressive possibility and timbre. It is hardly historicist in its approach, but it is nevertheless rich in what it tells us about the place of Early Music in modern music academies and in concert life.

By further exploring the data, one ultimately finds that the knowledge-base refers to two different works by Josquin with the same incipit *Ave Maria*, each with its own IRI: work/35275[17] and work/93901[18] (showed in Table 5). The latter is an arrangement by Dave Wozniak, a noted saxophone soloist and conductor. Although this suggests that work/93901 is an arrangement of

[15] https://schema.org/.
[16] The data is available here: https://data.carnegiehall.org/events/54454/about.
[17] https://data.carnegiehall.org/works/35275.
[18] https://data.carnegiehall.org/works/93901.

Table 4
From the CH knowledge-base: An Evening of Chamber Music with the FSU College of Music

Property	Value
`schema:startDate`	2015-05-06T20:00:00
`rdf:type`	http://schema.org/Event
`rdfs:label`	An Evening of Chamber Music with the FSU College of Music
`schema:description`	chamber music performance
`schema:subEvent`	• http://data.carnegiehall.org/events/54454/work_01 (Ave Maria) • http://data.carnegiehall.org/events/54454/work_02 (Mille regretz) • ...
`schema:location`	Weill Recital Hall
`schema:organizer`	Florida State University

Table 5
From the CH knowledge-base: Performance of Josquin's *Ave Maria*

Property	Value
`rdf:type`	http://data.carnegiehall.org/model/WorkPerformance
`schema:workPerformed`	http://data.carnegiehall.org/works/93901
http://data.carnegiehall.org/vocabulary/roles/alto_saxophone	Cole Belt
http://.../tenor_saxophone	Scotty Phillips
http://.../baritone_saxophone	Bryan McNamara
http://.../saxophone_quartet	Singularity
http://.../soprano_saxophone	Thomas Giles

Josquin's *Ave Maria*, this choice is not explicit in the formal representation of the data. Nor is this the end of the story, for there are in fact other compositions by Josquin that begin with these words.[19] These sorts of problems are not infrequent when working with Early Music. Nevertheless, the Carnegie Hall knowledge-base (unlike the Early Music Concerts Database) does not provide enough information to unambiguously identify the works heard there.

Remarks. The datasets offer distinct perspectives on performances. From a knowledge representation standpoint, they differ in (at least) modeling formalism and granularity of detail.

A relevant feature of the Carnegie Hall knowledge-base is its fine-grained modeling of event structure, including the representation of sub-events. This enables the explicit representation of information applicable either to the entire event or to specific sub-events. However, although the knowledge-base makes use of SW languages and technologies, it lacks a formally specified ontology. While the data does rely on existing and custom ontologies, no comprehensive ontology is published to characterize the core domain concepts and their relations and formal

[19]It was probably the famous *Ave Maria ...virgo serena* but it might also have been *Ave Maria ...benedicta tu.*

axiomatization. As a result, domain assumptions – such as that performers' roles must be filled by human agents – are not formally encoded. This absence of a logical theory behind the knowledge-base limits support for automated reasoning such as consistency checking or inferring implicit facts. For example, inferences that make information relative to a whole event propagating to its sub-events – e.g., if the whole concert takes place in a location at a certain time, all the performances within the concert must have the same location and must occur within the time-frame of the concert – cannot be automatized.

In the Early Music Concerts Database the granularity of information differs with respect to the Carnegie Hall knowledge-base. Performances are modeled as "atomic" events – each representing a single concert, with associated data and a list of performed pieces. Also, it emphasizes scholarly details such as the modern edition or source of the performed pieces with less focus on performer-level granularity.

An ontology that can account for musical events along with information relative to the performed music pieces, performers, venues, source editions, etc. can serve as a common layer enabling federated querying or even the integration of the datasets. Also, for musicological research, accessing these datasets in a uniform way can open new possibilities for comparative analyses. Scholars could explore, for example, the evolving performance history of specific pieces across institutions and decades; trace the careers of performers or ensembles through different archives; examine the re-emergence of Early Music through the analysis of performances programming; or analyze the diffusion of editorial traditions for Renaissance and Baroque works. In a more general perspective, the ability to query multiple performance datasets uniformly can support data-driven investigations into canon formation, stylistic evolution, and historiographical trends in music performance, just to mention a few cases.

5. Conclusions: Open Challenges

We have presented through the paper some preliminary steps towards the development of an ontology of music events focusing on the case of performances and their critical reception. The motivations for this study are related to music criticism: if data about music and reception is formally represented, the data can be made computationally processable to support both qualitative and quantitative musicological research.

As seen in the previous sections, a number of ontologies for music exist. However, these exhibit limitations in terms of either their formal representation or their conceptual expressivity. In particular, they lack the mechanisms needed to relate musical works and performances to their reception, such as critical discourse, reviews, or even audience response (as in the infamous case of the near riot that erupted during the 1913 premiere of Stravinsky's *Rite of Spring*) that may influence the way we think about particular pieces. In our view, this gap underscores the need for further research into ontological frameworks capable of connecting music and reception. The modeling of reception is particularly challenging, for example, because one has to be able to represent alternative and possibly contradictory information on the same entity, but also because one needs to develop shared vocabularies to represent the claims expressed in reception texts. This is complex because of the conceptual plurality and subjectivity of criticism. Future research will attempt to refine existing ontologies like OMAC [4] to make them suitable for modeling

music events while also benefiting from the literature on knowledge representation in event modeling [16]. We have also identified a few requirements that an ontology for performances and reception should satisfy. These were identified in collaboration with music experts to develop a model that meets their needs and expectations. Further interactions will lead to extending and refining the requirements.

Various challenges at the intersection between musicology and knowledge representation remain open. To mention a case, the examples discussed in the paper come from the Western Art Music tradition. Here the *work* concept is key, especially to the "core" concert repertory (say, from Bach to Brahms). These kinds of concerts are events involving the interpretation of some abstract thing we call in fact a *work*, which in turn is preserved as a kind of *text* (score). Of course it is more complex than this, since scores (and therefore the *works* they preserve) are surprisingly unstable. Composers are not always aware of everything that a performer needs to do; editors adapt and interpret existing scores for new readers.

Once we venture beyond the core repertory, the notion of *work*, and thus what we mean by performance, becomes cloudy. To mention just some examples, some *avant garde* and experimental pieces do not have fixed scores (and so performers are sometimes composers). Others do not have a text other than the sound recording or digital file that preserves them (and so an audition of these does not involve a "performer" in the conventional sense at all). For Early Music things are similarly hard: since written sources often left a lot of things up to performers; sometimes we cannot tell what is an original piece and what is its derivative. In addition, one needs to be ready to deal with the many oral traditions that do not have any sense of a written work at all, from ragas to blues songs.

Existing ontologies often treat concepts such as *work* and *performance* as self-evident, relying on implicit understandings within particular user communities or the functional needs of specific applications. From a scholarly standpoint, however, this is insufficient. Hence, an ontology that aims to serve the needs of musicological inquiry must engage seriously with the conceptual and historical intricacies of music and performing arts in a more general sense. Developing such an ontology requires not only formal precision but also close collaboration with music scholars since only through such interdisciplinary engagement we can produce models that are both computationally viable and epistemologically sound.

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Declaration on Generative AI

During the preparation of this work, the authors partially used DeepL Write in order to: Grammar and spelling check. After using this service, the authors reviewed and edited the content as needed and take full responsibility for the publication's content.

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