

# A polyphony of characteristics: An analysis of the categorisation of music's subgenres

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## Abstract

We examine how music subgenres are differentiated from each other within seven parent genres – classical, folk, reggae, country, blues, electronic and jazz – according to two different sources, AllMusic and the *Library of Congress Genre/Form Terms*. Medium was by far the most common differentiator, but there were many others, with most subgenres defined according to multiple characteristic types, the use of which varied greatly across genres. Overall, differentiation was based more on characteristics intrinsic to the music, but prominent extrinsic characteristic types included culture and period. Also prominent was the identification of characteristics associated with other subgenres and genres, representing hybridization. The resulting codebook of characteristics only partly overlaps with the major facets of music identified in the knowledge organisation literature. Our research conceptualises the musical subgenre, suggesting that music subgenres are differentiated from and connected to other subgenres, and to higher-level genres, in complex, familial ways – horizontally, vertically, and obliquely.

## Introduction

Genre is a ubiquitous element of musical discourse, for both musicians and consumers, and a key means of describing and categorising the innumerable components of the musical universe. With this universe continuing to expand at the speed of each upload, and with the consumption of its contents continuing to grow at the speed of each download, musical genres keep subdividing so that people can continue to make sense of music's ongoing evolution.

Yet while the nature and functions of musical genre have been studied by musicologists and sociologists, as well as by a few information scientists, the particular ways in which music genres subdivide into subgenres has been paid scant attention. This is perhaps surprising, particularly with respect to the field of Library and Information Science (LIS) and its subfield of Knowledge Organisation (KO), for which a primary preoccupation is the way in which information, including music, is structured. For the purposes of music retrieval, it is in fact at the level of the subgenre, or the sub-subgenre, that attention should really be focused, as this is the level at which much of musical discourse, and the description of musical works, occurs. People listen to heavy metal or bluegrass more than they listen to rock or country, just as people may be keen, specifically, on watching romantic comedies or reading hardboiled fiction.

Despite the pervasiveness of subgenres in many art forms, there has likewise been relatively little work on the nature of generic subdivision outside of music. This article aims to help address this gap, examining the subgenres of a sample of music genres, as presented in two different sources. We report on an extensive analysis of the ways in which these subgenres were differentiated from their parent genre and its other subgenres. The ideas and aspects by which the genres are broken down into subgenres are thus identified, yielding a typology of the genres' *characteristics of division*, to adopt a traditional KO term [1]. As well as identifying the more and less common characteristics, we examine their distributions across the different parent genres and the two sources. We also compare the characteristics with the key facets developed in LIS to describe music for the purposes of organisation and retrieval, and discuss the general nature of generic subdivision, and the division of music genres in particular, from a KO perspective.

## Literature review

### The genres of music

While some commentators have argued that music is becoming less dependent on genres for its description, with digital technologies and the online environment affording a proliferation of content with an ever-greater capacity to blur boundaries, as well as offering a greater range of ways to bibliographically access music, there can be no doubt that genres are still an important way for differentiating, selecting, and talking about music, for all concerned [2]. We can see this in the prominent option to browse by genre in most online search interfaces for music, for instance, and in the way music continues to be discussed with reference to genre in reviews and online music forums. Indeed, some theorists consider genres to be an inevitable product of music discourse [3].

What is not inevitable, on the other hand, are the specifics of genre: like genres in other areas of art, genres are not for all time; they emerge, evolve and in some cases cease, along with their discourses [4]. Thus, they are fluid, as are their defining characteristics, and this fluidity is only partly dependent on the actual music: it is also dependent on their social milieux and economic contexts [5]. These sociocultural contexts are emphasised in the case of the cultural studies paradigm, where music is examined through a sociological lens, and less so in the traditional musicological paradigm, where the emphasis is on the internal qualities of the music, as autonomous art works [6]. These two paradigms are also strongly distinguished in terms of their subject matter, with the former focusing on 'popular music' and the latter on 'classical' or 'art' music. They are also distinguished in their epistemology, resulting in classical genres tending to be defined more precisely, in terms of 'essential' elements, and popular genres defined more 'prototypically', in terms of 'likely' elements [6].

The sociological perspective on music genres has been discussed in some depth by Van Venrooij and Schmutz [4]. Following the work of DiMaggio [7], they illustrate how music classifications, or at least classifications of popular music, are dependent on particular social and economic contexts, so that not only do they change over time, but also vary across nations, cultures and subcultures. Moreover, these different symbolic classifications may be reflections of particular differentiations within their corresponding sociocultural environments, and may contribute to these differentiations. They also note the way in which the more commercially oriented part of the music industry tends to draw stronger boundaries between different genres, with genres used to position particular recordings in

particular segments of the market. Conversely, 'independent' labels and their artists are concerned more with their 'professional' reputations and more disposed to crossing boundaries, generating classifications that are fuzzier, more hybridized, and, as a result, more differentiated.

Music information retrieval (MIR) research has historically been concerned with genres, especially identifying the genre of a particular work. Nie [8], writing in 2022, states that these investigations tended to adopt one or more of the following approaches: consideration of the music's data sources, algorithmic treatments of these sources, and the evaluation of genre-related tasks. However, Nie [8] also draws upon sociological literature to emphasise that genre is 'a social construct', and acknowledges that genres' evolution over time has not been as factored into MIR research on genres as it could have been. The social dimension of genres may be partly why papers from the ISMIR conferences in the mid-2000s started to question the value of this area of investigation (such as [9] and [10]), although a significant amount of MIR research since this time has endeavoured to factor in the sociocultural context of music, as noted in the discussion of music facets below.

The fluidity and relativity of music genres has not made providing access to music through them so straightforward. Nevertheless, their importance, and the importance of distinguishing between them to facilitate music retrieval, has been increasingly recognised by the music library community. This has led to the establishment of a dedicated list of genres and forms for use in the indexing of music in libraries, as a component of the *Library of Congress Genre/Form Terms* (LCGFT) [11], which are partly derived from the genres and forms represented in the *Library of Congress Subject Headings* (LCSH) list [12], but also include terms imported from other sources [13, 14]. The initial list of genre terms for music was finalised in early 2015 [13]. LCGFT are now used quite widely in cataloguing, at least in the English-speaking world and are added to and updated on an ongoing basis [15]. While the new indexing vocabulary has been heralded as a significant step forward for music libraries, it should be noted that it is recognised as being far from complete, and inevitably reflects the particular music collections of the Library of Congress and other libraries that have contributed to it [14].

### The idea of subgenres

The Oxford English Dictionary defines a subgenre, somewhat vaguely, as 'A subdivision of a genre of literature, music, film, etc.' [16]. While the term is used freely within music discourse, its *basis* has been seldom discussed. One reason for this might be the even greater degree of fluidity and subjectivity at this level. The lack of agreement on what constitutes a subgenre may be why, for instance, the *Grove Music* article [17] on genre does not even mention subgenres. Although other *Grove Music* articles about certain types of music do use the term 'subgenre', the primary English-language music reference resource refrains from discussing its codification.

The term 'subgenre' is mentioned from time to time in the KO literature covering genre classification, for instance by Hider and Spiller [18], Lee, Robinson and Bawden [19] and Rafferty [20], but again it is generally used simply to denote a subdivision of a genre, without specifying any particular characteristic of division. Just as there is a lack of consensus about what a genre is, so there is also a lack of agreement in the KO domain as to what a subgenre should represent [20].

In literary theory discourse, however, there have been suggestions that subgenres are focussed on 'themes' [21, 22]. Indeed, Fowler [21] posits that literary subgenres are generally defined by theme

and not by form, with an implication that their parent genres are delineated by form. Whether particular characteristics of division at different levels might apply to other fields, including music, remains an open question. What can be agreed on, at any rate, is that subgenres are categories, and thereby divisions, of larger genres. In this way, the concept of subgenre is dependent on the concept of genre.

The precision of the relationship between genre and subgenre also varies according to use. Quite often the relationship is assumed to be taxonomic, that is, the subgenre is wholly part of a parent genre, so that an instance of the subgenre is therefore also an instance of the genre. Frow [22], for example, writing from a literary perspective, discusses genres and subgenres in this hierarchical way. The hierarchy can of course be extended to more than two levels: sub-subgenres are implied, if not made explicit, in the writings of McLeod [23] about electronic music subgenres.

However, it is equally clear that music subgenres are other times talked about in less taxonomically precise ways, in which not all the characteristics of the parent genre are necessarily extant in a given 'subgenre'; conversely, a subgenre may exhibit characteristics not extant in its parent. This challenges the notion (see e.g., [21]) that by studying a particular subgenre, we can learn more about a particular parent genre. Moreover, neither genres nor subgenres have fixed or definitive boundaries, as we have already noted, and the ways in which certain characteristics are more or less emphasised in their definitions do not necessarily align. Thus a subgenre might be defined more or less strongly by a particular characteristic than a parent genre is. In other words, the fuzziness of a genre as discussed by Abrahamsen [6] and others might apply differently to its subgenres.

### The facets of music

The development of the music LCGFT has been part of a broader push to develop a better overall framework for music cataloguing and the organisation of music. A key requirement for this framework is that it is 'faceted', that is, based on the overarching organising concepts applicable to the music domain, and a significant amount of work has taken place to identify these 'facets' (if we use this term in a looser sense and not in the more technical, stricter way in which it can be employed in the KO literature). Much of this work has tended to focus on particular genres or 'subdomains' of music, as with music studies more generally.

The facets used in the classification of classical (or Western art) music are discussed in a number of sources. Lee [24] identified three key facets of musical works -- medium, form/genre, and a quasi-facet of function -- used in existing classification schemes by comparing three systems of meta-facets, including that of Elliker [25] who in turn obtained his results by analysing over twenty schemes. Elliker's [25] own analysis had yielded seven facets, i.e., medium, form/genre, character, place, time, format, and composer, with varying degrees of importance. A more recent paper by Lee and Hider [26] extended Elliker's facets with the addition of types/traditions, techniques, elements, and theory.

Szostak and Smiraglia [27] discuss the types of music information that would be needed in the Basic Concepts Classification. The following combines their two lists of facets, as well as three additional types of information discussed within the article: intention of composer, presentation format, types of analysis, time period, geography, creators, kinds of music, subject, traditions, sacred music, techniques, intended audience, culture, medium, genre, and elements. Szostak and Smiraglia [27]

emphasise the facets of the intention of composer as well as intended audience and subject, noting how they are absent from other music classification schemes (as borne out by the analyses of Elliker [25] and Lee [24]).

Other fields concerned with music classification and description suggest the importance of other types of information. Most notably, Downie’s [28] review of MIR research is framed by seven facets, though there is a lack of explanation as to how this list was arrived at. It is also unclear whether these facets apply to all genres of music (while the examples used seem drawn from Western art music, the list has been taken up primarily in research focused on Western popular music). The seven facets are: pitch, temporal (relating to rhythm and tempo, not historical period), harmonic (includes elements such as polyphony), timbral (includes medium, among other things), editorial (includes performance instructions), textual (lyrics, libretti, etc.), and bibliographic. Of particular note is that the traditional co-leading facets of medium and form/genre (see e.g., [29], [30]) are either subsumed as part of other facets or absent.

The field of MIR has much evolved since Downie’s 2003 review [28], including in the conception of music information. Schedl, Gómez and Urbano [31] provide a useful account of the state of the field in 2014, which touches upon similar ideas to facets. They report that there is recognition in the MIR community that the attributes of music are not just related to music content, but also to contextual and cultural aspects, and that from the 2000s more contextual and cultural sources are included in data sources for MIR research. We could read ‘facets’ for ‘attributes’ here, and interpret this as a general statement about the change in what the MIR field regards as musical facets, since Downie’s review [28]. Schedl, Gómez and Urbano [31] also categorise music perception information, which is useful to consider in conjunction with music facets: music content, music context, user properties and user context. We can thus see how MIR separates out content and context, which may be a useful division within LIS treatments of music facets too. On the surface, the user-oriented categories appear to expand the traditional conceptualisations of the faceted structures of music. Nevertheless, the MIR literature does not reveal a recent canonical list of music facets equivalent to Downie’s original list from 2003 [28], or indeed any list of facets or attributes which matches the analysis-based list of facets developed in LIS (such as Elliker’s [25]).

The three lists of music facets (or attributes or characteristics) we have identified from the literature for the purposes of comparing with the results of our research are included in table 1. As the table illustrates, while Elliker’s list [25] is largely covered by Szostak and Smiraglia [27], Downie’s list [28] is quite different from the other two]. Entries in each row are considered either matching or partially matching: as can be seen, many rows include only one entry, and only one contains three entries (and that with a qualification). The lack of consensus on the key types of musical information that the lack of alignment in table 1 indicates appears to remain the case across the different research traditions, which makes the results of the research reported in this article of particular interest.

**Table 1: Three sets of music facets**

Elliker [25]	Szostak and Smiraglia [27]	Downie [28]
Medium	Medium	Timbral*

Form/genre	Genre	
Character	Sacred music	
Place	Geography	
Time	Time period	
Format	Presentation format	
Composer	Creators	
	Intention of composer	
	Types of analysis	
	Kinds of music	
	Subject	
	Traditions	
	Techniques	
	Intended audience	
	Culture	
	Elements**	
		Pitch
		Temporal
		Harmonic
		Timbral*
		Editorial
		Textual
		Bibliographic

\*The timbral facet appears twice in this column, as some aspects match with the other two sources' medium facet, but others do not.

\*\*Includes elements such as 'time, pitch and microtonality" ([27], p. 4), which would align with various facets in e.g., [28].

The above summary of identified music facets demonstrates that there are different approaches to organising and classifying the music domain, perhaps in part due to the different music that is being organised and classified. This study will examine to what extent genres of music organise themselves according to characteristics that align with the facets used in these formal systems of organisation, and whether the characteristics vary, as the facets appear to, across genres.

## Methodology

Originally, five different, relatively well-established sources of music genre lists were identified and considered: LCGFT and the Dewey Decimal Classification, both from librarianship; two large online music databases, AllMusic and Discogs; and Wikipedia. Because of differences in hierarchical arrangements (with a given subgenre appearing at different levels of different lists), it was decided to focus on first-level divisions of genre, in other words, the subgenres immediately below the top-level genres, thereby minimising the hierarchical differences.

LCGFT structures its music genres quite differently from that of the other four sources, with many of the genres appearing as first-level in the latter's lists classed under the first-level Popular music heading in LCGFT. (For example, reggae is at the top of the AllMusic hierarchy, but is a division of 'Popular music' in LCGFT.) This demotion of major genres was considered to be an outlier, and as such the genres immediately under LCGFT's Popular music were treated as first-level for the purposes of this study. This resulted in the following seven genres being identified as first-level across the lists of all five of the sources: classical (with 'art music' being the preferred term in LCGFT), folk, reggae, country, blues, electronic (or 'Electronica' in LCGFT), and jazz. The subgenres listed immediately under these seven genres were thus the focus on the analysis.

The seven genres represent a wide spectrum of musical interest and tradition, but as the five sources could not be counted upon to necessarily treat the different components of the music world in a strictly even fashion, it was important to use than one source for the study. On the other hand, it soon became clear that analysing the long lists of second-level subgenres under each of the seven parent genres would not be practical, for reasons of time, and so two sources from diverse interests were selected for the study: LCGFT from the library domain and AllMusic from the music industry.

The former represented a non-commercial and more 'academic' approach to music, the latter a commercial and more 'popular' one. As noted above, LCGFT [11] is a relatively recent extension of the LCSH, covering a range of different genres, including those in music, and is used to index both materials about music and music itself. AllMusic [32], on the other hand, is a 'comprehensive and in-depth resource for finding out more about the albums, bands, musicians and songs you love' [33]; its website covers a wide variety of music, which can be sourced through the links provided to commercial vendors such as Amazon, and searched for via a number of access points, including its genre taxonomy. Both LCGFT and AllMusic are regarded as 'authoritative' sources of music information, with AllMusic being cited in a few of the LCGFT records, in fact; it is also used to organise music genres on Wikipedia. Both genre lists included brief notes that could be used to determine the subgenres' characteristics of division (from their parent genre). The entries in LCGFT usually included one or more definitions from reference sources, while the AllMusic subgenres were usually accompanied by a gloss with definitional elements.

The list of subgenres given in each source under each of the seven genres were then copied over to an Excel spreadsheet in preparation for coding. Both authors then proceeded to independently code the characteristics of each subgenre's division based on the notes provided in each source, employing an inductive approach along the lines set out by Mayring [34]. Typical examples of coding include *Medium* for 'usually played on non-electric musical instruments' (AllMusic Folk-Blues) and *Event function* for 'designed to be played at rodeos' (AllMusic Rodeo). Almost invariably, the notes did not offer a single, definitive characteristic as the sole basis of division, or even a combination of characteristics as definitive, in a taxonomic way, but rather implied that certain characteristics were strongly associated with the subgenre, in a 'fuzzy logic' sense. Only those characteristics that were taken to be strong associations were coded, with qualifying words like 'often' and 'commonly' in the text taken to imply such associations, as opposed to words like 'sometimes'. For example, 'Truck Driving Country' in AllMusic was coded as being defined by the characteristic of *Theme*, due to the strong association suggested by the use of the word 'often' in the gloss: 'Often, the songs are about driving trucks or heartbreak'. Where an LCGFT entry included a relevant scope note, this was used for the coding, instead of other, secondary notes – for example,



see the LCGFT entry for Cantatas [35]. However, where this was not the case, the other notes were used in combination; these notes often comprised quotes from multiple sources, which sometimes represented different characteristics. In these cases, all characteristics (taken to be strongly associated with the subgenre, according to each quotation) were coded, even when occasionally the quotations appeared to conflict.

It should be noted that both sources included a few subgenres that were not codable due to a lack of information presented about their nature. For instance, in AllMusic, 'Modern Free', within Jazz music, was not explained. However, these represented small proportions of the samples; there were a few more in AllMusic (20 out of a total of 301) than LCGFT, and a few more in electronic music (10 out of 81) than in other genres.

The two authors compared their coding after coding the subgenres in the first three genres (classical, folk and reggae) and, through a series of coder conferences, developed an initial version of a unified codebook, along with a standard approach to its application, with the help of definitions and notes for each code. For example, there were discussions about whether to treat certain functional characteristics as a single characteristic or as potentially multiple characteristics, and how strong a subgenre's association with a particular characteristic needed to be before listing it as such. Reviewing their initial codes, in light of the codebook, the authors were able to reach agreement on around 80% of them. They then proceeded to independently code the subgenres in the remaining four genres. This led to the adoption of a few additional codes (such as *Production output* and *Composition approach*) and some further discussion about the detailed application of certain existing ones (such as discussion about whether the *Period* characteristic was valid if the definition of the subgenre did not indicate a chronological end point). Following the finalisation of the codebook, the codes in both rounds of coding were reviewed, after which the authors were able to reach around a 90% level of agreement. Those codes that remained not agreed on were reviewed again, with a final determination made following further discussion. This iterative approach to the coding is recommended by Mayring [34, p. 114].

The codebook itself was a primary output of the analysis and was compared with the lists of music facets set out in table 1. The distributions of subgenres and codes across both sources and genres were examined using descriptive statistics.

## Results

### Codebook

The characteristics of division (or types of characteristics of division) as represented by the codes used in the analysis numbered 31 in total. About half of these (14) were considered intrinsic to the music, whereas about half (16) were considered extrinsic. One code, Hybridization, could be either intrinsic or extrinsic (or both). The intrinsic codes were structurally flat, but there were two groups of codes identified amongst the extrinsic ones. Seven of them were 'functions' of some sort, that is, they represented the purpose of the music in some sort of external, societal sense; their terms all ended with the word 'function'. No use, however, was made of their parent code, Function (the relevant characteristics all being more specific). There were also three codes that pertained to 'work relationships', with two of these relating to inter-work relationships, and the other intra-works ones;



the two inter-work relationship codes pertained more specifically to musical or textual works. In one or two cases, the more generic 'Inter-work relationship' code could have been applied; however, to simplify matters, both codes were recorded instead. The set of 31 codes, together with their definitions, are set out in table 2 below, in a 'logical' order, and not necessarily in order of frequency.

**Table 2. Codebook**

<b>CODE</b>	<b>DEFINITION</b>
<b><i>INTRINSIC</i></b>	
Medium	Instruments, voices, or equipment producing the music
Language	Language of the vocal elements of the music
Structure	How the music is divided (or built) temporally
Texture	How the parts in the music are vertically put together
Melody	The nature of the melody
Rhythm	Pattern of the duration of the sounds and silences
Tempo	Speed of the music
Harmony	Way in which notes are combined at any one moment in time, and the sequencing and relationship between one moment and another
Duration	The length of time of the music
Theme	The extra-musical subject of the composition
Production output	Post-performance engineering for purpose of output
Composition approach	Way in which the music is created conceptually, independent of performance
Performing technique	Method for performing the music
Style	Intrinsic characteristics not covered by others specified in this scheme
<b><i>EXTRINSIC</i></b>	
Culture	Culture, people, or place from which the music emanates
Period	Historical period with which the music is identified or through which the music is defined as a revival
Social function	Particular social purpose of the music
Work function	Supporting particular work tasks
Religious function	Particular religious purpose of the music
Educational function	Supporting the playing or appreciation of the music
Commercial function	Aspects of the music relating to sales, profit, marketing, and other business considerations
Event-related function	Supporting particular events
Dramatic function	Supporting particular performing art
Affect	Feelings or emotions elicited by the music
Reception	How the music has been by consumed or received critically
Intra-work relationship	Relationship of the music to superordinate works
Inter-work (music) relationship	Relationship of the music to other musical works

Inter-work (text) relationship	Relationship of the music to textual works
Title	Title(s) associated with the music
Performers	Aspects of the performers extrinsic to the music

**INTRINSIC AND/OR  
EXTRINSIC**

Hybridization	Mixing of the music with one or more other genres or subgenres in a direct way
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Despite the relatively flat presentation of the codes, what makes a characteristic as intrinsic or extrinsic varies in interesting ways. For example, the *function* of the music is one type of extrinsic characteristic, as it defines human interaction with the music rather than the qualities of the music itself; similarly with the extrinsic characteristics of *reception* and *affect*. Characteristics such as that of an *inter-work (music) relationship*, on the other hand, are extrinsic in a different way: they highlight how we sometimes define musical works by the connections with other works, rather than their connections with people.

The characteristics also combined in the coding in ways that sometimes challenged the distinctiveness of types of music information. The boundaries between style and function, for instance, were sometimes blurred, despite one being intrinsic and the other being extrinsic. For example, the original function of a type of music might be for dancing, but the resulting subgenre could develop its own particular style *through* this function, while the function itself could become less of an integral characteristic of the subgenre. This raises questions about how a music subgenre's characteristics might change over time, including shifting from the extrinsic to the intrinsic, or perhaps vice-versa.

Style also had some potential crossover with another extrinsic facet, namely, affect. Questions can be asked about whether the description of a subgenre as 'melancholy' or 'crying' is indicative of an intrinsic quality of the music, or of the effect the music has on the audience, or perhaps both. A similar issue emerged with affect and theme: for example, the musical features that make a work 'rural' may be considered to represent a theme, yet these features may also induce emotions as well as thoughts about the countryside.

Some of the other characteristics were also difficult to disentangle. For example, while the phrase 'close harmony' might at first be associated with the harmony characteristic, it is actually describing the closeness of the notes in a vertical direction and is thus arguably more about *texture*. Similarly, 'Dumky (Art music)' is described in LCGFT in terms of its structural qualities, yet this structure is delineated by the change of *tempo*. The conjunctive nature of some subgenre definitions also applied to various extrinsic characteristics. For example, a liturgical aspect was designated as expressing both a religious function and an event function.

Another question about the characteristics' interrelationships arose with respect to generic hybridization. A number of definitions described how a given subgenre was characterised with reference to a specific characteristic of another genre or subgenre. Is the presence of, for example, the term 'jazz rhythms' in a definition indicative of a particular kind of rhythm that happens to be jazz-like, or indicative of the integration specifically of a jazz element? We ended up defining the

code Hybridization as a process that involved a deliberate and fulsome adoption of one or more characteristics of a genres or subgenre, and interpreted the glosses and notes accordingly.

### Quantitative findings

Table 3 provides counts of the subgenres by source and genre. We can see that the two sources have very different distributions across the seven genres, with LCGFT heavily focused on classical, and to a lesser extent folk (assuming the number of divisions to be indicative of focus), whereas AllMusic’s distribution is more even, but with a greater emphasis on jazz, electronic music, and the blues.

**Table 3. Numbers of subgenres**

<i>Genre</i>	ALLMUSIC		LCGFT	
	<i>n</i>	%	<i>n</i>	%
CLASSICAL	17	6.0	80	51.9
FOLK	21	7.5	42	27.3
REGGAE	18	6.4	3	1.9
COUNTRY	35	12.5	10	6.5
BLUES	55	19.6	4	2.6
ELECTRONIC	67	23.8	4	2.6
JAZZ	68	24.2	11	7.1
<i>Total</i>	281	100	154	100

Table 4 shows the degree to which the subgenres listed by both sources received the same codes (two of the subgenres are not represented due to their LCGFT instances being un-codable). While there is considerable variation across subgenres, there is a fair degree of overlap overall: about half of the total number of codes were assigned via both sources, which would only be achieved about 13% of the time if codes were assigned randomly, assuming two codes per subgenre. Nevertheless, the non-overlapping codes point to significant differences in the way the subgenres are presented, as well as scope, potentially, for different interpretations of their presentations. For example, Dixieland is described in AllMusic by its intrinsic qualities, such as its structure, texture, medium and rhythm; yet, in LCGFT, it is defined by how it compares to another subgenre of jazz and by the race of its performers. We could hypothesise that this difference of characteristics is caused by the higher level of granularity needed in AllMusic to distinguish this subgenre of jazz from others. The two sources’ different treatments should be borne in mind when we compare differences across genres, given the genres’ different levels of coverage across the two sources.

**Table 4. Overlapping codes for common subgenres**

<i>Subgenre</i>	Total codes	Co-assigned codes
Chamber Music	2	2
Concerto	5	4
Symphony	4	2
Folksongs	3	0
Dancehall	6	2

Dub	3	2
Ragga	2	0
Alt-Country	3	0
Bluegrass	5	4
Country Gospel	6	6
Honky Tonk	6	2
Western Swing	3	0
Yodeling	4	4
Jump Blues	10	8
Cool	6	2
Dixieland	6	0
Free Jazz	6	2
Jazz-Rock	3	2
Swing	5	0
Third Stream	2	2
<i>Total</i>	90	44

The number of codes assigned in each genre by source is shown in table 5, along with the mean number per subgenre, obtained by dividing by the number of subgenres that were coded (omitting those deemed un-codable). Overall, the two sources provided definitions with similar levels of complexity, with subgenres distinguished in between 2 and 3 ways on average. Of those genres with more than ten subgenres, the highest mean number of characteristics was found in LCGFT's folk music (2.7), whereas the lowest was in AllMusic's classical music (1.3). This may be partly a function of differences in scope and specificity: LCGFT's folk genre is very wide-ranging and international in scope; AllMusic's classical divisions, on the other hand, are fairly broad.

**Table 5. Numbers of characteristics of division**

<i>Genre</i>	ALLMUSIC			LCGFT		
	<i>n of divisions</i>	<i>n of characteristics</i>	<i>mean</i>	<i>n of divisions</i>	<i>n of characteristics</i>	<i>mean</i>
CLASSICAL	16	21	1.3	77	187	2.4
FOLK	21	33	1.6	42	113	2.7
REGGAE	17	36	2.1	3	5	1.7
COUNTRY	34	80	2.4	10	26	2.6
BLUES	52	123	2.4	4	17	4.3
ELECTRONIC	57	136	2.4	4	17	4.3
JAZZ	64	147	2.3	9	18	2.0
<i>Total</i>	261	576	2.2	149	383	2.6

Figure 1 shows the breakdown of the codes assigned across all the genres and sources. We can see that the most common characteristic of division is, by far, medium, which was identified in a little over half of the 410 cases. Medium proved to be wide ranging in terms of detail: for instance, in AllMusic, New Orleans jazz is defined by a precise list of which instruments are used and what they do, while acoustic blues is defined and named by its use of acoustic instruments more generally (as

opposed to electronic ones), and the description of bluegrass merely mentions ‘string instruments’ in passing. Next most common are style and culture, both identified in about 100 cases, with rhythm, period and hybridization coming next, all at a little over 50. Another important intrinsic characteristic would appear to be structure, at just under 50 (still over 10% of cases). Three codes were assigned in less than 1% of cases, with 4 or fewer assignments: title, work function and commercial function. This leaves a majority of codes that were assigned from time to time, but not in great numbers. Given this distribution, we may conclude that music subgenres can be defined in many different ways, but that there are only a few ways, overall, that can be considered common characteristics of division, namely, medium, style and culture, with rhythm, period, hybridization, and structure also noteworthy.

Subgenres are thus often defined in terms of space and time, and in other relatively concrete terms, such as medium, but at the same time are also quite often defined in more abstract terms, such as structure and ‘style’, the latter typically based on adjectives that cannot be readily linked to a particular musical element, as per the code’s definition. The aggregated frequency of the ‘function’ codes (n=72) indicates that the extrinsic purpose of music is also quite often used as an identifier. For example, protest songs and political reggae in AllMusic are defined by their social function, and ambient house and ballroom dance in AllMusic are both defined by their connections to the event-based function of dancing.

Characteristics that were disproportionately identified in the AllMusic subgenres include rhythm, period, and hybridization, while structure, culture and dramatic function were disproportionately assigned to the LCGFT subgenres. LCGFT’s greater emphasis on classical and folk music could explain quite a lot of these imbalances.

Figure 2 shows how both intrinsic and extrinsic characteristics are important identifiers of music subgenres, but that the former are generally more important, or at least more common. An exception may be the case of folk subgenres, for which the two types are of roughly similar frequency overall, primarily due to folk’s emphasis on cultural division. Country music would appear to have the subgenres most characterised by hybridization, perhaps indicating scope for it to move beyond its traditionally narrow geography.

Figure 3 and table 6 give an overview of the distribution of each characteristic across the seven genres, combining AllMusic and LCGFT tallies. The measures are percentages so that they are relative to the total number of codes assigned in each genre. We can see that medium is the leading characteristic of division in most genres, but not all: culture is a little ahead in the case of folk music, while style is only just behind medium in the case of electronic music. On the other hand, medium is way out in front in the case of reggae (at 31.7%) and the blues (32.1%).

Other characteristics of note in particular genres include structure, which is more than twice as prominent in classical music than in any of the other genres, rhythm which is much more prominent in electronic music than in the other genres, similarly theme and social function in reggae, and commercial function in country, while the inter-work (music) relationship code was only assigned (though not often) in classical music (e.g., the choral preludes in LCGFT are defined by their inter-work (music) relationship with the original chorale). Conversely, rhythm is noticeably less prominent in classical music, as a characteristic of genre division, tempo hardly ever came up as a characteristic in jazz, similarly theme in both electronic music and jazz, culture in country, while the performers

characteristic did not show up at all in reggae.

[insert figures 1-3]

**Table 6. Strength of characteristic of division by genre (%)**

	<b>CLASSICAL</b>	<b>FOLK</b>	<b>REGGAE</b>	<b>COUNTRY</b>	<b>BLUES</b>	<b>ELECTRONIC</b>	<b>JAZZ</b>
Medium	24.5	19.2	31.7	21.7	32.1	16.3	21.2
Language	0.0	2.7	0.0	0.0	0.0	0.0	0.6
Structure	11.5	3.4	0.0	0.9	2.1	3.3	5.5
Texture	2.9	1.4	0.0	1.9	0.0	0.7	1.8
Melody	1.0	1.4	0.0	0.9	0.7	0.7	3.6
Rhythm	2.4	4.8	4.9	5.7	6.4	13.7	8.5
Tempo	3.4	2.7	2.4	5.7	2.1	6.5	0.6
Harmony	1.0	0.0	0.0	1.9	0.7	0.7	4.8
Duration	3.4	0.7	0.0	0.0	0.0	0.7	0.6
Theme	3.8	5.5	9.8	5.7	3.6	0.7	0.0
Production							
output	0.0	1.4	2.4	4.7	1.4	3.9	0.0
Composition							
approach	2.9	0.7	4.9	0.9	0.0	2.6	8.5
Performing							
technique	0.0	0.7	0.0	3.8	2.9	0.0	1.2
Style	7.2	4.8	9.8	14.2	15.0	15.0	8.5
<b>SUBTOTAL</b>	<b>63.9</b>	<b>49.3</b>	<b>65.9</b>	<b>67.9</b>	<b>67.1</b>	<b>64.7</b>	<b>65.5</b>
Culture	10.1	24.7	9.8	0.9	9.3	9.8	4.8
Period	3.4	5.5	4.9	7.5	8.6	3.9	10.3
Social							
function	0.0	2.7	4.9	0.0	0.0	0.0	0.0
Work							
function	0.0	0.7	0.0	0.0	0.7	0.0	0.0
Religious							
function	1.9	0.7	2.4	0.0	0.0	0.0	0.0
Educational							
function	1.4	0.0	0.0	0.0	0.0	0.0	0.0
Commercial							
function	0.0	0.0	0.0	2.8	0.7	0.7	0.0
Event-related							
function	2.9	2.1	2.4	1.9	0.7	5.9	3.6
Dramatic							
function	4.8	6.8	0.0	0.0	1.4	0.0	0.0
Affect	1.4	0.0	2.4	0.0	2.9	5.2	1.2
Reception	0.0	1.4	0.0	0.9	0.7	0.7	1.8
Intra-work							
relationship	2.4	0.0	0.0	0.0	0.0	0.0	0.0
Inter-work							
(music)	2.9	0.0	0.0	0.9	0.0	1.3	1.2

relationship							
Inter-work (text)							
relationship	2.9	0.0	0.0	0.0	0.0	0.0	0.0
Title	0.0	0.0	0.0	0.0	0.0	0.0	0.6
Performers	1.0	2.7	0.0	3.8	5.0	1.3	1.2
<b>SUBTOTAL</b>	<b>35.1</b>	<b>47.3</b>	<b>26.8</b>	<b>18.9</b>	<b>30.0</b>	<b>28.8</b>	<b>24.8</b>
Hybridization	1.0	3.4	7.3	13.2	2.9	6.5	9.7
<b>TOTAL</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

## Discussion

### Characteristics of music genre subdivision

The wide array of intrinsic and extrinsic characteristics covered by the codebook supports a view of musical genre that combines both musicological and sociological perspectives, applicable across all musical traditions, including both ‘classical’ and ‘popular’. However, some characteristics of music were used to define and differentiate subgenres far more than others. Most notably, for almost every genre considered in this study, the characteristic of medium was found to be the most frequently occurring in definitions of subgenres. While medium is usually considered a key organising concept in classical music, this finding highlights the centrality of medium more generally.

The strong presence of the ‘structure’ characteristic across multiple genres shows the concept’s importance in popular as well as in classical music (even though it is especially prominent in classical music subdivision). Meanwhile, the fairly common use of rhythm in subgenre definitions suggests that the relative lack of attention it is accorded in the music organisation literature may be due to a bias toward classical music, in which rhythm is seemingly less utilised as a characteristic. The relatively minor presence across genres of certain other characteristics, such as theme, can be contrasted with their greater importance in the division of genres outside of music: literary genres, for instance, are commonly divided by theme [21].

Certain genres stand out with respect to their most prolific characteristics, most notably folk music, with ‘culture’. This aligns with AllMusic’s definition of the folk music genre itself, which starts: ‘Each country has its own Folk music...’ [36]. The emphasis on cultural differentiation could be regarded as an affordance, offered by the folk genre, for dealing with the ‘other’ in music, focusing on this extrinsic aspect, rather than the intrinsic.

The commercial function was found to be particularly important within the country music genre; more specifically, this result may indicate that the debate about commercialisation in the genre looms large. Meanwhile, the importance of theme and social functions to the reggae subgenres suggests priority of message and context here.

The relatively low preponderance of some characteristics in particular genres might also be telling. The lack of ‘performers’ in reggae and ‘culture’ in country could be due to a homogenous type of performer/culture in these types of music, while the relatively low use of theme in jazz and electronic music could suggest a more abstract conception of music in these genres. The low use of



rhythm in dividing classical music runs counter to its strict system of coding and defining rhythms: this may be an example of a quality appreciated within a genre, but not in a way that leads to the favouring of a particular value in the development of a subgenre.

### Comparing the two sources

Neither of the two sources used in our analysis claims comprehensiveness, but the lack of alignment in their lists of subgenres was very pronounced. Of particular note is the *complete* lack of overlap in the case of electronic music, despite a combined total of over 70 subgenres, which may be partly due to a large total population of subgenres in the genre, according to the literature [20]. However, a good deal of the non-alignment between the AllMusic and LCGFT subgenres would be because of the large discrepancies in the size of their lists under different genres. The two sources had clear biases toward different genres, no doubt influenced by the content of their ‘collections’.

Nevertheless, despite their different generic biases, the two sources were more consistent in the way they defined those subgenres that they had in common, although about half of the characteristics were not shared, indicative of a level of subjectivity involved in the definitions, as well as some subjectivity involved in the coders’ interpretations. Part of the definitional inconsistency may be due to the definitions’ different functions across the two sources: the AllMusic glosses were aimed at the consumer, while the definitions included in LCGFT were aimed at the cataloguer. Related to this is the difference in the sources’ business orientation: it is in the commercial interests of AllMusic to emphasise particular elements of a given subgenre reflective of the database’s particular access to content, whereas the interests of those libraries contributing to LCGFT are far less clearly connected to the definitions to be found in LCGFT – for a start, these definitions appear in notes rarely encountered by library users, being primarily for the benefit of library cataloguers; libraries’ lack of commercial interests also mean that their interests are more tied up with helping their clients find the ‘best’ resources rather than resources that they themselves happen to hold.

### Comparing the characteristics with music facets

Our classification of the different characteristics can be considered akin to a music knowledge organisation system (KOS), and compared to various music KOS that exist both in theory and practice. As established in the literature review, there is no single list of music facets utilised by all those involved in the classification of music. We therefore compared our codes with three principal lists, as set out in table 1, with a match recorded if the characteristic corresponded to a facet in at least one of the three facet lists. The results of this comparison are summarised in table 7. ‘Partially’ is used when our characteristic matches part of what is covered in a facet in (at least) one of the three facet lists. For example, Downie’s [28] ‘temporal’ facet covers a number of areas, with one of these matching our ‘tempo’ characteristic.

**Table 7. Mapping of characteristics to facets**

Characteristic	Does characteristic match a music facet in 1+ source?
Medium	Yes
Language	No
Structure	Partially
Texture	Partially

Melody	Partially
Rhythm	Partially
Tempo	Partially
Harmony	Partially
Duration	Partially
Theme	Yes
Production output	No
Composition approach	No
Performing technique	Partially
Style	No

**EXTRINSIC**

Culture	Partially
Period	Partially
Social function	Partially
Work function	Partially
Religious function	Partially
Educational function	Partially
Commercial function	Partially
Event-related function	Partially
Dramatic function	Partially
Affect	No
Reception	No
Intra-work relationship	No
Inter-work relationship (music)	No
Inter-work relationship (text)	Partially
Title	Partially
Performers	No

**INTRINSIC**

**AND/OR**

**EXTRINSIC**

Hybridization	No
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When comparing the codebook with the lists of music facets, it should be borne in mind that the codes differentiate particular bodies of music (i.e. subgenres) within a larger body (i.e. a genre), whereas the facet lists are designed to describe and help retrieve individual works from across the whole domain of music. This distinction includes a difference of purpose: the subgenres demarcate themselves from each other for artistic, commercial, and other reasons beyond that of retrieval.

Table 7 shows that there is some overlap, nevertheless, between the characteristics and the facets. On the other hand, several characteristics were not to be found amongst the facet lists. Perhaps most surprisingly, language was absent, a feature of a large amount of music. Other intrinsic characteristics were only partially aligned with the facets, with elements such as structure, rhythm, tempo, and harmony covered by broader facets. An explanation for this could relate to the difference in purpose, with facets requiring a precision in their values that elements such as rhythm and tempo allow, but such values (e.g., beats per minute) are not very effective for retrieving particular works. On the other hand, subgenres do not need to be defined with such exactitude; indeed, their 'fuzzy' nature lends itself to looser, imprecise terms, including those that can alternatively be used to describe these (a 'quick tempo', for example.) It is worth noting here that where the MIR research has focused on identifying genres, elements such as rhythm and melody are sometimes given as examples of attributes of musical content [31]; again, this could be due to this particular purpose, i.e. that of analysing whole bodies of music rather than retrieving individual works.

The process of creating music also features in the description of subgenres, resulting in characteristics such as production technique, composition technique, and performing technique. Yet, divisions based on the process of music's creation are seen much more rarely in music retrieval, with only performing technique part of one of Downie's [28] facets. This discrepancy may also relate to the nature of the description: glosses of subgenres are intended to educate (e.g. about how the music is made) as much as to identify for retrieval purposes.

There was even less alignment between the extrinsic characteristics and the facets, with about half these characteristics only partially covered, and the rest not covered at all. Again, one might explain some of this lack of coverage due to differences in the kind of values usually considered suitable for retrieval. Terms to describe particular affect, for instance, may be considered too vague by the library cataloguer. The various types of function appear to be quite common ways to describe particular subgenres, yet only appear partially in sets of facets, and even then as very loosely connected to the character facet [25] or intended audience facet [27]. (Lee [24] writes extensively about function's quasi-facet status for Western art music, which may be part of the explanation for our result.)

The greater prominence of extrinsic concepts to describe subgenres may also be explained by the nature of the genre, and subgenre, itself. Subgenres do not merely represent a particular body of music, they can also represent a 'scene', in which the body is closely associated with a particular culture and a particular group of people. Music genres and subgenres develop through an interplay of music, performers, and audience. Hence the importance of extrinsic characteristics, including that of the kind of performer, and the kind of reception from the audience. As noted earlier, more recent approaches in the MIR field likewise acknowledge the importance of 'musical context', alongside that of musical content [31]. Furthermore, while ideas such as affect may not have been reflected in

Downie's list [28] from earlier MIR research, they could be connected to those of 'user context', for which Schedl, Gómez Gutiérrez, and Urbano [31] give 'mood' as an example and which is now being given more attention by MIR researchers.

As well as some of the codes not matching any of the facets, some of the facets do not feature in the codebook. Most of these can be quite readily explained, however: there are no codes for individual people, as subgenres almost always go beyond the individual musician; there is no code for 'format', as subgenres represent actual music and not carriers (such as scores and discs); and there is no code for genre, as the codes collectively represent the subgenres.

### Subgenre relationships

This research has not just investigated the ways different music genres are divided into subgenres, but also helped us unpick the nature of music subgenres themselves. It shows that a subgenre has a complex relationship with other entities: between one subgenre and another subgenre in the same genre; between the subgenre and its parent genre; and also, in some cases, between the subgenre and another genre entirely.

#### 1. One subgenre and another subgenre in the same genre

The results showed that there was a mean of between 2 and 3 characteristics used to delineate one subgenre from another subgenre, which we can consider to be a subgenre's horizontal relationships. Furthermore, there was a 'coalescence' of characteristics across the subgenres which constitute a genre, rather than a taxonomic system. This challenges other conceptualisations about subgenre, such as those in the writings by Fowler [21] and Frow [22] which suggest that a literary genre's divisions might be based on a single characteristic such as theme. Our research indicates that subgenre-subgenre relationships, at least in music, are complex and familial. For example, within the folk music terms in LCGFT, guaguancós is differentiated from other folk subgenres based on its structure, medium, texture and cultural characteristics, whereas kolos is differentiated from other folk subgenres by dramatic function, as well as its cultural characteristics.

#### 2. One subgenre and its parent genre

Each subgenre has a parent genre, which we can consider to be a vertical relationship. In some cases, there appears to be a clear connection between what defines the genre and the distinguishing features of specific subgenres within that genre. For example, folk music itself is defined in terms of culture, while culture is likewise the most frequent characteristic used to differentiate one folk music subgenre from another. However, this consistency of division is by no means replicated in all genres. For instance, AllMusic defines the genre of reggae using a mixture of culture, rhythm and tempo characteristics, but our research showed that AllMusic often distinguishes and defines reggae's subgenres using other characteristics. From a theoretical perspective we could consider that if the genre's description refers to a characteristic in *general* terms, as in the case of folk music, then there may be a link between the genre's delineation from other genres and its subgenres' delineation from it and from each other. However, if the genre is defined by a *specific value* of a characteristic, such as the very specific harmony which marks out blues music, then this characteristic is much less likely to be used when delineating its subgenres.

#### 3. Hybridization between one subgenre and a different genre

Hybridization can occur when subgenres borrow from other subgenres within the same genre. However, the analysis in this study shows that hybridization can also occur when one subgenre loosens its parental yoke, and adopts properties from a different genre. This generates an interesting new type of connection for subgenres: an 'oblique' relationship. Here, the subgenre in question is partly defined by a connection that is a combination of the vertical relationship between the subgenre and its (main) parent genre and the horizontal relationship between the two genres themselves. For example, the subgenre 'folk jazz' is defined by a hybridisation of folk and jazz, along with a primary relationship still to the folk genre.

Therefore, we can consider the classificatory unit of a subgenre as involving, potentially, these three types of relationships. This is visualized in Figure 4, which depicts example Subgenre A1 at its centre. Subgenre A1's three types of relationships are represented by the three dashed lines: the vertical relationship of subgenre to parental genre; the horizontal relationship to the 'sibling' subgenres; and the oblique relationship to genre B through hybridization. Particular values of various characteristics are also attributed to the subgenres A1-3 to illustrate the familial nature of their interconnections. In this example, a certain value of characteristic T is shared by both genre A as a whole as well as its subgenres A1, A2 and A3, whereas characteristic Y is only used to define subgenre A2, characteristic Z only to define subgenre A3, characteristic U and characteristic X only subgenre A1, while characteristic V is shared by subgenres A1 and A3, but not A2. Furthermore, in this example, a certain value of characteristic X used to define subgenre A1 is also used to define, or partly define, genre B. Ultimately, Figure 4 depicts the complexities – and messiness – of one music subgenre scenario.

**[insert Figure 4: Subgenre as a classificatory unit]**

## Conclusion

This analysis of various music subgenres and the characteristics which differentiate them has found that they are defined in a wide range of ways, but that there are only a few common ways of doing so. Both intrinsic and extrinsic characteristics may be involved, and characteristics might be interrelated in particular instances. While there were common features of subgenre categorisation shared across multiple genres, some genres appear to have their own eco-system of characteristics in the horizontal plane of delineating one subgenre from another. The study has highlighted the importance of looking both across and within different genres when examining the nature of music information.

The ways genres are organised overlap to an extent with the main ways specialists organise music more generally, but certain characteristics of genre subdivision do not feature prominently in the established lists of music facets. Some of these characteristics may be worth exploring as additional organising concepts, bearing in mind the functional differences between genres and music catalogues.

Finally, this paper has extended our understanding of subgenres as categories. The relationship between one subgenre and its 'relatives' is complex. The types of information used to separate one subgenre from another can vary even within a genre, and there are potentially varied interconnections for subgenres in vertical, horizontal and even oblique directions. Thus, as figure 4

indicates, the definitions of music subgenres are multifaceted, typically involving multiple characteristics, just as music can involve multiple melodies: the types of information used to differentiate and connect musical genres and subgenres could even be described as polyphonic, if not quite cacophonous.

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