Classifying Musical Genres.
Building Musical Form and Genre into BCC:
Repurposing LCGFT Terms for Music into
the Basic Concepts Classification

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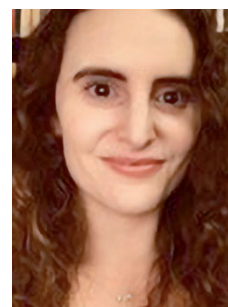
Abstract: We investigate how the Basic Concepts Classification (BCC) can best incorporate schedules addressing musical form, genre, and type. We show that the synthetic possibilities within the BCC facilitate the classification of form/genre/type. In particular, many challenges identified in the literature on musical classification are addressed. The BCC also serves to make evident various connections between music and other schedules in BCC.

1.0 Introduction

Music is a complex subject to classify. The areas commonly referred to as forms, genres or types of music, are especially problematic and have received little detailed attention in the knowledge organization (KO) literature, especially outside of the area of music information retrieval. The Basic Concepts Classification (BCC) is a phenomenon-based classification scheme. It uses synthesis to build subject strings, and this in turn draws out relationships between disciplines.

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However, in its current version, BCC cannot accommodate specific concepts in music related to forms, genres and types, and this article is focused on how BCC can be extended for this complex area of music. The purpose of this research is four-fold. First, the ultimate goal is to have a usable set of instructions and schedules in BCC that can accommodate works of music and works about music. Second, this endeavor will also analyze how BCC's focus on synthesis can be used to simplify and enable the classification of this complex area of music. Third, this exploration will additionally unpick the interdisciplinary aspects of music, potentially illuminating connections between disciplines in the process. Fourth, and perhaps most importantly, this article will add to our general understanding of classifying music, looking beyond BCC.

There is no need to approach this task by contemplating terms from scratch: instead, an extensive vocabulary of musical forms, genres and types can be utilized. The Library of Congress Genre/Forms Terms (LCGFT) list is the most exhaustive list of such terms available. It thus provides a good starting point for classifying musical genres or types. However, it is not feasible to simply import the entire LCGFT hierarchy into the BCC. The BCC strives to have a unique place for each term, but the LCGFT has many overlaps where the same subclass appears in multiple places. The issue of polyhierarchy is discussed in more detail later in this article. Moreover, the BCC pursues a logical approach to classification, and many LCGFT terms defy any reasonable definition of musical genres or types. While the structure of LCGFT might be appropriate for its designed purpose (namely, for being a source of "it-ness" terms for music with the primary usage being bibliographic catalogs) it is not necessarily as useful for a formal classification scheme using some degree of hierarchical structure. Last but not least, the BCC pursues a synthetic approach to classification, and many elements of the LCGFT are better treated synthetically with links to non-musical BCC schedules than by creating unnecessary terminology within the music schedules.

In this article, the subject of music will be taken to mean both works of music (works which *are* music) and works about music. Additionally, music will be taken in all its formats; so, notated music will be considered as well as sound recordings. There are many different styles and traditions of music, and different types of literature about music classification tend to focus on one type, such as music librarianship literature focusing on the styles of music traditionally found in libraries. The extension of the music schedules of BCC aims to be as universal as possible; however, this is to some extent bounded by the tool that is used to build the schedules, namely the music coverage of LCGFT.

We first give a brief outline of the tools being discussed, the LCGFT schedules for music and the BCC's current treatment of artistic works, as well as an overview of existing research about classifying forms, genres and types of music. Then the LCGFT top categories are introduced. This is followed by an analysis of each of these categories, and how they can be metamorphosed into an interdisciplinary and phenomenon-based classification scheme. We will first address those classes in LCGFT that are best dealt with synthetically in BCC, and then we can then consider the classes that generally cannot be dealt with by synthesis. This is followed by a consideration of classes in LCGFT which are not forms, genres nor types of music. We will note many of the classes in LCGFT actually contain some sub-classes that can be treated by different types of synthesis, while other sub-classes cannot be treated by synthesis at all. It is helpful, though, to begin by first developing working definitions of forms, genres and types, and distinguishing these from other aspects of music such as medium, technique, and purpose.

2.0 Introducing form, genre and type

The first task is to contemplate some working definitions of musical form, genre and type. Grove Music Online starts its definition of genre (Samson 2001) with the words "A class, type or category, sanctioned by convention". (It is worth noting that the quotation from Samson (2001) is also given as the LCGFT's definition of genre for music (Iseminger 2012)). Furthermore, this idea of genre as category, kind or sort is confirmed by other writers (for example, Campana 2012, Griffiths 2006; Holt 2007). However, this in itself does not tell us what the types and categories represent. Samson (2001) states that musical genre is based on the idea of repetition, and that defining a genre will be based on context, its relationship to a community, and its function, as opposed to its formal model and technical aspects. This offers an important distinction from form. Holt (2007), writing from the perspective of popular music, also suggests that genres are about the relationship with social functions, and the general importance of external factors to genres. Therefore, a working definition of genre would be a category of music, defined in part by its context and relationship with its social function.

We need to explore how musical genre relates to other ways of categorizing music, and will start by exploring musical form. Musical form is defined in Grove (Whittall 2020) as the element of music associated with organization and construction. Furthermore, the concept of "structure" is used in definitions of form in a number of sources (Cole 1969; "Form" 2020; Whittall 2020), and this is shared by non-music-specific definitions of form ("Form, *n*." 2020). Furthermore, Samson (2001), in his definition of genre, suggests that a formal model cannot be used to distinguish one genre from another. The symphony can be used to illustrate this point: the symphony would be a genre rather

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than a form, as its structural qualities and internal organization cannot be used alone to distinguish it from other types of music which might share that broad structure, such as the sonata or the concerto. So, at first glance, form and genre have distinct meanings and we just need to specify whether this article is concerned with the classification of forms, genres or both.

However, in classificatory practice, the situation is not this simple. For example, Lee (2017) analyzes the terminology used in 17 different bibliographic classification schemes, and also in three sets of "super-facets". In the classification schemes, the term "genre" is not used for this facet of music; instead, either "form" or "forms" is used in some version, or there is a reluctance to name it at all (Lee 2017). (Note, however, that for some of the earlier classification in Lee's (2017) study, the lack of use of genre could be potentially explained by genre not yet being used in writings about music.) The study of super-facets also reveals ambiguity about terminology: for instance, the IAML set of super-facets uses the term "Gattung" (Dorfmüller 1975) which is loosely translated as genus or type, and the term "Gattung" is generally associated with ideas about genre (Samson 2001); Redfern (1978) divides between major forms and minor forms, so the symphony would be considered a major form; and, Elliker (1994) decides that this dilemma is best resolved by using the combined term of form/genre. Crucially, the vocabulary which will be utilized in this article (Library of Congress Genre/Form Terms) treats forms and genres collectively, and this can even be seen in the title of the vocabulary. Therefore, in classificatory tools, there is a mixture of using form, genre and form/ genre.

There is another aspect to this discussion too, as the ambiguity about terminology is also dependent on the broad area of music. For instance, in popular music, genre is a widely-used term, and most of the classification schemes used in Lee (2017) were designed primarily for Western art music. This neatly leads on to the third term under consideration: types. There is a question about what sort of thing is "Western art music", which is often also called classical music, and this question is entwined with the issue of terminology. By Samson's (2001) definition of genres as "A class, type or category", classical music, folk music, and popular music could definitely be defined as genres, and they are also genres using the working definition above that genres are a category of music, defined in part by its context and relationship to its social function. This is an issue if a symphony and classical music could both be called genres. One potential way of considering the distinction between types and forms/genres, is that a form or genre will describe a group of musical compositions, whereas a type of music is more likely to describe the characteristics which might be shared by those compositions. In other words, the unit of currency is different: types usually contain the word "music". To compound the issue, whether music is described in terms of its compositions or its characteristics, seems to itself depend on whether it is classical music, popular music, folk music and so on. It also depends on the context. So, we live in a world which might describe classical music or rock music as a type in one context, and as a genre in another. The complications at the type/genre boundary cause reverberations to the smaller units such as symphony, hymn, punk rock music, Aleke, and so on. Ultimately, there is a broader question about the classificatory terminology of forms, genres, and types, but this rich research question is not the focus of this article.

Therefore, the following radical decision is taken. This article will discuss forms, genres and types collectively, without seeking to distinguish between them. This has a number of advantages. First, form and genre are already treated collectively in some KOSs and some music classification discourse, so there is precedent. Second, this circumnavigates the inconsistency between different resources calling say a symphony a form and genre, sometimes in the same source. Third, by treating genres and types collectively, we also circumnavigate the issues about describing similar phenomena differently depending on the context of the music, especially apt in an article which aims to highlight bringing phenomena together. Ultimately, by taking the approach of treating forms, genres and types together, we are ignoring the potential categorization between these three concepts to focus more intently on the classification issues at hand.

3.0 The context of LCGFT, BCC and music classification research about forms/genres

3.1 An overview of KO research about the classification of forms, genres and types

The subject of classifying musical forms, genres and types has not received much attention in LIS literature, which could be attributed to the general lack of deeper analysis of specific areas in music classification (Lee 2017). There are of course exceptions, especially for specific areas of music: for example, De Santis and Souza's (2014) work about classifying popular songs provides a deep analysis of the issues, including how the instability of popular music genre can impact upon their classification. Within Western art music, Lee, Robinson and Bawden (2020) analyze the concept of genre and subgenre in the classification of opera, finding that the delineation between one subgenre and another is often based on various different types of information and that there is no consistent agreement about what constitutes a subgenre.

Musical forms and genres are included as facets in some traditional library classification schemes, although this does

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not necessarily lead to analysis of this area of music classification. Musical genres can also be found in more contemporary music KOSs. For example, Madalli, Balaji, and Sarangi's (2015) work about a faceted ontology for music includes a table comparing the music genres found in YouTube and in AllMusic. Interestingly, some of the discourse about musical genre stems from the practical experiences of fitting non-Western art music genres into traditional classifications, such as Nero's (2006) work discussing the issues with classifying the popular music of Trinidad and Tobago.

Genre is an important part of research in music information retrieval (MIR); for example, automatic music genre classification (AUGC) is a significant area of MIR research (Rosner and Kostek 2017). However, it is interesting to note that neither form, genre nor type appear as one of the seven facets of music in Downie's (2003) seminal chapter defining and analyzing music information.

Therefore, we can see that KO research into musical form, genre and type, in particular research which looks at the whole gamut of music rather than a specific form, genre or type, would be a useful addition to the literature.

3.2 An overview of LCGFT

The Library of Congress Genre/Form Terms (LCGFT) is a vocabulary for genre and form, covering a wide range of subjects. The vocabulary was started as a project by the Library of Congress in 2007 (Library of Congress 2020) and is designed to state what resources are, rather than what they are about (Library of Congress 2020), and was at least initially designed for a library metadata environment. Different disciplines have been considered in different tranches. Music was the sixth area to be added, and work started in 2009 with a substantial set of music terms added to the vocabulary in 2015 (Library of Congress 2020). The work was led by a taskforce from the Music Library Association (MLA), and a full account of how the vocabulary was developed can be found in Iseminger (2012), with a few key points from Iseminger's (2012) description now given. The MLA committee took as one of its key tasks to work on medium of performance terms alongside forms and genres, and also to add any form/genre terms that were either missing from the Library of Congress' initial analysis of LCSH or from LCSH entirely (Iseminger 2012). The goal was to be as exhaustive as possible. They thus employed very broad definitions: Genre is "a class, type, or category, sanctioned by convention," including terms for styles of music. Form is "the constructive or organizing element in music" (Iseminger 2012, 66). The committee appreciated that placing the terms in the list within some sort of hierarchical format was an important task for future work. . The initial list of terms was drawn from existing terms for musical forms and genres

in the Library of Congress Subject Headings (LCSH), supplemented by analysis of other sources from the music and music librarianship literature (Iseminger 2012; Iseminger et al. 2017). The uptake of the LCGFT music terms has been reasonably substantial: in a survey of general LCGFT usage, Bitter and Tosaka (2020) found that 54% of responding libraries would add music LCGFT for their collections when copy cataloging. (This is assuming the library held music collections at all. Note that this figure is reached by adding the value for libraries which always added LCGFT to the value for the libraries which added LCGFT for some materials where those materials include music.)

There are various ways of accessing the LCGFT terms specifically for music. The current version of LCGFT for music is a subset of terms in the LCGFT vocabulary, and the whole LCGFT vocabulary can be found either as an alphabetical vocabulary in PDF form (https://www.loc.gov/aba/publica tions/FreeLCGFT/GENRE.pdf) or through the searchable controlled vocabulary sites hosted by the Library of Congress (such as https://id.loc.gov/). In addition, an MLA resource (Music Library Association 2019) provides an overview of the structure and top terms of the LCGFT music terms, though the list of top terms has now been superseded and the document is intended as a set of guidelines rather than a complete vocabulary. Henry (2019) produced a document in December 2019 as part of research by the Institute of Knowledge Organization and Structure, which extracted a complete list of all the LCGFT terms for music. This was later published on the institute's website in 2020. This document lists the top terms under the category of music in alphabetical order, with sub-terms listed alphabetically under their respective parents, and with sub-sub-terms and so on. So, for this article, Henry's (2019) version of the vocabulary will be used. However, there was one change to the top terms between Henry (2019) and the list of terms under "music" in the current vocabulary as found in the Library of Congress database (https://id.loc. gov/). So, the top terms are taken directly from the Library of Congress source. More details about the structure of LCGFT can be found in section 4.0, "Transforming LCGFT".

3.3 An overview of current BCC treatment of artworks

Music is AR4 in the BCC, where A stands for "art" and AR for "reproducible art." Other types of reproducible art are theatre, film, photography, and dance. AA is for artists of any type. AM captures methods employed in producing art, and AT captures artistic styles. The BCC strives to be as general as possible and thus we aspire whenever possible to identify methods and styles that apply to multiple artforms, but appreciate that some styles and methods may be specific to particular artforms such as music. A couple of dozen types of dance have been identified in AR5, but this list

needs to be expanded. Dance music, as we shall see, can then be classified synthetically as music associated with particular types of dance. Likewise, we anticipate fleshing out AR1 for theatre so that musical works such as operas can be associated with particular types of theatre.

AR4 has four subclasses at present. BCC has adapted in AR4i the Hornbostel-Sachs Classification of Musical Instruments, which is reasonably universal in its coverage of musical instruments from a variety of different cultures. It is thus possible to indicate the (combination of) instruments that any work of music is arranged for. It is also possible to indicate different types of vocal performances (AR4v is vocal music). The present paper hopes to inform the development of AR4g, musical genres. There is also AR4a, musical scores, but this needs to be expanded into a list of "musical formats" that would include scores, recordings, and more.

We will often find it useful to refer to these various schedules (and many from beyond art) in what follows.

4.0 Transforming LCGFT

The current version of LCGFT (as of May 6, 2020) has 25 narrower terms under the top term of music (https://id .loc.gov/). Terms with asterisks indicate those terms which have no "children":[1]

1. Accompaniments (Music)
2. Arrangements (Music)
3. Art music
4. Chants
5. Dramatic music
6. Filk music*
7. Folk music
8. Functional music
9. Glitch music*
10. Humorous music
11. Hymn tunes*
12. Improvisations (Music)*
13. Instrumental settings*
14. Medleys (Music)*
15. Muğams*
16. Musical settings*
17. Noise music*
18. Notated music
19. Popular music
20. Sacred music
21. Sampler albums (Sound recordings)*
22. Songs
23. Sound art
24. Teaching pieces (Music)
25. Unfinished music*

In themselves, these are useful as a crude set of terms relating to form, genre and type. These 25 terms also give rise to over 1000 sub-terms and further levels of hierarchy below this, and the desired treatment of the sub-terms within BCC may not always match other sub-terms in that class or their parent class. So, it is important that we also consider the sub-terms in each class. However, there are too many sub-terms to consider each one individually for this article. Instead, examples will be selected which are illustrative of the points being made, say, as examples of typical behavior, as signals of interesting possibilities, or perhaps as exceptions. It is interesting to note that 11 of the terms have no hierarchy below them, and these are listed with an asterisk in the above list. Theoretically, there are (at least) two possible explanations for the lack of hierarchy in these classes: it is a facet of music which has no need for further subdivision; or, this is an individual form, genre or type of music, but the authors of LCGFT did not consider it to have an appropriate parental form, genre or type, so its parent is the very top term of music. In the latter case, we will see that these "orphan" terms will be folded into alternative top categories or be created by synthesis alongside others of their ilk.

Each of the 25 categories will now be dealt with in turn. The first set of terms considered are those (and their children) that can be represented by synthesis. This is usually synthesis between an idea within music and a term from non-music areas of BCC. The second set of terms considers the LCGFT terms and their children which would be placed in the form, genre and type category. Where these terms are a form, genre or type and they have no children (Filk music, Glitch music, Hymn tunes, Muğams, and Noise music) this is relatively straightforward, as these are simply foci in a facet. However, in other cases, different subclasses from LCGFT might need to be treated differently. For example, some subclasses in a LCGFT class can be dealt with using synthesis, yet other subclasses within the same LCGFT class might need either a different sort of synthesis or else may be basic concepts within the newly-formed forms, genre or types categories in BCC. The third set of terms considers those which are not actually forms, genres or types. These include classes related to other music facets, such as musical medium or format.

Note that LCGFT makes generous use of polyhierarchy for its subclasses, so that many subgenres appear in multiple classes. For example, Choral Preludes appear under both Art songs and under Sacred music. As this article is only extracting example subclasses rather than discussing every subclass individually, this is rarely an issue; when any subclass is considered which has multiple parents, it is most likely to be discussed in conjunction with its most obvious parental class, noting the subjectivity of these decisions. Ultimately, the frequent use of polyhierarchy and the corresponding implication of non-mutually exclusive main divi-

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sions, are other reasons why the structure of LCGFT is not appropriate to be adopted into BCC.

5.0 Synthesized forms, genres and types

5.1 Dramatic music

Dramatic music is best treated as (work)(for)(particular kind of drama). We will need to flesh out our list of types of dramatic performance (AR1 in the BCC) to include at least opera and ballet. We will likely want a more detailed list that could include entries like "tonadilla", a form of short musical comedy popular in 18th century Spain and later in former Spanish colonies, though this could potentially be addressed synthetically as (Spanish)(musical)(comedy)(time period)(place).

The subclasses under opera are instructive. A couple of these deal with broadcast medium: radio opera and television opera. These can easily be addressed synthetically: (work)(for)(opera)(for)(television) or AR4a\A41y\EO9831118 [The last term imports numbers from the United Nations Services and Products Code]. Note that in doing so we not only make the work available for users searching for precisely that, but also to users with more general interest in music for opera and music for television.

We will want to distinguish works produced specifically for television from works produced for stage but then recorded for television. The latter would be (work)(for)(opera)(copied for)(television) or AR4a\A41y→ri EO983 1118.

Another subclass is "chamber," for operas designed for a chamber orchestra rather than a full symphony orchestra. Note that symphony opera is thus privileged as the "normal" type of opera, while chamber opera is considered unusual. The BCC generally tries to avoid privileging any option, but in this case it likely makes sense to do so. Chamber opera is thus (work)(for)(opera)(associated with)(chamber orchestra) while symphony opera is simply (work)(for)(opera). Note, though, that we are then guilty of cheating a bit for (works)(for)(opera) is not actually a broader set but rather something distinct from (works)(for)(opera)(associated with)(chamber orchestra), and we have no way of indicating the combined set of both types of operas. The point to stress here is that "chamber orchestra" is a medium, to be captured in schedules of medium, rather than a subgenre.

There is also a subclass of "one-act". The easiest way to deal with this is (works)(for)(opera(short)). "Short" can be captured by combining "less" (QC6) with "time period" (T2).

There is also a subclass of "adaptations." As we will discuss below, adaptations are not a genre, but are a rearrangement of a work for a new purpose. As we shall see, this is best dealt with synthetically, to indicate both the source and the rearrangement. Note that we can then easily address works designed for the stage but then adapted for radio or television.

We might note that there is considerable overlap between types of dramatic music and types of dance music. There is also some overlap with types of folk music.

There may, of course, be certain stylistic elements that are common to particular types of dramatic music. The fact remains that it is not these stylistic elements that identify types of dramatic music but rather the purpose for which the work was created or rearranged. It is thus best to treat dramatic music synthetically rather than as a musical genre. It is generally straightforward to do so.

5.2 Folk music

Folk music is trickier than dramatic music. Most of the subclasses of folk music refer to particular ethnic groups and thus we can treat these synthetically simply as (works)(associated with)(particular ethnicity). The BCC imports from ISO 3166 codes for all countries and major regions within countries in N1c and N1d. Most ethnic groups would be identified in terms of their home region: SE(N1cy). SE also codes for some dispersed ethnic groups.

Some other subclasses such as cumulative songs and enumerative songs seem to describe particular techniques or subject matter rather than style. They do not, then, seem to be exclusive to "folk music". Cumulative and enumerative songs are structured so that verses repeat but with some additions or substitutions. This can potentially be dealt with synthetically, perhaps by linking increase (↑) with cycles (↕) . Alternatively, these could be recognized as musical techniques.

Though most subclasses of folk music can be addressed synthetically without reference to a genre of "folk music", we may all think that we have an idea of a musical style called "folk music" and so we may need a term in our list of genres for "folk music". We should be very careful, though, in attributing subgenres to this. For example, folk song dances are not a subclass but rather folk music for dancing.

In addition, some of the terms under LCGFT's folk music refer to specific genres, rather than to a style of music associated with a particular ethnic group. For example, Aleke is listed as a term under folk music in LCGFT. This is a specific genre of music associated with the Maroon people, a people of specific locations in South America (Bilby 2001). Therefore, while an overall type of music associated with the Maroon people could be synthesized, this specific genre cannot. There are a few possibilities for dealing with this and similar occurrences: Aleke could be listed as a basic concept within the musical form, genre and type facet; or, the specific genre of Aleke could be ignored and specific musical documents in this genre or works about this genre could

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instead be classified at a more general level as music associated with the Maroon people. (There are multiple issues with the latter potential solution, including how it provides less detail for the music of certain peoples and so effectively reinforces Western music dominance, and it also would be problematic from a classification standpoint if another group of people adopted the Aleke genre.)

5.3 Functional music

The title indicates that these are pieces of music designed for particular purposes. Naturally, music designed for different purposes may have little similarity beyond the fact of having a singular purpose in mind. The best treatment here is (work)(for)(particular purpose). A national anthem will be (work)(associated with)(particular state). Anthems are easily distinguished from other songs that might be associated with a particular country (works)(from)(particular country) or (works)(about)(particular country). Note that the anthem is associated with the state (PI1^NIcy) rather than the country (Nicy).

The other subclasses of functional music are all easily dealt with synthetically: (works)(for)(circus) or (works)(for)(political campaign). There is a long list of music for different types of dance, which will be best addressed by fleshing out the schedule of dances in AR5. There are also many references to works with particular religious purposes, such as Easter music, or music for masses. We will discuss below how we might flesh out a classification of religious services.

Note that there is again an overlap: this time between functional music and sacred music. Users should not have to guess in which category a classifier might have placed the works they seek.

5.4 Humorous music

Like other terms, humor is treated in one place in the BCC schedules, in this case as an aspect of human personality, ID5. It is useful for users to be able to search broadly for humorous works. Humorous music should be found by a user seeking humor related to a particular topic or purpose. Humorous music should not be treated as a separate class of music but rather the notation ID5 should be added to the notation for any work of music that is humorous. Humorous music may exist within many of the genres treated elsewhere in this paper.

We might wish to designate certain types of humor in order to capture "subgenres" such as "nonsense songs".

"Musical parodies" is listed as a subgenre. It is not clear that a parody need be funny (though dictionary definitions generally say yes): some parodies have a very serious purpose. We want to capture here the relationship between works. BCC has a causal relator for "imitates" (→ri), that

could be employed here along with the notation for humor in (work)(imitates humorously)(other work). Note that users can then search for parodies in general or parodies of particular works. A search for parodies of national anthems should turn up parodies of any particular national anthem.

5.5 Hymn tunes

Hymn tunes are the instrumental music for the form/genre known as hymns. They could be represented by the string (Hymns)(without)(voices), using the non-causal relator of "Not, Opposite" (_). Note that although they involve the facet of medium, they are dealt with in this section as their representation involves a specific form, genre or type as well. Another way of considering Hymn Tunes is that they are simply hymns, arranged for a different (voice-less) medium. However, as hymn tunes can have a musical life of their own rather than necessarily being considered arrangements of one coupling of text and music, hymns without voices may be a better formation.

To synthesize a term for Hymn tunes also requires a brief consideration of how to deal with Hymns. The simplest solution is to just add Hymns to the forms, genres and types facet. However, there is also an argument that Hymns could be built from basic concepts: a hymn is a communal song for worship. The last part of this can be represented by →ia/ΣI, meaning (performed)(by)(group of)(people).

5.6 Medleys (Music)

These are combinations of pieces of work.

Note that this is a type of rearrangement. We should provide some sort of link in the user interface and scope notes to rearrangement.

There are no subclasses.

Medleys are one of the trickiest entries to deal with. In some ways, they are a recognizable "genre" for a medley of musical pieces is much more than the sum of its parts. Yet there can be medleys of many different genres of music. Though rare, cross-genre medleys are certainly possible. It is tempting to just treat medleys as combinations of pieces of music, and not add an additional term to our classification. The best approach would be (work)(plus)(work)... Users could be guided that a search for medleys is a search for such combinations. Better yet, the search interface could translate a search for medleys into a search for such combinations. But it seems best to compromise, treat medleys as a genre, but recognize that this "genre" can potentially be combined with any other genre. Though medley as genre is not itself formed by synthesis we place it in this section because in practice medleys will almost always be represented synthetically in combination with one or more other genres.

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5.7 Noise music

This is a type of music where noise, as opposed to music, plays an important part in the musical composition. As noise in this instance is defined by its conceptual opposite to the concept of music, we could define noise as the sounds which are not music. This would create the following synthesized term: (music)(of type)((sounds)(of type)(not)(music)) or AR4(NA(AR4)). This demonstrates the nuance that BCC offers through its relators, and how useful this is for musical genre and types. Without the ability to delineate the exact relationships between music, sounds and noise, the concept of noise music would need yet another addition to the types/genre facet.

There are no subclasses.

5.8 Popular music (some subclasses)

This is a large and diverse class. Its defining characteristic is that the music is aimed at a broad audience. So popular music as a class is not properly a genre or type of music. There is no need to describe a particular work of music as "popular music". There may be treatises about popular music, which might be captured as (analyzing)(music(popular)). "Popular" is a subclass of Schedule Q, Properties, in the BCC, QE9. So we would have →ie AR4(QE9).

Some subclasses of popular music do deserve treatment as types or genres: rock, country, electronica. Yet many subclasses are combinations of type or genre and something else: electronica dance, or comedy rock. We would in such cases combine an indicator of type/genre with a link to dance or humor.

Karaoke is also listed as a subclass. This is not a type or genre but a way of enjoying music. We could perhaps use (singing)(combined with)(recorded music).

Rock operas are a noteworthy subclass. A synthetic approach in which the genre of rock is linked to the dramatic form of opera allows users searching for either, but especially the combination, to find such works.

5.9 Sacred music

Sacred music is defined by purpose. It is not a type or genre. Most subclasses can be dealt with by linking to religious services.

It would be useful to identify works that accompany particular religious services. Users may often wish to search for pieces of music that would suit a particular purpose. We can use the relator ^ ("associated with") but then need to expand our schedules of religious services. This needs to be done along two dimensions. The first dimension will be religion-specific, and will list the major celebrations, such as Christmas and Easter within Christianity, of each religious

tradition. There are about 25 subclasses of this type in the LCGFT list. The second dimension will look at parts of a service. There are 18 subclasses of this type in the LCGFT. There is some overlap in the two types, such as Sabbath music. One key question here is whether there are similarities across religions in how services are organized.

We will also want to indicate synthetically works of music that are associated with particular religions or the services of particular religions. Interestingly the LCGFT list has a place for synagogue music but not church music. We would want to treat all religions in a similar manner.

There are, though, some subclasses of sacred music that are musical genres. Examples include Gregorian chants and canticles. There are 27 of these. There are a few more that might be considered music types such as gospel music. Though gospel music might be most easily defined by purpose there is a recognizable style to much of it also.

There are a small number of subclasses, such as mission music, that describe the purpose rather than style of music, and are best addressed synthetically.

With respect to masses, and requiems, a subclass of these, it might be argued that there is a recognizable style as well as a recognizable role in religious service. The question then becomes one of whether it is valuable to distinguish the style from the role. Are there works for masses (the role, related to a part of the religious service) that are not stylistically masses? If there are stylistic masses that were not intended for religious service, these might be (work)(imitates)(work)(associated with)(mass).

Do we need to distinguish works like hymns that are part of a religious service from works like masses that accompany a part of a religious service? This may not be necessary since the distinction seems to depend on the particular type of religious service.

Qur'anic recitations can be treated as associated with Islamic services. The fact that the words are spoken rather than sung might be captured by the relator →rt , talking.

5.10 Songs (some subclasses)

This is a very diverse grouping, defined as vocal pieces that are fairly short in length. A cataloger can indicate synthetically that any piece of music is both vocal and short if they wish. We have discussed "short" above. Vocal works of music are AR4v. We thus do not need a special class of songs. Yet many of the subclasses do qualify as types or genres. Barbershop is an example here, though note that this term describes both a style and a medium. Carols are another, though these might be handled well as vocal works associated with Christmas (a thesaurus could guide users seeking carols toward the proper synthesis).

The argument just made regarding songs can be reprised for the subclass of part songs: These are defined as songs

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performed by a vocal ensemble with different parts for different singers. This is a definition in terms of medium and can be captured synthetically as (works)(for)(vocal ensemble). Yet many of the subclasses of part songs do capture genres or types: madrigals, motets

Many other subclasses of songs are best treated synthetically: campaign songs, cowboy songs, humorous songs.

There is a huge overlap between this class and other classes. As a result, many subclasses would be treated elsewhere. For example, folk songs can be treated as folk music (and thus klezmer music need not be treated in both places). A humorous song would be a humorous work. The cataloger might indicate "vocal" or "short" but might judge these to be unnecessary.

A narrated song should be addressed synthetically as was suggested for Qur'anic recitations above.

A contrafacta is not a type or genre but rather is something like a rearrangement, only in this case it is the words rather than the music that have been changed. We want to capture the new and old: (work)(rearrange words)(original work). We shall see below that →QR5N2w is "rearrange," and can add T7b for "words" to get →QR5N2wT7b for "rearrange words."

Vocalises are songs without words. This is Ar4v(T7b) or "vocal music of type no words". The underlining of T7b means the absence of words.

Satirical songs combine humor and criticism. Criticizing is →rtQE2, for talking unfavorably. Satire is thus Id5+ →rtQE2. We use "and" rather than "associated with" to indicate that the two are joined.

5.11 Teaching pieces (Music)

These are (work)(for)(education). This is not a genre or type but a purpose.

5.12 Unfinished music

As with humorous music, unfinished music is best handled synthetically, in this case QQ3 indicates "incomplete." Obviously, works of any type or genre might be unfinished.

6.0 Non-synthesized forms, genres and types

6.1 Art music

Art music is a term that is often defined by what it is not: it is the music which is not popular music or folk music (see for example, the definition of art music in the *Webster Merriam Dictionary* ("Art music" 2020)), and often created by a trained musician ("Art music" 2020). Its distinction from other types of music, it could be argued, is by who has created it. The term is often a synonym for classical music, es-

pecially in using the antonym of popular music (see for example, Apel 1970). Constructing a term for art music using BCC would be complex: synthesizing the term Art (A) with music (AR4) would make a nonsensical class, as music is a child of the umbrella term and main class Art. Therefore, the term "Art music" will need its own class as a type of music.

The classes within art music are varied. The majority of terms contained within Art music are forms/genres, such as Symphonies, Sonatas, and Saibara. Some of these are qualified that they are Art music; for example, Arabesques (Art music) presumably has its qualification to stipulate that it is not ballet. While some forms/genres such as Oratorios are present in Art music, it also has a parent of sacred music. As Oratorios cannot be synthesized with a specific religion event or part of the service, we would expect Oratorios and similar terms to be classes within a form/genre facet.

However, there are eleven terms within Art music which cannot be treated as members of a form/genre facet, including nine terms are in the form "XXX music", such as Aleatory music, Carnatic music, Microtonal music. In fact, many of these could be constructed by synthesis. (Note that one term, Third stream (Music), also has a BT of Jazz, which is a subset of popular music and so is covered there.) Some of these terms refer to types of music belonging to a specific geographic location. For example, Carnatic music, could be synthesized by adding music to a South Indian ethnicity in the following formula: (works)(associated with)(South Asia). This matches the discussion about Folk music, as seen above. However, in LCGFT many of these ethnically-based music types residing in Art music have sub-terms; these might need different treatment in their own right, as some of these are forms/genres and others are techniques. This illuminates how the terms in the Art music section of LCGFT need individual consideration in order to consider their place in the synthesized and facet-based structure of BCC.

Program music is another type of music within Art music, and another interesting opportunity for synthesis. The term "Program music" usually refers to instrumental music that has a narrative or theme, and in nineteenth century terms would be contrasted with the pure and abstract absolute music (see, for example, Dahlhaus 1989). So, theoretically, any specific subject of program music could be synthesized by combining the specific subject and music; for example, a musical work about the sea could be classified as (works)(about)(sea), or NT3s!AR4. This could also be combined with other musical facets such as form, genre and type; so, for instance, Vaughan William's *Sea Symphony* could be classified using (symphony)(about)(sea), notwithstanding the possible extra synthesis for adding the vocal medium aspects. It would therefore be assumed that if a subject is indicated then this musical work has specific sub-

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ject content, and if it does not, the musical work is not considered to have a program. The general idea of program music could be created in BCC by the formation (music)(about)(things), using the existing relator of about (notation: !). However, currently there is no class for "things" in BCC, so this would need to be created in order for this synthesis to work. Another complication is that there are specific forms/genres within the general area of program music which cannot be created by synthesis, such as the tone poem. These would need to be listed in the form, genre and type facet.

Another type of non-conforming form/genre concerns the terms which describe a type of music by its technique. Examples include microtonal music, minimal music, text-sound compositions, aleatory music, and stochastic music. Some of these are very specifically music techniques, such as microtonal music which is concerned with the spaces between pitches. Others are techniques or are linked to artistic movements shared across artforms, such as minimalism being both a stylistic movement in fine art and a technique of composing music. All of these movements and techniques could be created as part of artistic styles (AT), and this area of BCC would need to be expanded. As some of these classes would be applicable to lots of different artforms, this treatment could engender connections between different disciplines such as visual art and music.

The techniques themselves could be created by synthesis in some cases. For example, text-sound compositions describe a type of music where the music consists of electronically produced text. This could be represented by synthesizing a class for music which is derived from text, with that text specifically being text-from-electrical. So, text-sound compositions would be (works)(of type)(text)(from)(electrical), or AR4(T4/TL3). Aleatory music and stochastic music offer even more intriguing possibilities for considering interdisciplinary aspects of music. Aleatory music could be described as (chance)(designing)(music), which would be TF9g→izAR4; whereas stochastic music could be described as (stochastic mathematical model)(designing)(music), which would be TM4h→izAR4. This draws together mathematics and music within the classification scheme.

6.2 Chants

Ultimately, chants could be considered to be an umbrella form of music. They are defined in LCGFT (Henry 2019, p. [8]) as "Musical compositions that consist of the rhythmic speaking and/or singing of words or sounds". So, they are forms characterized by their musical texture. So, the broad category of chants could be positioned as a form/genre.

Many of the sub-terms could be kept under chants within the form/genre facet, such as organa and antiphons,

but many of the sub-terms are actually types of music. One example is Cantorial music (an English version of the term Chazzanut or Hazzanut) which is a type of Jewish liturgical music, usually led by the cantor (or Chazan). This term could be built using the addition of (music)(Jewish)(liturgical), or even more precisely (music)(Jewish)(associated with)(chazzan). This would need to be built from the religion schedules, which would need expanding to accommodate these terms.

6.3 Filk music

This is a type of music and could be accommodated in BCC by adding this term to the list of types of music.

There are no sub-terms.

6.4 Glitch music

This is a type of music and could be accommodated in BCC by adding this term to the list of types of music.

There are no sub-terms.

6.5 Muğams

Again, this a type of music and can be added to a list of (non-synthesized) musical styles. This is a relatively late addition to the top terms in LCGFT, so there are some questions as to why this has not been fitted into one of the "big" types of music found in LCGFT, such as folk music.

There are no subclasses.

7.0 Classes which are not forms, genres or types

Classifications often lump together disparate items for convenience. Care should be taken that subclasses are not included within Form/Genre or Type that do not in fact meet our definition of genre or type. It is important, then, that there be some other place in the schedules for such terms.

7.1 Accompaniments (Music)

This is not a type or genre but rather a description of medium. The BCC includes a detailed classification of musical instruments (and types of musical voices). We are considering ways of facilitating the indication of how many of a particular instrument is called for. A work can be classified as (work)(for)(set of instruments).

Note that we can signal "without" as in (Songs)(without)(music) for works where the absence of a particular instrument is noteworthy.

Karaoke has been dealt with already but appears here again in the LCGFT.

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7.2 Arrangements (Music)

This likewise is neither type nor genre but rather an indication that a work has been rearranged for a different set of instruments. The best treatment here is (work)(for)(set of instruments)(rearranged)(for)(set of instruments) though it may be easier to simply indicate (work)(rearranged)(for)(set of instruments).

→QR5 is "arrange" (cause to be arranged, more precisely), and N2w is "again," so →QR5N2w is "rearrange"

In some cases, rearrangements increase or decrease the level of difficulty in playing a piece of music. QE8 is "simple" and QE8 is thus difficult. These qualifiers can be added to any piece if the cataloger judges this to be advisable. In the specific case of rearrangement we could use →QR5N2w (→QE8) for "rearrange [of type] to make easy." If necessary the notations ↑ or ↓can be used to indicate increase or decrease.

7.3 Improvisations (Music)

We can best handle improvisations through adding to any work the notation →iv which means "not prepared." Though improvisation is more common in some genres than others, it is a technique for music creation that can potentially be applied across many genres. A user might potentially wish to compare improvisation across genres.

There are no subclasses.

7.4 Instrumental settings

These are vocal works that are rearranged for instruments alone: (vocal work)(rearranged)(for)(instruments).

There are no subclasses.

7.5 Musical settings

As with Arrangements above, these are works that have been rearranged. In this case, they are literary works that have been set to music: (work of literature)(rearranged as)(work of music)

There are no subclasses.

7.6 Notated music

The subclasses here all deal with the format in which music is written down. Some of these are specific to particular types of music (hymnals). We will need to ensure that the full set of formats is covered elsewhere in the BCC schedules.

7.7 Sampler albums (Sound recordings)

This is a format in which recorded music might be produced. It is clearly not a type or genre of music itself. It could be captured as (collection)(works) or perhaps (collection)(works(diverse)) where QR3 is diverse.

7.8 Sound art

It is not clear that this is best treated as music at all. It is perhaps best treated as (art)(associated with)(sound), which would be (A^N8). It is intended to have the effects of visual art rather than music.

8.0 A brief note on the methods used to research music

In order to fully accommodate works about forms, genres and types, a small postlude is needed concerning methods used to research music. It is feasible that a work about a form, genre or type of music, uses a particular method or comes from a particular perspective, and this aspect of its subject needs to be included in its classification. BCC has general classes for methodology, found in the TM class. Some of these could be very easily applied to music. For example, an ethnomusicological study of a type of music could utilize the class for ethnographic analysis; so, TM6-AR4 would represent the ethnographic study of music, and the AR4 could be expanded to articulate any form, genre or type of music. Other types of study might be dealt with by combining subjects in BCC, such as using history to synthesize a class for the historical study of music and philosophy for studies of the philosophy of music. Musical analysis presents an interesting idea. It could be broadly represented by (close reading of text)(of)(music), TM8b-AR4; arguably, the same broad ideas of the close reading of a musical text apply as if it were a poem or novel, differing only in the methods employed and the rich history of analysis. In some cases, the broader "textual analysis" (TM8) might be more appropriate. However, some complexities emerge. When utilizing TM8, there is a question about whether "texts" refers to music or language. For example, a musicological study of Beethoven's Symphony No. 9 might analyze texts written about that symphony, both historical and contemporary. Therefore, the textual sources about Beethoven need to be distinguished from Beethoven-the-text. This could be achieved using multiple relators. So, a musicological study which included work about a musical work could be represented by the following: (textualanalysis)(of)((works)(about)(music)). This demonstrates that even a small collection of general methodologies have the potential for being used to describe study and research in music, at least at a general level. More importantly, this highlights

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how methods designed exclusively for music are actually related to methods of analysis of other art forms, and beyond.

9.0 Discussion

The analysis of LCGFT and its reconditioning into the arts schedules of BCC has provided a detailed set of schedules for the musical forms, genres and types sections of BCC. However, it has also illuminated various general points about this area of music classification which are insightful to the discourse about music classification, and potentially to more general discussions about interdisciplinary classification.

9.1 The facets of music for form, genre, and type

This study has identified specific facets that are needed to classify the concepts associated with form, genre and type. These can be broadly categorized into the following: Forms/genres/types; Formats; Techniques. Furthermore, some forms, genres and types can be created using potentially any other facet in BCC.

9.1.1 Forms/genres/types

This is a single facet with multiple classes, which would reside in AN4. In principle, this follows the other genres and types found elsewhere in the art schedules, such as the schedules for Dance or Theater. This facet would contain possibly hundreds of classes. In addition, these classes represent only basic concepts (Szostak 2011), as any idea that can be created by synthesis would not feature as a term in this facet.

9.1.2 Formats

This facet would contain the classes from LCGFT's notated music. The music-specific formats would become a special section of a more general facet of format elsewhere in BCC's schedules. The need for, and quantity of, music-specific formats is noteworthy.

9.1.3 Techniques

When analyzing LCGFT, it becomes clear that in some cases an extra type of information is needed which covers the method used for the construction of the music. Examples included aleatory music, minimalism, and microtonality. In many cases the methods can be constructed using existing basic concepts. However, in other cases they would need to be independent classes. It is assumed that these would be part of AM, a general methods and techniques facet for the arts.

9.1.4 All other facets and classes within BCC

Finally, the above discussion demonstrates that the classes needed to describe concepts related to musical form, genre or type, often can be constructed via synthesis with other facets in BCC. These include art-specific concepts, religion, ethnicity, scientific topics, and much more.

These three facets (Forms/genres/types, Formats and Techniques) are visualized in Figure 1, in order to show their relative subject specificity versus interdisciplinarity. The facets are depicted along a spectrum which measures how specific they are to music. At one end is the Forms/genres/types facet which is purely a music facet within the construction of BCC. Conversely, it is expected that methods and techniques useful to describe music will be scattered
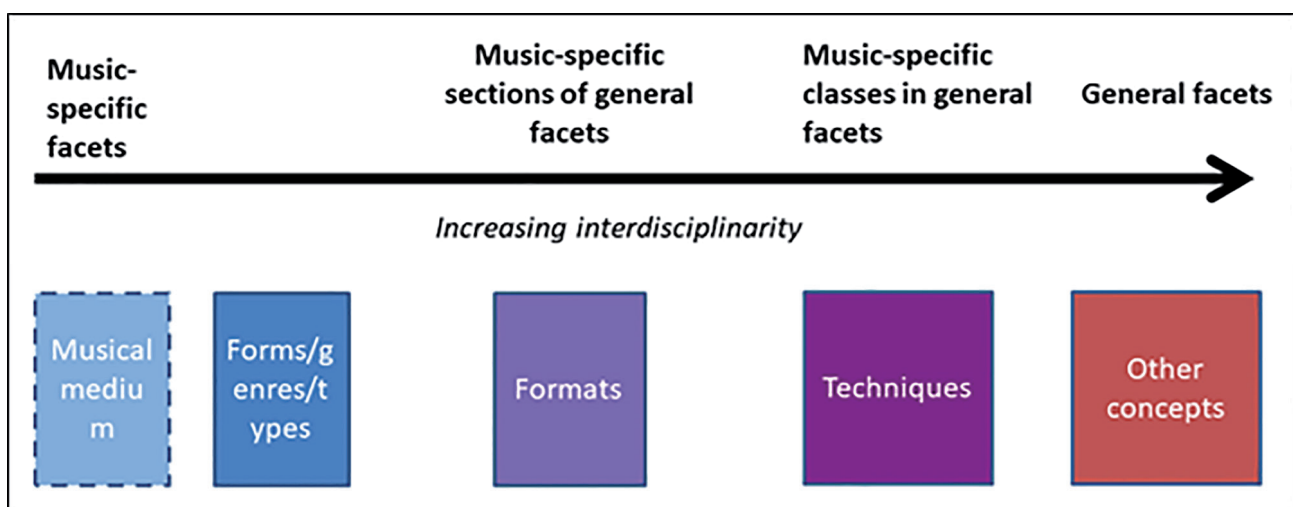

Figure 1. Facets of music relating to form, genre and technique: music-specific vs. general.

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within a general art methods facet. Sitting somewhere in the middle of the spectrum are the music formats: they are likely to constitute a specific, music section of a general Formats facet. The Musical medium facet is also depicted, with a broken outline. This depicts how some aspects of form, genre and type are represented by musical medium instead, which is also a music-specific facet. Furthermore, facets from everywhere else in the schedules are also represented in Figure 1, within the box for "Other concepts". This shows how the natural end of the spectrum is the non-music classes such as religion or ethnicity, which are still vital for describing specific musical forms, genres and types.

This analysis suggests that music is essentially similar to other artistic forms in its use of form/genre/types and methods. The resulting facets have also been seen in other studies which consider music's facets: for example, format features as a "superfacet" of musical works in Elliker's (1994) framework of music facets, and Redfern's (1978) facets for music literature include elements, techniques and theory. Although it is useful to see the proposed structure of musical form, genre and type within BCC, and it is reassuring that this structure fits in with previous research on music classification and general ideas about classifying artistic forms, the analysis has shown that the really interesting results come from elsewhere: namely, from what happens within these facets, and when some facets associated with music are not needed at all.

9.2 Basic concepts and relationships for musical form, genre and type

BCC's mode of operation breaks down subjects into their most basic concepts and constructs subjects from combining these concepts using a set of general relationships. So, we now consider what the result has been of doing this for music. Furthermore, it is useful to consider whether this approach could be useful for resolving music's fundamental problems as identified in music classification discourse.

One of the major issues with music classification identified by Lee (2017), is that music has a nebulous facet of function, which also can include occasion and character. The problems with this facet are evident from the issues in defining it: for example, possible labels include "purpose/occasion/content" (translated from Dorfmüller 1975), "character" (Elliker 1994), "character or content" (Buth 1975), or "function" (Lee 2017). Furthermore, its complexity can be seen in the creation of a separate, book-length thesaurus for this facet in order to map it (Schneider 1994). However, the BCC approach appears to resolve these issues of definition and scope. Instead of there being a separate function facet, BCC combines existing phenomenon with existing relators, in particular the relator "for". For characters such as "humorous", the general human charac-

teristics can be repurposed. So, in BCC it does not matter what the function/purpose/occasion/character facet does, how it is labelled, or the reach of its boundaries; function as a facet or quasi-facet just does not exist. Therefore, BCC helps resolve the issue of this troublesome but useful facet of music, by its transcendence of facets.

Another issue identified in Lee (2017) concerns the nature of the facets of music. While music is usually considered to be easy to break down into facets, Lee (2017) identifies a number of issues surrounding duplication of properties between different facets, especially involving the form/genre facet. On a conceptual level these manifest themselves as a lack of orthogonality between facets, and in a practical dimension lead to issues with classifying works such as choral symphonies, ballets, church sonatas or liturgical musicals in traditional classification schemes (Lee 2017). Again, BCC and the idea of basic concepts resolve this. First, there are no restrictions on what phenomenon can be combined with any other. So, putting together a symphony with choir is not an issue in BCC. Second, with function taken out of the running as a facet, genres are no longer bound by their dramatic, liturgical, or other function; this is often an issue in the many music classification schemes where function is built into the fabric of the forms/genres section of the schedules. For example, in BCC the genre of musicals could be associated with the phenomenon of Christianity, which is drawn from the culture section (C) of the schedules; or, more precisely, the liturgical musical could be represented by combining musicals with "prayer associated with Christianity". Ultimately, BCC smooths over the issues with music's problematic faceted structure, as facets and which foci belong to which facets are not critical to the synthesis of concepts.

The quantity of forms/genres/types presents a challenge to music classification. This quantity can be seen in the size of the music schedules of LCGFT. A case study of the issues of quantity and definition is presented in Lee, Robinson and Bawden's (2020) work on opera subgenres: this shows the large number of subgenres, the lack of agreement about what counts as a subgenre within both musicological thought and bibliographic classifications, and how the division into opera subgenres is based on various different types of information. However, this article about BCC demonstrates how some of the subgenres might be able to be synthesized in BCC from existing concepts, thus providing a practical solution to these issues: examples included combining length with the genre of opera (one-act opera); building operas from a combination of place, time and character (tonadilla); combining opera with its broadcast medium (television medium).[2] So, BCC would also reduce the issues with not having a generally accepted set of subgenres, as synthesis means circumnavigating the issue of bestowing subgenre status on some types of opera and not others. It is pre-

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sumed that BCC's benefits for opera would also be applicable for other forms/genres. It is acknowledged that not every type of subgenre could be synthesized, so in some instances, pre-determined subgenres and the resulting disadvantages in terms of size of schedules and fuzzy subgenre statuses would still be present. However, BCC offers at least a partial solution.

Finally, BCC offers advantages to classifying musical form/genre by its extremely precise relationships. For instance, the article discusses how text-sound compositions and noise music can be described precisely by synthesis of basic concepts, due to the variety of relators available. Without the relators, these forms/genres would be yet more additions to a form/genre list. Furthermore, the relators also allow for the same two basic concepts to be synthesized into separate forms, genres or types. The examples above of music about a country, music from a country, and national anthems, which can all be constructed by using the same two phenomena, demonstrate the power of BCC's relators. The benefits to music classification of these precise relationships are threefold: this reduces the potential size of the schedule; this allows for more detailed forms, genres and types to be included, especially in light of the relatively undeveloped or short schedules for form/genre found in existing music classification schemes (Lee 2017); and, this offers insights into how musical forms, genres and types are defined and constituted. Pertinently, this particular usefulness of BCC is not limited to music or the arts. Furthermore, this particular aspect does not directly resolve a known issue in music classification, yet it does help the general goal of allowing for precise delineation and representation of forms, genres and types, while reducing the unwieldiness of the schedules.

9.3 Interdisciplinary aspects of musical form, genre and type

The most significant and defining feature of BCC is arguably its core principle of removing disciplinary boundaries and seeing how subjects share many fundamental concepts. Therefore, injecting LCGFT terms into BCC also illuminates the interdisciplinary aspects of music. It shows what music shares with other art forms. For example, the connections between music and other theatrical forms are emphasized when building musical genre classes by combining these two types of artform. The use of BCC also illuminates the varying relationships between the artforms, showing how the genre of music-for-theatre (for example, incidental music) is different from genres which are a combination of music-and-theatre (for example, musical theatre). Furthermore, the utilization of general techniques and methods in order to describe methods used to analyze music shows links between different disciplines which analyze "texts", such as music analysis being considered a specific type of textual

analysis. This could augment the study of a specific method of analysis, by demonstrating how different disciplines use seemingly different analysis techniques which are actually based on the familial analysis method.

It is also interesting to note the quantity and variety of ways in which music is synthesized with phenomena outside of art and literature (Class A), suggesting a strong interdisciplinary element to music which is hitherto unexplored in existing music classification discourse. For example, what LCGFT calls sacred music, in BCC involves the majority of terms being created by combining music and elements of religion; this would hopefully aid those using BCC from the religious study perspective to find additional useful work or ideas created from the music perspective. Of particular interest is where science and technology meet with music, for example, constructing stochastic music or aleatory music, illuminates a path between mathematical methods and music. While these methods of constructing music are deliberately created to be mathematical, as are the many recent analytical methods based on technology and mathematics, the interdisciplinary nature of BCC explicitly embraces such connections and allows for discovery from either the musical or mathematical directions.

10.0 Conclusion

This article has demonstrated how BCC's schedules could accommodate musical forms, genres and types. By reorganizing, adapting and breaking down LCGFT for music, this complex area of music can be accommodated within BCC's general principles and system of phenomena, relators and properties. The facets of form/genre/type, technique and format are suggested. Ultimately, it is noteworthy that so much of form, genre and type would eschew individual listing in the schedules, and instead can be represented by the synthesis of basic concepts, both those concepts associated with music and more universal concepts. Furthermore, as well as helping to populate the music parts of BCC, this analysis has also illuminated other potential additions to the BCC schedules. The research has also demonstrated how some of music classification's issues, such as the problems with function, can be resolved by BCC, while new interdisciplinary connections can be created by treating music in this novel way.

There are some limitations to this research. First, it was not possible in this study to analyze the over a thousand terms in LCGFT. Also, the research relies on a single vocabulary (LCGFT) with the inevitable subjectivity and biases which arise from using any single source, however thoughtfully and universally designed. Furthermore, there are occasions where non-musical concepts or categories of information which were needed for synthesis were not already in BCC, which necessitated extra complications. There are a

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number of future directions for this research. Due to the scale of LCGFT, this article provides a discussion of the conceptual ideas that would see LCGFT terms within the BCC structure, as well as many examples; a future application of this research would see the BCC schedules realized to accommodate all the concepts discussed in this article, which would account for every term in LCGFT. This research also highlighted the interdisciplinary aspects of music, and this would be an aspect that would be very interesting to follow up in the future.

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Notes

1. Note that the list of terms from LCGFT was taken on 6th May 2020. The term "noise music" does not appear in Henry's (2019) list as a top term, although does appear as a subgenre of Rock music. So it is presumed that Noise music was made a top term after Henry's (2019) list was created.

2. Furthermore, we recognize that new genres and subgenres will emerge in music as time progresses. Sometimes there can be tension between trying to list all existing musical genres versus being open to a system that accommodates new musical genres (Santini 2011). We hope that our approach of synthesis for classifying musical genres may help with this, and that Santini's (2011) finding that folksonomies might help to identify emerging genres, could help BCC to be more inclusive for emerging genres and subgenres.

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