#genre

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Today I'll be talking about my concept "#genre," and its role in the structure and experience of our current musical world. #genre has three main components: 1) how musical objects are labeled with style-specific tags and metadata, 2) how artists cluster together, and 3) playlist constitution and algorithmic recommendation of individual songs/tracks. The third has become the most prevalent over the past couple of years, but I'm going to focus on the first two of these today. We'll end with a discussion of the background picture of these slides, which is a visualization I made of the rhizomatic connections between genres tags that Spotify employs to categorize its artists. I focus on Spotify in particular since: 1) it's very popular,[1] and 2) they have some publicly available metadata that I could access.[2] So, pragmatically, Spotify is relatively easy to research. I also want to mention before we get going that you can access all of the datasets that I discuss today through the link on the handout, where I've posted a few appendices as Google Sheets, if you're interested.[3]

But first, let's start with a question and then some music. What kinds of music do you all study? I want you to think for a second about how you might answer that question differently if your friend or family member outside the field asked it. Maybe some of you had very broad answers like pop music or opera, or something more specific like the vaporwave released in June 2016 or Helena Munktell's *Dix Mélodies*.[4] Our answers tell us a lot about the what "counts" when we talk about musical categories: do we focus on the instruments, the timbres, the textures, the forms, the people making it,

[1] https://press.spotify.com/us/about/
[2] https://developer.spotify.com/web-api/
[3] https://tom-johnson.net/stuff/smt2017/
[4] http://www.imslp.org/wiki/10_Songs_(Munktell,_Helena)

the time or place it was made, etc. In any case, you could likely come up with a short label pretty easily that would provide some expectations for your interlocutor.

Genre *recognition* can also be a pretty straightforward exercise; as Gjerdingen and Perrot (2008) found about a decade ago, people can pretty reliably recognize large-scale genre categories in less than a half a second. Experiencing a genre as *Gestalt* takes less time than it takes say the word, "genre." With this rapidity, genre *permeates* experiences of music, setting expectations, creating firewalls, and generally guiding how we define what we hear.

But things aren't always so easy. Browsing my social media a few months ago, I passed one of those quizzes you always see. This one asked you to distinguish Korean and Hasidic dance hits.[5] The site has since gone down, and I not familiar enough with either traditions to replicate the test today, but the point was clear: genre recognition and genre tags can challenge our expectations.

Let's listen to two quick snippets that similarly might have us question our genre recognition aptitudes. One is by an artist that Google tells us is hip hop and the other is by an artist Google says is French House and Synthwave. As we listen, think about what parts of the music guide your idea of genre label. The first[6] has some synth timbres and Phil Collins or David Byrne style vocals in a sort of poppy-new-wave, neo-indie wrapper. The second[7] has someone rapping over a bass-heavy beat with a focus on digital percussion. Now, let's see who these artists are and who Google labeled with each. These tracks serve as a useful reminder that, in a time when Korean and Hasidic popular musics, hip hop and synthwave play in the same aural and digital worlds, genre recognition or labeling is often a bit more complicated of a task than Gjerdingen's and Perrot's study might suggest.

[5] http://koreanorhasidic.com
[6] https://www.youtube.com/watch?v=-hP6bMKU4lw
[7] https://youtu.be/WHPnYY9eDVI?t=17m13s

Such a complex stylistic musical world full of these labeling paradoxes has led many bloggers, critics, journalists, and musicians, like the ones I show up here, to the conclusion that genre really doesn't matter; that when someone like Kami is labeled 'hip hop,' the concept of genre has died.[8]

Another track running in parallel to the "**death of genre**" narrative, is a popular discursive move that makes use of an **(over)abundance of genre descriptors**. Here's a description for a Washington State local band called the Pearls, who are a "Vancouver(WA)-based country-rock-Americana-Western swing band" (Schilling 2017). But I thought that labels are meaningless! Genre is dead!

The myriad hyphenated tags granted to this locally touring band are typical of genre descriptions for many artists throughout popular media discourses. Brooklyn band Arc Waves describe themselves as "new wave, psych rock, dream pop and shoegaze." For *New Yorker* reviewer Carrie Battan (2017), Sampha's album *Process* (2017) has elements of gospel, r&b, soul, and experimental electronica. It seems that genre retains enough descriptive value to power critical commentary and to guide musicians' creative acts.

With both the **death-of-genre** and the **(over)abundance of genre** descriptors, we're clearly in a time when music categories have entered a centrifuge. As things like algorithmic recommendations, playlist curators, and ubiquitous access throw wrenches into the music-industrial machine, we're confronted with a new set of possibilities for experiencing the effects of genre. #genre is, in my mind, the sum of interactions and group*ings*—a sort of 21st century genre-thinking or generic episteme—generated in and by our lived experience of the always-on popular music machine. And #genre's three main components constitute the most feasible entries and diagnostics of this episteme.

[8] Of course, this isn't the first time people have lamented the end of genre. To summarize (Drott 2013), in one inadequate sentence, times of convention-defying moments of musical formations highlight the need for flexible, active understandings of genre as a group*ing* rather than a group.

So let's investigate genre tags. In almost all streaming services, artists or albums or tracks get tagged with genre labels. Whether they are curatorial, algorithmically generated, or user-generated, the purpose of such labels is to provide an indexing of these artists, placing them into contact with others of the same index. In most instances, these tags are determined with a heterogeneous ensemble of strategies, including machine learning, web scraping, and human intervention.[9] So it's tough to track down agency. But, these kinds of metadata undergird systems like Spotify's, and they often affect the ways they present music to you.

How do they do this? Well, according to Glenn McDonald, one of Spotify's chief metadata and genre folks, Spotify uses "connections between artists rather than individual songs or albums as a way of organizing the similarity relations on which the company's taxonomies are based."[10] In other words, perceived connections between *artists* matter to them more than tracks or albums.

Up here I've given some examples of genre tags that different artists get. It's not so important that you see the individual genres; instead, focus on two ideas. First, these genre tags vary in the scope or scale that they cover. Something like *pop* tells us less than, for instance, *Merseybeat*, which carries a much more specific time, place, and set of acoustic expectations. But they're all used here at the same classificatory level as simple adjectival descriptors. Second, as you can see, the cardinality of these lists varies pretty substantially.

So, how typical are these differences in cardinality? Turn to **EXAMPLE 1**. The x-axis shows the popularity of about 200 artists, and on the y-axis, we have the number of genre tags that Spotify gives to them. You'll notice that the most popular and the least popular acts have relatively few genre tags; those acts with the most genre tags tend to be moderately popular. This Gaussian distribution means

[9] Goldschmitt and Seaver (Forthcoming) describe the complexity of how different technologies of recommendation and categorization blend together in stream services: "A service like Spotify, then, is essentially heterogeneous, offering a variety of recommendation products that depend on a variety of techniques; those techniques are heterogeneous, too, composed out of human and algorithmic parts that are constantly reconfigured into arrangements that make it difficult to distinguish between the human and the algorithmic at any level."

[10] Quoted in (Brackett 2016, 325)

that Spotify focuses their tags on artists that are not too well-known in hopes that they'll be able to accurately predict if you'd like the music in this median, liminal range.[11]

But as I separate out the rock, rap, and pop artists—as you can see in **EXAMPLE 2—**notice what kinds of music get the most tags. Regardless of popularity, rock has the widest range and largest average number of genre tags. Spotify believes them to engage with more *kinds* of music.

Let's listen to two specific examples of what these labels, as part of #genre, might *mean* for our experience of popular music categories. The first snippet is from a song by a band who gets tags including "indie pop, and psychedelic rock." So, what might we expect? Let's listen.[12] The tags manifest as a combination of some collection of timbres associated with rock, and electronic or synthesized sounds tied to indie or neo-psychedelia, etc. There seems to be some correlation between artist tags and the resulting sonic manifestation.

Let's turn to another musical example, this time by an artist that Spotify tags as "dance pop," "pop," "r&b," and "urban contemporary." Perhaps this will give us some upbeat, slickly produced combination of synth, drums, and bass with a certain mode of melismatic singing. Let's see if the genre labels measure up.[13]

No, that wasn't the same track. This was Rihanna's "Same Ol' Mistakes," a cover of the Tame Impala song, "New Person, Same Old Mistakes" that preceded it. You might be thinking, "good one, Tom. Obviously Spotify can't be completely exhaustive with their genre tags for an artist. Rihanna plays more kinds of music than just "dance pop" and "pop," but those are the genres that *best* describe her music." But, I might retort, we've seen Spotify is willing to tag some artists with 40+ tags; why not Rihanna? Google similarly describes Rihanna's version as "Contemporary R&B," and "Pop," but

[11] I'm obviously and drastically simplifying things here. Spotify has a slew of acoustic metrics, similar to Pandora's Music Genome Project, that their developers use to classify the music. But, ultimately, the genre tags are often applied by *people*, and these predictions are partially consciously mediated.
[12] https://www.youtube.com/watch?v=784Qdy8YeJ4
[13] https://www.youtube.com/watch?v=x57ZM02NhF0

calls the Tame Impala original "Disco." Erik Smialek's (2015)work on metal taxonomies bears on this sort of distinction. In few communities are subgenres as important or carry as much capital as in the metal community, and fans often construct rigid, arborescent lineages of these taxonomies to flex their cultural know-how. But Smialek uses Derrida's (1980) notion of genre *participation* as opposed to generic *belonging* to show how some artists, like Rihanna here, *participate* in many more genres than they are commonly understood as *belonging* to. Spotify's genre labels, then, might be understood as performing the same work as those arborescent taxonomies, limiting her participatory potential.

Let's now turn to my other diagnostic for investigating how #genre "works", which, for Spotify, is how related artists cluster together, how they group into quite literal communities. According to Spotify's website, related artists are "determined by combining music discussions and trends happening around the internet with Spotify user listening data." Which tells us very little besides the fact that, ostensibly, these connections exist in an *esthesic* realm based only on listener activity and critic-fan discourses.[14]

So, rather than deal with the algorithmic black box, I wrote some scripts to explore the resulting ways that artists clump together. In **EXAMPLE 3**, I give a visual representation of how my cluster scripts work. First, I select an artist, represented by central circle in **EXAMPLE 3A** and on the screen here. This artist is our parent node. Its n number of related artists are then the "children" nodes, which gives us our first cluster. For the purposes of these figures, I've let n equal 3 for ease of visual reference, so my first cluster here is of size 4. In my actual examples, n is 10 so my first cluster will have 11 artists. Next, I iterate this script for each of the members of the first related cluster. This results in a "second-related cluster" of grandchildren that's exponentially larger. I then iterate again

[14] I borrow "critic-fan" from Brackett (2016), who essentially defines a tri-partite music categorization machine that involves communities of musicians, critic-fans, and the industry. This is a useful starting point, though I prefer Born's (2011, 378–79) four planes of social mediation, which provide additional nuance and scope.

for each of these artists to get a "third-related cluster" of great-grand-children that's pretty big, with 1111 artists possible in my later examples.

However, as you might suspect, there are often far fewer than the total possible number of related artists in a cluster. **EXAMPLE 3B** gives one such hypothetical cluster with related-artist overlap. In this case, overlaps between first and second clusters and the original artist reduce our final cluster size from its maximum possible 40 down to 33. Frequent overlaps occur between "levels" of related artists, resulting in smaller sizes for those clusters with more incestuous ties. In your **EXAMPLE 4** and here on the screen, we get a typical example of an n=10 second-level cluster. Rihanna has a second cluster with 58 of a possible 111 connections. As you can see, things get complicated pretty quickly for this small part of our related-artist universe, with lots of similar artists all linked.

Now, let's compare the size of these related artist clusters with the number of unique genres associated with the artists in the clusters. The more genre tags that get applied to a cluster, the more stylistically diffuse that cluster is according to Spotify, and the more cultural ground it is understood to cover. On the screen here, I've graphed the second clusters for our corpus of 200 rock, hip hop, and pop acts. Each dot represents an artist and their second-clusters. The x-axis represents the *size* of the cluster. The y-axis represents the total number of *unique* genre tags in the entire cluster. So, as we move to the right, the cluster size gets bigger, and as we move up, the clusters become more stylistically diffuse. Again, let's separate out this collection by these large, meta-genres that have specific prototypical identities, which I give in your **EXAMPLE 5.**

Orange represents pop, green hip hop, and blue rock. As is clear, Spotify and/or Spotify's users value the cultural capital of rock more than the other two, imbuing these artists with a higher mobility and more diverse clusters regardless of size.[15] The trendlines present this rather clearly.

[15] Silver et al. (2016, 17) suggest a similar notion for how hip hop and rock compare in a large MySpace dataset. "The line between Hip-Hop and not-Hip Hop is strong and rarely crossed. Within its bounds, it is a relatively boundless world, as genres mix fluidly, with little discernible." Whereas "the Rock world is a complex of multiple interpenetrating

Though I don't have time to go into this in detail, I'll just tell you that other cluster levels also display these differences.

Let's take a look at a single large genre, hip hop, to see how issues of demographics and artist identity might play into this. In **EXAMPLE 6** in your handout, and up here, I give two graphs. On the left, we have the number of genre tags for artists, and, on the right, we have their third clusters, as distributed between black male, white male, and female rappers. Why make this specific demarcation? Simply put, hip hop's typical, unmarked community is constituted by African-American male artists. As Tricia Rose wrote all the way back in 1990, rap's mainstreaming brought about canonization processes that reified the prototypical status of this particular identity, which continues to hold to this day (1990, 111).

So, in **EXAMPLE 6A**, we see that black male and female hip hop artists actually receive more genre tags than their white male counterparts. But, moving to their third-level clusters in **EXAMPLE 6B**, it becomes clear that these unmarked hip hop artists are confined to smaller and stylistically narrower clusters. The bottom chart of **6B** shows us that black male hip hop artists' clusters are about 15% smaller than either of the other artist demographics; and the top of **6B** shows us that—despite the fact that each individual black male artist receives more genre tags—there are fewer genre tags to "go around," their clusters are understood as much less stylistically eclectic. Black male hip hop artists' third clusters span only 41 genre tags, while white males' third clusters participate in 74 genres.

In Umberto Eco's (1976, 135–36; 235) terms, hip hop, especially by African American male artists, is *undercoded*; different styles and artist identities get swept under the same genre-label-rugs; certain macroscopic characteristics are deemed pertinent for labeling. For rock, on the other hand,

sub-communities, surrounded by a strong external boundary. Genre mixing across these sub-communities is common; genre mixing beyond the limit of the Rock world is rare internal sub-cultural differentiation."

with its much higher cardinality of available and applied genre tags, smaller elements seem to become pertinent for stylistic analysis. Rock gets *overcoded*.

Finally, as a sort of summarizing example, let's return to that figure that has been lurking behind my slides. What we see on the screen here and in your **EXAMPLE 7** is a giant map that I've made of 1005 *genres*; so, this graph shows us information about how genres are used. Each node on this network represents a genre. If genre A and genre B are both used to tag an artist, then those nodes will be connected on this network. The thickness of the lines represents how many times those genre labels were used in tandem. The colors and genre-communities are automatically generated, relying only on properties of the network and not at all on the kinds of tags themselves. So, here on the right you have Latin, down below you have pink indie sorts of things, up top you can see the pale-greenish hip hop and pop group, and to the left, the reddish metal and punk realm.

Despite the huge stylistic diversity made possible by 1005 genre tags, these communities end up being pretty similar to the categories that have long dominated Billboard charts and record bins. This is no surprise, since the Spotify has chosen to classify its *artists* as a means of wrangling the slippery idea of musico-semiotic identification, slotting neatly into a long and troubling history of classifying people and music. In his book, *Segregating Sound*, Karl Hagstrom Miller describes how, between the 1880s-1920s, popular music was ghettoized into distinct genres with "particular racial and ethnic identities." "Black and white performers [who had] regularly *employed* racialized sounds" became expected to "*embody* them" (Hagstrom Miller 2010, 4).[16] Jennifer Lynn Stoever provides a broader context to these assertions, tracing how the embodiment of race via the singing voice emerged in the Antebellum south, and continued in various guises all the way through the twentieth-century radio industry. (Stoever 2016, 25–28) At various stages of technological mediation, these lines become have

[16] Hagstrom Miller explains how music developed a color line through means of legal segregation, of an increasingly technologically sophisticated commercial music industry, and through the essentializing practices of the American Folklore Society's social Darwinist search for authentic American musics.

been re-inscribed.[17] It appears that the streaming revolution reinforces these centuries-old expectations. Many of these communities of genres have explicit racial delimiters, with the off-green hip-hop and pop color holding mostly African-American genres, and the yellow and pinks containing largely white popular genres.

In **EXAMPLES 8A** and **8B**, you can see how this plays out a bit more directly. The size of nodes in **EXAMPLE 8A** show how many times labels were used in my large corpus. You'll notice that lots of large nodes in the hip hop and pop color, with a pretty even distribution of frequencies among a wide variety of communities. Seems like lots of labels get used lots of times. But, as we move to **EXAMPLE 8B**, node size is now based on how *important* that node is in the network. Without getting into the algorithm, it's basically determined by how many connections it and its neighbors have.[18]

What we see is that, slightly above the center of **8B**, the dance pop and pop labels remain large in that off-green color, as does the pop-rock node that's hiding among the pink and yellow nodes. Almost all other labels associated with hip hop and rap, as well as funk, r&b, and soul, shrink away. Conversely, the bright pink "indie" genres take additional prominence, siphoning off importance from their surroundings. This gives one quantitative measure of a long tradition of popular music appropriation. As Tamara Roberts (2011, 22) explains, the music "industry thrives in particular on the commodified cross-racial encounter, exploiting dominant listeners' interest in how the subaltern plays and sings." This basically describes the network we see. Though hip hop and rap labels are there ubiquitously, constantly feeding into those pop and dance pop genres, they aren't important to the network. These mostly black genres inform the highly connected categories, but they aren't recognized in the same way.

[17] For Derrida, this would be a diachronic aspect of genres' *re-marking*.
[18] I've used here the Pagerank algorithm. A basic summary by Ian Rogers can be found here: http://www.cs.princeton.edu/~chazelle/courses/BIB/pagerank.htm. The original Pagerank paper can be found here: http://infolab.stanford.edu/~backrub/google.html.

We can see this more directly in the genre map if we focus on a specific and *new* genre label that arose around 2014: tropical house.[19] Basically, tropical house borrows liberally from dancehall and calypso musics that sound something like this recent Machel Montano soca hit.[20] Tropical house ends up sounding something like this.[21] In **EXAMPLE 9**, though you might have to take my word for it since it's hard to see, artists associated with reggae, soca, and dancehall don't overlap at *all* with those tagged with tropical house. There's simply no instance in my 11000-artist strong sample of someone that Spotify thinks does both kinds of music. Dancehall and soca sounds flow into tropical house music, but tropical house doesn't launch any reciprocal lines-of-flight; there's no reinvestment or acknowledgment of the siphoned cultural capital.

I've just recently begun looking at these sorts of graphs and the non-alignment of genre connections. Here's a quick slide on the non-overlap between country-gospel and gospel artists, for instance; and another that explores how jazz and classical interact. This, I think, will prove a valuable mode of for future analysis.

So, to wrap up, I'd like to return to those folks we saw at the beginning of the talk that suggested genre had lost meaning and relevance. Recall Mike Shinoda, the member of the band Linkin Park who suggested that "Genre is Dead," a proclamation he tweeted just before the release of the bands new single, "Heavy." As we listen to a clip of this song, consider the expectations generated by the tags Linkin Park gets from Spotify.[22]

The dozen or so "reaction" videos I watched shared a common motif: disbelief. It turns out that a song without familiar nu-metal characteristics was a bit too pop for many fans. Generic expectations still crucially matter in much the same way they always have.

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[19] For a great introduction to the genre, see Brian Barone's and John Lagomarsino's podcast with writer Bianca Gracie: http://www.tuner.show/episodes/2016/7/29/13-same-old-song-and-dancehall

[20] https://www.youtube.com/watch?v=p0JmdoSkfZ0

[21] https://www.youtube.com/watch?v=fRh_vgS2dFE

[22] https://www.youtube.com/watch?v=5dmQ3QWpy1Q. Spotify labels Linkin Park with: 'alternative metal', 'nu metal', 'post-grunge', 'rap metal', and 'rock'.

So, even though our current generic episteme still manifests all the biases and limitations that earlier technologies of pop music categorization did, and still guides expectations in quite familiar ways, I still think that #genre represents a shift in how musical categories come to be. In earlier genre *becomings*, adjectives like "jazz" or "soul" and verbs like "rock 'n' roll" or "rap," became *nominalized* and *noun-ified*. Now, these kinds of style terms have become (re)adjectivized, and have become weapons in the battle for artistic space and legitimacy.

The answers to you may have considered to my initial question, "what kind of music do you study?" embody genre's ubiquity and continued importance. _ I'll leave you with a thought from John Frow, who argues that genre is "central to human meaning-making" (2015, 10). I'd urge us, as scholars committed to music, to dive into an exploration of musical categories if we believe in the kinds of meanings that music and musicians create.