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Classifying Music within the Basic Concepts Classification

Abstract:

This paper explores how we can better classify music – documents about music, as well as musical scores and recordings – within the Basic Concepts Classification (BCC). We hope first to take advantage of the synthetic nature of the BCC to capture dimensions that are usually ignored in music classification, and to be (more) exhaustive in our treatment of options along all dimensions. Yet we also intend to flesh out the schedules for genre and medium in order to achieve broad coverage. We thus hope to better classify music than is possible within any existing classification.

1. Introduction

Information is the process of becoming informed (Smiraglia 2014a, the cfp for this conference). Classifications guide the process of information. Classifications do not just provide order but facilitate cultural dissemination as a form of information gatekeeping, and assist information institutions in serving as collective cultural memory by guiding the process by which it is decided what knowledge is to be made available for the process of becoming informed (Smiraglia 2014a, 2014b).

Therefore, we propose to examine the process by which phenomena related to “music” are being ordered in the evolution of a new, phenomenon-based classification, The Basic Concepts Classification (BCC). The Basic Concepts Classification (BCC) was created with the explicit goal of providing a means to classify documents (and objects and ideas) with respect to the phenomena they study. This paper provides an example of the growth of a culturally synergistic information system.

BCC is being revised specifically to facilitate a project to classify concepts in the LOD Cloud (Szostak et al. 2018). In this process we hope to use the most exhaustive set of phenomena describing music in all instantiations (audio, printed, etc.) so as to point to specific musical concepts—rather than documents. Research by Smiraglia and Szostak (2018) has demonstrated that the phenomenon-based BCC is more efficacious for directly pointing to concepts.

The BCC takes a synthetic approach to classification. Individual documents or concepts would receive subject headings that combine multiple terms from separate schedules of phenomena, relators, and properties (adjectives/adverbs). These subject strings generally take the form of sentence fragments following typical grammatical order. Standard practice in applying BCC would be to employ one subject string capturing multiple dimensions: (symphony)(for)(orchestra)(representing)(flight)(of)(Valkyries).¹

By synthesizing across the schedules of the BCC we can potentially capture many important dimensions of works of music which are ignored in existing approaches to music classification. However, a subject string embracing all dimensions would be very long.² Classifiers might then wish to emphasize only some dimensions for particular works. Typical BCC practice is to be guided by descriptions of works in choosing which dimensions to stress.³

The synthetic nature of BCC means that many dimensions of music can be captured by synthesizing across diverse schedules of BCC. The next section reviews those dimensions for which this is surely the case, and the succeeding section reviews those dimensions for which this is likely the case.

There are, though, dimensions internal to music itself that need to be fleshed out. Notably, these dimensions have not been treated particularly well within most systems of library classification. Yet there are in each case terminologies that can be imported into BCC. We address these dimensions in the fourth section below.

The immediate goal of this research is to classify a set of sacred music scores from previous centuries. Yet we hope to develop a classification that is suitable to all genres and formats of music. This is possible because the BCC works by synthesizing musical phenomena, rather than forcing a choice among hierarchically arranged musical forms. This fits with the broader goal of the BCC to serve as a general classification of all types of ideas, documents, and objects.

2. Dimensions that can Surely be Addressed by Synthesis

Existing schedules within BCC allow us to address synthetically several dimensions that might be important in classifying particular works. In all cases, a synthetic approach allows us to be (more) exhaustive in our treatment whereas existing enumerated schemes inevitably provide limited options which tend to be biased toward particular musical genres:

- *Intention of Composer.* If desired and known, a classifier might add a motive: (to)(encourage)(nationalism)
- *Presentation format* (score, recording, periodical etc.) These should be captured in schedule T of the BCC.
- *Types of analysis.* In general, works about music can be treated just as works about any subject – except when they analyze dimensions of music that need to be fleshed out below. Music theories can be classified like any theories in schedule TT. (Music)(appreciation) is captured synthetically as is (psychology)(of)(music). So also are works about the construction of instruments.
- *Time period.* Classificationists have moved away over time from using terms such as “rococo” toward more objective time periods. The BCC allows time periods of any sort to be designated (schedule N2). [We could potentially have an Index which advised users what time period they might search for “rococo” etc.]
- *Geography.* Likewise, the schedule N allows detailed indication of geographical areas.
- *Creators.* Composers and conductors and singers can be captured as AA [Artist] using Cutter numbers: (Composer X)(creates)(symphony)... (Composer Y)(adapts)(symphony)... (Conductor X)(directs)(symphony)... (Singer X)(sings)... (Guitarist X)(plays)... Note that by using (and) we could indicate multiple singers or players or combinations of composer, conductor etc. For choruses (etc.) it is also possible to indicate gender, age, etc. by synthesis.

- “*Kinds*” of music. (for)(wedding) (for)(ballet) The LCC allows for music for children, dance music, chance music, electronic; national music, special character. The BCC allows any potential type to be indicated.
- *Subject*. Not all works of music have a subject. But for those which do this can be an important component of a subject heading. As with any other work classified in BCC, the subject of a piece of music can be captured by synthesizing across the schedules of BCC. We should likely agree on a standard word such as “representing” which would introduce the subject within a subject string.

We should stress that we hope to capture two important dimensions that are ignored at present in music classification: intention and subject. These are not useful for all pieces of music, but are potentially very important for others. We can well imagine users wanting to search for music intended for a certain purpose or addressing a particular subject. At present, this is effectively impossible. Our classification will also allow for any “kind” of music to be recognized, rather than just the small set of kinds appreciated by LCC: This also would facilitate searches that are at present impossible.

3. Dimensions that can Likely be Addressed by Synthesis

With some small adjustments to existing BCC schedules we can likely capture several additional dimensions:

- *Traditions*. Popular, folk, classical are all descriptors that should exist within schedule Q. We could make sure that all “traditions” are captured somewhere.
- *Sacred music*. Existing schemes do a limited job of indicating which parts or types of religious service a particular piece of music is intended for. We need to flesh out schedule CR on religion so that we can then link (for)(baptism) (for)(Christmas)(service). One question is to what degree we can identify common types of ceremony across religions.
- *Techniques*. Individual techniques like “breathing” can be captured synthetically. TM codes for methods in general.
- *Intended audience*. The BCC has many descriptors of types of people and groups. We need to identify any audience types peculiar to music.
- *Culture*. This in practice seems to mean country, ethnicity, language, and/or time period, all captured in detail in BCC. The BCC also provides a lengthy schedule CV of cultural values.

Here again, we are aspiring to an exhaustive treatment, whereas existing systems classify only some traditions, types of religious ceremony, techniques, and audience. The option to associate pieces of music with cultural values is novel.

4. Music-Specific Schedules

Music classification schemes have tended to focus on medium and genre. With respect to medium, the BCC already includes a rather detailed list of instruments used globally. Combinations of instruments can be indicated using numbers and (and). Common combinations such as “orchestra” deserve special treatment. We will strive to include common combinations outside of western musical traditions. The schedule for voices needs to be fleshed out. Common

practice seems to distinguish individual voice, individual voices in combination, and multiple voices in combination, with special treatment of a few terms such as “chorus.”; High, low, and medium voices are also distinguished. Male, female, and children can be indicated synthetically.

General practice is to just capture the medium of the adaptation of a work being classified, but a classifier could potentially also capture synthetically the medium of the original if desired. The Dickinson classification allowed for such a distinction, but other classifications do not.

With respect to genre, The Library of Congress and Music Library Association have developed a lengthy list of genre/form at <https://www.loc.gov/catdir/cpsolcmlalist.pdf> which could be imported into BCC. The tentative guidelines for this list (Music Library Association 2018) includes a hierarchical structure but only a minority of terms are placed within the hierarchy. When the list likely becomes official In February of 2019 it should be coded as LOD. The notation for each genre just reflects the order in which terms were created; we may wish to develop a notation for the BCC that reflects hierarchy. The LCC list has a western bias but clearly makes some attempt at global coverage. If the LCC does not produce a hierarchy in February we may need to gather experts to develop one.⁴

We might also develop a schedule of musical “elements” such as time, pitch, and microtonality. We could, for example, easily provide a list of keys such as B Minor. We will investigate whether classifiers might utilize such a schedule. This approach is potentially very powerful for the classification of musical concepts (as we are attempting to do in the LOD cloud); all existing music library classifications are designed for the clustering of exemplars of musical works, often in compilations (e.g., traditional “monuments” of music) whereas in the LOD cloud we often must classify a segment of a work (e.g., a Sanctus, from a specific mass, rather than a printed volume of that composer’s edited masses).

Though we cannot rely on synthesis in our treatment of instrument, voice, genre, and elements, we can nevertheless draw upon recent research in musicology to provide schedules that provide a very broad coverage of each of these dimensions. We can thus adhere to our goal of a classification that address all important dimensions of all types of music.

5. Concluding Remarks

This paper will inform a research project that will classify sacred music scores from previous centuries. That project in turn is part of a large research project intended to investigate existing and potential connections between classification systems (specifically the UDC and BCC) and the Linked Open Data cloud. One purpose of that research is to enhance classification (the other is to enhance interoperability among Linked Open Data terminology; Szostak et al. 2018). We hope with this work to improve the classification of music. We have identified three broad kinds of improvement, each facilitated by a synthetic approach: treating dimensions of music (such as subject) that are effectively ignored in existing classifications, providing an exhaustive treatment of possibilities along each dimension, and encompassing all types of music.

Reference List:

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¹ It is expected that the BCC will be employed in concert with search algorithms that privilege the order of search terms: Searches for (philosophy)(of)(history) will thus not yield lots of hits of (history)(of)(philosophy).

² Note that classifiers at present tend to capture three facets at most.

³ A library that used subject strings for shelving purposes could choose which element of the subject string to prioritize (and then BOLD this in the subject string).

⁴ Note that form often but not always implies a particular medium. The LC already provides LOD for a much smaller set of forms such as concertos. Dickinson's Class S (Species) has some forms/genres organized hierarchically.