

[Transcript] Plain English with Derek Thompson / The Science of How Music Hits Have Changed in the Last 60 Years

When you're lost in the darkness look for the pod
Specifically the prestige TV podcast on the ringer podcast network where we're breaking down
every new episode of HBO's the last of us
On Sunday nights grab your battery and join Van Lathen and Charles Holmes for an instant reaction
to the latest episode
Then head back to the QZ on Tuesdays for a deep dive with Joanna Robinson and Mallory Rubin from
character arcs to video game adaptation
Choices story themes to needle drops will parse every inch of this cordyceps coated universe
Watch out for mouth tendrils and follow along and Spotify or wherever you get your podcasts
Today the science of how music hits have changed in the last 60 years
starting with an old favorite
Losing my religion by REM was released in 1991 off the album out of time
As you can tell from the first few seconds of the song
it sounds very little like most of today's biggest hits and
This episode is all about why music sounds the way it does in this century
So why even begin with losing my religion?
Well, the answer comes down to that year. It was released
1991 it might be the most important year in the history of pop music in America or at least more
humbly
I would argue it was the most important inflection point in the history of pop music in America
Some of you have heard me tell this story before it's one of my favorite stories from my last book hit
makers
And it goes like this
In the 1950s billboard started publishing the hot 100 list
Which is the most popular songs in the country and the billboard 200 which does the same thing for
the most popular albums
For many decades these lists were a lie
billboard didn't have many ways to truly measure what albums were being sold in stores or played
on the radio and
Instead they relied on an honor system
They would ask record stores and DJs to self report the most popular musicians of the moment
The problem is that both parties had reasons to lie the labels
Would often pressure radio stations to play hand-picked hits this tactic was made famous by the so-
called peyola scandals
And the record stores had their own bias. It was a bias toward churn
so when vinyl records were scarce and a record store had sold out of let's say
AC DC if they had a bunch of Bruce Springsteen or REM in stock then it was rational for them to tell
billboard
Oh, yeah, you won't believe how many people love this new record by Bruce like they wanted to get
rid of their inventory
So for many years
Billboard was not telling us the truth about American music
It was holding up a funny mirror warped by label preferences and the finitude of record store

[Transcript] Plain English with Derek Thompson / The Science of How Music Hits Have Changed in the Last 60 Years

inventories

And one of the biggest implications of this structurally dishonest system was that the charts were often

Overcounting songs from the genres the labels preferred like rock and roll

Which meant they were undercounting genres that they were more indifferent toward like country or rap hip-hop

But the year losing my religion came out in 1991

This changed

Nielsen released sound scan which used point-of-sales data from cash registers and stores so the record stores couldn't lie anymore and

Billboard switched from trusting radio stations self-reports to monitoring airplay through a third party. So suddenly

The charts had become a more honest reflection of the songs Americans were actually listening to so when the methodology changed

How did the charts change?

Well before

1991 a country music album had never debuted leading the billboard 200 but almost immediately after this change

REM fell down the charts and Garth Brooks

Rope in the wind spent eight weeks as the most popular album in the country the next year

1992 rock showed that it wasn't entirely dead

Nevermind by Nirvana one of the most popular famous all rock albums of all time hit number one and it stayed there for two weeks

but the handoff from rock to country was already underway Garth Brooks in 1992 held the top spot in the billboard 200 for

17 weeks eight times longer than Nirvana and the best-selling album of 92 was

Headlined by this earworm, which is not exactly the most stylistically innovative act of songwriting in production. Don't tell my heart. My achy breaky heart. I just don't think you'd understand

That's achy breaky heart by Billy Ray Cyrus off the album some gave all as you can hear in that clip It's sort of a twangy mix of southern rock in Nashville, but achy breaky heart was

Groundbreaking for its time in the early 1990s because it wasn't just an instant smash hit

Some gave all was the first time in American history that a country album was the most bought album of the year

We're not done. The most significant legacy of 1991 was not the rise of country

It was this and as you're about to hear this is a stylistic change that is not exactly the dulcet tones of REM

That's appetite for destruction by the rap group NWA in the summer of 1991

NWA made history by releasing the first rap album to ever hit number one on Billboard and in many ways

This is the most influential legacy of the Billboard chart changes

This was the glimpse of things to come because for the next 30 years

Rap and hip-hop would take off and become by far the most popular genre of music for the next few decades

[Transcript] Plain English with Derek Thompson / The Science of How Music Hits Have Changed in the Last 60 Years

So that's the end of the billboard story and ever since learning about it
I have always been fascinated by this way of thinking like understanding the historical and
technological forces that shape the music that we listen to and love
And today's guest is Chris Dalareva, a musician, a writer, a data analyst with Audio Mac
Who has produced some incredible essays on the subtle and not so subtle ways that music hits have
changed in the last 20 years
Waves that go far beyond the rise of rap and hip-hop to the way songs are written
How choruses sound, how keys have changed, and why some careful music listeners have gone from
saying, huh
All these songs have the same chord progression to, huh
All these songs have the same rhythm
I had a blast with this episode and I hope you do too
If you're liking what you hear on this podcast or the rest of our episodes, please give us five stars on
Apple Music or Spotify and leave a comment or a positive review
It always goes a long way and we appreciate it
I'm Derek Thompson
This is Plain English
Chris Dalareva, welcome to the podcast
Thanks for having me Derek
So in the last few years, you have been a fount of fascinating work on how pop music is changing
and how the sound of hits is changing
And I want to pick up where I left off in the open and ask you about 1991
How would you describe the significance of 1991 and the seed change in the sound of music since
then?
Yeah, so 1991 is interesting because at the end of the day, it was just an accounting change from
Billboard
We went from surveying record stores to actually looking at point of sale data
And what we saw from that was first that America's tastes were very different than we thought
Hip hop and country especially were much more popular than had previously been known
And secondly, our tastes were much stickier
And what I mean by that is things started staying at the top of the Billboard Hot 100 for longer
periods of time
For example, between 1960 and 1980, the longest there was a number one was first for nine weeks
That was first established in 1960
Hey Jude, match that in 1968
In 1977, it went up to 10 weeks
Olivia Newton-John's physical matched that 10 week
So over 20 years, you have the record move up a single week
Then in 1992, Boys to Men gets it to 13 weeks with End of the Road
And then over the next three years, it goes 14 weeks and then 16 weeks
The 16 week record wasn't broken
And it was matched by Despacito and then it was broken by Old Town Road a couple decades later
But we saw very quickly that our tastes were very sticky

[Transcript] Plain English with Derek Thompson / The Science of How Music Hits Have Changed in the Last 60 Years

We wanted to keep hearing the same thing over and over again
Yeah, it's like the old Billboard guard had like throttled the accurate reflection of American taste
It wanted everyone to think that we liked maybe hair bands or rock music a little bit more than we actually did
It wanted us to think that we liked hip hop and country a little bit less than we actually did
It wanted us to think that our tastes were changing week to week and month to month a little bit more than they actually are
And suddenly, I just think it's so interesting, yes, that this Billboard methodological change really overturned what we think of
American taste in music
One of the really interesting things that it did, one of the maybe the most important things that it did, is it launched an era of hip hop
How would you, in your own words, describe the significance of the rise of hip hop in this way?
So hip hop is sort of the, I don't want to think about this teleologically, but it's going to sort of sound like that
It's the end of a long journey of American popular music shifting from an obsession with melody to an obsession with rhythm
Paul Simon talks about this in an interview where the interviewer asks him, your current work is so much more concerned with rhythm
The melody is that you're feeling that melody is no longer important
And Simon says, we're long out of the age of melody, long out of there and we probably won't be going back into it
And in a way, he is right because hip hop is obsessed, it's obsessed with rhythm
And this is a trend that, again, like I said, it started decades before
Where first you have ragtime music that's much more rhythmic than you get to rock and roll
There's a great quote from the Chuck Berry song rock and roll music where he says, just let me hear some of that rock and roll music
It's got a backbeat, you can't lose it
And that's sort of a summary of what's going to happen as the decades go on, James Brown with funk, very, very rhythmic music
Disco, again, very rhythmic
And then again, like I said, sort of the culmination of this is some of the most rhythmic music we've ever had, which is hip hop and its various incarnations
And that's not to say this is worse than more melodically focused music, it's just to say it's different
No, in many cases, for many people, it might simply be better
One way that I think about this, because we had talked offline about what's the best way to represent this shift from melody to rhythm
Paul Simon, by the time he said this, he was an aging white guy, you and I are white dudes talking in front of mics
I don't want to make it sound like we're saying that music today doesn't have a melody
So one thing that I think really captures what you're talking about is that in the 20th century, the most common musical memes were melodic memes
You have this chord progression of C, G, A minor, F, that served as the backbone of every hit or

[Transcript] Plain English with Derek Thompson / The Science of How Music Hits Have Changed in the Last 60 Years

every other hit for 50 years

I mean, maybe the best example, Devin, pull up the famous Axis of Awesome four chord song

Do you recognize this?

Yeah, that is Don't Stop Believing by Journey, very original song

There's a few more songs

Check it out

My life is brilliant

My love is pure

I saw an angel

Of that I'm sure

That's just two songs that are similar

Forever young

Three songs

I wanna be forever young

I won't hesitate

No more, no more, it cannot wait

Okay, so their point obviously is that all of these hits from the 1960s, 1970s, 1980s, they were writing on the same melody, right?

The melody was the meme

But in the 21st century, the most notable musical memes are rhythmic rather than melodic

So Vox did this fantastic analysis of triplet flow, triplet flow as a meme in rap

And I think a couple of songs can really illustrate this

Devin, play a cut of Cardi B Bodak Yellow

Look, I might just chill in some bape

I might just chill with your boo

Now, compare that to Panda by designer

Devin, hit that

Man, I'm the monster that ran it

The chapter go out to the ground

I mean, you can hear this

Da-da

Even Snoop Dogg caught on to this and made fun of it in a podcast interview

Devin, can you play this last clip?

Da-da-da-da-ba-ba-ba-ba

Boop-boop-boop, go-da-da-da-da-da-da-da-da

So this might be a way of capturing the dynamic you're pointing to

It's not that melody is dead

Like that'd be absurd to say

It's that the locus of musical means has shifted somewhat from melody in the 20th century to rhythm in the 21st

Yeah, totally

And it would be absurd if we were trying to say that melody was dead when someone like Adele is still massively popular.

[Transcript] Plain English with Derek Thompson / The Science of How Music Hits Have Changed in the Last 60 Years

I mean, that music is melodic, and it's also not to say that her music doesn't have a rhythmic component the same way that hip-hop still has melodic components.

It's just that, as you're saying, the memes or the things that have come to define these genres are either more melodically or more rhythmically focused.

Another great example of this is, as you were saying, there are certain chord progressions back in the day that basically every band would have their take on.

There are certain samples, usually rhythmic samples, that tons of hip-hop artists will use.

People often say the most sampled piece of all time is this thing called Amen Brother by the Winstons.

There's a very famous drum break and Funky Drummer by James Brown.

Tons and tons of hip-hop artists have had their own take on that.

Again, it's using what you're saying a rhythmic meme that's used again and again as opposed to melodic or harmonic memes.

Another thing that happened in 1991, as you've mentioned, the biggest hits spent more time on the charts.

The 10 songs that have spent the most time on the Hot 100 were all released after 1991.

I mean, that's incredible.

Does that mean that the 10 best songs in the history of music were all released after 1991?

No, of course not.

It's just the way that the charts reflect our tastes mean that our preference for familiarity is more accurately captured by the charts.

What do you think is happening there?

Yeah, and that's something that's interesting where there's a discontinuity in the data and it makes it look like behavior has changed radically, but in reality it probably didn't.

There's this old story about the guy who apparently started pop radio and he said he was... I'm probably going to get this story a little bit wrong and most of it's probably apocryphal, but he was dating some girl who worked at a restaurant and she'd be working all day.

Customers would be coming in and playing the most popular songs on the jukeboxes and then all the customers would leave and while they were cleaning up, he thought it was funny that the waitresses would just start playing the same exact music on the jukeboxes.

They wanted to keep hearing the same songs over and over again and it's not like suddenly in 1991 we just became addicted to the same songs as that.

This was just a more accurate reflection of what people's tastes are actually like and as we've moved to the streaming era, there's another discontinuity because in 1991 it was still based on sales.

It was how many copies of the Macarena were being sold, but now the charts are based on how many times are those songs being spun and what we see from that is still, there are some changes in how the charts are working, but still we are hyper addicted to songs. People can keep listening to these songs over and over again and they stay at the top of the charts for long, long periods of time.

It goes back to... There's a musicologist named David Huron who I believe is at the Ohio State University or at least was last time I looked into this particular quote and

[Transcript] Plain English with Derek Thompson / The Science of How Music Hits Have Changed in the Last 60 Years

he said 90% of the time we are listening to music.

We are listening to a song that we've already heard.

Repetition is built into, it's sewn into the very DNA of music.

You have to repeat a rhythm in order to get a verse for chorus.

Chorus are repeated within songs, songs repeated within playlists, playlists repeated when we go on drives.

It's fractal repetition all the way down, so it makes sense that in a world of vinyl and of CDs, we were buying the album once, but we were wearing it out, listening to it a thousand times.

Now with Spotify, we have the ability to publicly record every single spin, so there's no more private spins.

When I click on whatever, Despacito for the 10,000th time, those 10,000 spins of Despacito or those 10,000 turns are all recorded when you look at the song on your Spotify and see a 1.3 billion plays of this song.

It's all transparent.

Yeah, definitely.

Part of me, you always wish that we had this data going back is when the Beatles I Want to Hold Your Hand was a number one back in the 60s, was it that people were buying that record a lot and then never really listening to it that much or were they actually spinning it that much?

I mean, in terms of longevity of the Beatles, I'm just going to assume that they were playing the record a lot too, but we really don't know and it's something that streaming, now that our charts reflect streaming, it's a more accurate representation of ultimately decades ago what the charts were after, which is what is the most popular record right now?

Yeah, I remember when I was writing my book Hit Makers, I talked to someone who said, it's possible that the most heard song of all time is Brahms Lullaby because if you're a mom who sings that song to your children as my mother sang it to me, well, 365 days times I think I got a lullaby until I was like eight years old, I mean, you are now talking about thousands and thousands and thousands of days listening to this song and then repeating it in your own head maybe as you're falling asleep.

I want to connect what we're talking about here, the idea that technology changes music habits to the idea that technology also changes what songs sound like.

You've observed that average song length has gone down rather significantly in the last few years with the rise of streaming and average intro length has gone down too.

Tell us what's happening here.

So starting in, well, I'll go back a little bit further, starting in the early 60s, songs were relatively short and they were somewhat constrained or not somewhat, they were constrained at least on a single by how much sound a vinyl 45 could hold because if you try to pack more sound on there, the grooves got to get smaller.

There's really a physical limit to how much sound you can get on there and have it still sound good as vinyl technology improves over the decades.

We see hit singles get longer and longer and it's sort of plateaus at some point in the 1980s and it stays pretty steady.

[Transcript] Plain English with Derek Thompson / The Science of How Music Hits Have Changed in the Last 60 Years

But then throughout the 2000s, we start seeing song length shrink and in the 2010s, it sort of plummets.

I think over the last decade, the average length of a number one hit has declined by about 10%.

And the reason for this is largely streaming.

It's mostly where as back in the day, there was a physical constraint.

Now there's a financial incentive.

You need someone to listen to your song for over 30 seconds if you want to get paid and musicians like to get paid.

So the goal is to make sure someone gets to that 30 second mark and given that there's so much content out there right now, podcasts, television shows, you've got to get to your point quickly.

And that's why we've also, in my opinion, seen song introductions shrink too.

People want to get to the point, we want to hook them fast and actually introductions have shrunk at a much faster rate than the overall song length.

So shorter intros are not just a function.

Is it just me or do more songs today begin with the chorus almost immediately?

You think about an older genre like classic rock, those songs had 30 seconds, 60 second, 90 second introductions and guitar solos and then the verse comes in and then the song is like several minutes old by the time you hear the first chorus.

I feel like it's the opposite today.

Am I way off base?

I can't say for certain if the chorus is the first section that appears, but the economist actually wrote an article a couple of years back sort of that had a similar tone to the one I just worked on them with about introductions where choruses are also appearing more quickly in songs.

So yes, what you're saying is largely correct.

There's certainly a reason why there's a saying in the music industry, don't bore us, get to the chorus.

You want to catch people's attention as quickly as you can and typically the chorus, the thing that's going to be repeated over and over again is going to be the thing that sticks with you.

So if we hit you with that quickly, hopefully you're going to stick around at least for 30 seconds.

Yeah, you know what?

It's funny.

I just pulled up the economist piece right now.

So what it looks like is, let me try to do the terrible podcast radio thing of describing a graph on a podcast, but basically in the 1960s, there were a ton of songs that began with the chorus.

And he loves you by the Beatles, Hard Day's Night, gets you right into there.

You've lost that love and feeling by the righteous brothers.

In the 1960s, beginning with the chorus seemed pretty common.

[Transcript] Plain English with Derek Thompson / The Science of How Music Hits Have Changed in the Last 60 Years

But again, but as you mentioned, as the technology improved, songs got longer. And the 1980s, 1990s, it looks like very few songs are beginning with the chorus. The power of love begins with the chorus. Because You Love Me by Celine Dion, I guess she enjoys beginning with choruses. But you have more songs like Together Again by Janet Jackson, Hotel California by the Eagles, which have really, really long intros before they get to the chorus. And then again, you see in the last 15 years, songs like Dynamite, We Don't Talk About Bruno, Bad Habit by Steve Lacey, which just came out in the last year, these songs are basically beginning with the chorus. So it does seem like we are going back to the 1960s in just the same way you described, right? You had shorter songs, faster paths to the chorus in the 1960s. Technology allows for more languorous music in the 70s, 80s, 90s. And now we're right back. Yeah, it's definitely an interesting trend. And the thing that I find almost most fascinating about this is if you were to look at the data with no context, you know, it looks, it's parabolic. It starts low, goes high, and then comes back down low. And you might think that there is some intimate connection between the music of the 60s and the music of today, but it's really very different things driving those trends. And which I think is part of a much larger trend that we're sort of dancing around here, where artists are often reacting to external circumstances. Artists are trying to solve problems. This is something David Byrne from the Talking Heads mentions at the beginning of his book, How Music Works. And I actually might quote a passage from that if that's okay. Do it. Yeah, that's great. So he says, I had an extremely slow, dawning insight about creation. That insight is that context largely determines what is written, painted, sculpted, sung or performed. That doesn't sound like much of an insight, but it's actually the opposite of conventional wisdom, which maintains that creation emerges out of some interior emotion from an upwelling of passion or feeling, and that the creative urge will brook no accommodation, that it simply must find an outlet to be heard, read, or seen. This is the romantic notion of how creative work comes to be. But I think the path of creation is almost 180% from this model. I believe that we unconsciously and instinctively make work to fit preexisting formats. And I realize I misspoke there, it meant 180 degrees from this model. But Byrne gives great examples. One thing he points to is music from the Middle Ages that sort of have these, talking about long, languorous melodies, you're imagining somebody singing in a church. And so a lot of people think like, oh, they just didn't understand how to make more complex

[Transcript] Plain English with Derek Thompson / The Science of How Music Hits Have Changed in the Last 60 Years

harmonies or more complex melodies.

And he says, no, they were actually solving.

They're making the perfect music for those spaces.

Those spaces have huge amounts of reverb because they're so big.

So if you were singing very quick melodies with complicated harmonies, it would sound terrible because what you had sung a few seconds before would still be hanging in the air.

And throughout Byrne's book, he sort of talks about lots of different musical movements from jazz to hip hop and how artists were reacting to certain technology or the certain spaces that music was being created in.

And we're seeing that with how song length has changed over the decades.

I love that.

It's a very Darwinian theory of culture, not only in imagining a theory for how culture evolves step by step, but Darwin's survival of the fittest wasn't about fittest as in most strong.

It was about most fit to the local environment.

So a monk song is most fit to the cathedral built in 1300.

A Beethoven or Mozart opera is most fit to that audience.

Meanwhile, a faster song that gets straight to the chorus is much more fit to a streaming environment.

So I take that interpretation as it's been pretty intelligent and also fairly Darwinian.

I also have the thought sometimes of where the Atlantic published a piece about Kanye West, who's had quite a journey in the last 10 years since we published the cover story, but it was called American Mozart, I believe.

And I remember when I saw that headline just having like a little daydream of like, this is such a lovely thought.

Like what would Mozart be doing now?

Or conversely, what would Rihanna be doing in the mind of Rihanna be doing in 17th century, 18th century Austria?

I mean, clearly these people, Puccini, Beethoven, had an extraordinary talent for melody.

I mean, they were amazing hit makers of their time, opera houses around the world and concert halls around the world wanted to perform their work.

But it's weird to think what that mind pulled forward 300 years might produce.

The other sort of less sophisticated aspect of this thought is like, where are all those dudes with classic rock voices and hair band voices today?

Like those guys screaming and upper registers, like mixing their high tenor, like, they just shit out of luck.

Are they not even trying?

Or are they like in some bar in Tennessee, like doing, you know, poison cover band stuff?

I don't even know.

I mean, it's probably a little bit of all that.

My one friend has a joke that if Beethoven were around today, he'd be making movie scores.

He's Max Richter Hans Zimmer, yeah.

[Transcript] Plain English with Derek Thompson / The Science of How Music Hits Have Changed in the Last 60 Years

Yeah, exactly.

Yeah.

And that's one thing that I think about a lot is I hear a song, I'm saying I'm sitting at my desk working and I'm like, I'm not really into that, but it's a super popular song. Sometimes I'm like, maybe I'm just not hearing it in the right context.

It's like, if you're listening to club music, when you're sitting using Microsoft Excel shocker and it might not hit you the right way.

But if you're out at a bar and you hear that same song again, it might make a lot more sense.

But I agree with a lot of Burns point, I mean, I don't think he's completely throwing away the notion that people don't have any inspiration, but context is very, very important when we try to understand what's popular.

And I know from your work with hit makers, you're probably intimately familiar with this idea.

I want to get to your next awesome observation because it really surprised me when I saw your piece on this.

And this is the trend on the increase in writers per song.

So last summer, I think the right way to set this up is last summer, the artist Diane Warren posted to Twitter on August 1st, 2020, the question, quote, how can there be 24 writers on a song with the little like eyes rolling back into the head emoji?

And it was a reference to Alien Superstar, the song off the new Beyonce album Renaissance.

And you looked into this.

You used that question as an inspiration to look into, wait, how can there be 24 writers on a song?

The average number of writers in the song in the 1960s, 1970s, 1980s was two.

But something happened after 1991.

The average number of writers per song tripled.

What happened?

Yeah.

So this is, it seemed like her question was coming from a disingenuous perspective.

Diane Warren is very successful.

She has tons, she's written tons of number one hits.

And the answer she got on Twitter was people were like, well, there's samples in the songs.

And if you sample or interpolate the element of another song legally, you have to credit the writers of those songs.

And if now since we're decades after sampling has become popular, if you sample a song that's been sampled, you very quickly get a lot of writers on that, that song.

So I went and looked into this and I realized that even if you remove the sample and interpolation credits from alien superstar, you're still left with 17 songwriters, which is still a lot of songwriters.

So I wanted to explore still how do you go from two to 24 is a big jump, two to 17 is still a huge jump.

And samples and interpolations post 1991, when hip hop became more popular, and that's

[Transcript] Plain English with Derek Thompson / The Science of How Music Hits Have Changed in the Last 60 Years

a genre that really relies on those, that explains part of the rise.

But there are other pieces of the rise that I think are more important.

First of all, over the decades, copyright terms have gotten longer.

Currently, for a songwriting copyright, it's the life of the author or songwriter plus 70 years.

When copyright was first established in the United States, well, at the beginning of the United States, it was 14 years and then you could extend it another 14.

Over the centuries, it had been extended a couple times.

It was 28 years and you could extend another 28.

That's still 56 years.

Life of the author plus 70 years is an absurd length of time.

I did the math once and if Taylor Swift lives the life of an average, the lifespan of an average American woman lives like 77.

Her descendants will still control the copyright to you belong with me in like the 2130s.

Because of that, you have to be really careful about accidentally making something that sounds like an older song because somebody could come and sue you and then they're going to get a credit on that.

To avoid those lawsuits, you'll often see artists just preemptively credit songwriters for previous work that sounds similar, even if it wasn't an inspiration because they don't want to go to court.

We saw this last year or two years ago with Olivia Rodrigo's song, Good for You.

Two members of Paramore were added as songwriters on that song because they said it bore similarity

to the Paramore song, Misery Business.

Personally, I think it's a stretch to say they deserve a songwriting credit.

I mean, there are similarities, but it's a shock.

I actually disagree.

I love Olivia Rodrigo, but I heard that song and I was like, Olivia Rodrigo just interpolated Misery Business.

I love both those songs and it's a great interpolation, but I listened to it and it was immediately like, I think I've heard this one before.

But the point is taken that you get not only more samples and more samples of samples, you have a more litigious culture, which means a lot of people are adding songwriting credits just defensively.

What else is happening?

I think a more expansive definition of songwriting that is also creating a scenario where more people are able to piggyback on the songwriting credit.

Yeah.

And I think this is the most important part.

The way a lot of people make money on songs over time is you get a songwriting credit.

You're going to collect a royalty.

If you just play on a song, that's not necessarily the case.

If you just produce a song, that's not necessarily the case.

[Transcript] Plain English with Derek Thompson / The Science of How Music Hits Have Changed in the Last 60 Years

So everyone wants to get a piece of that pie.

So again, part of it is connected to this litigiousness to financial incentives.

But just as you said, the definition of what songwriting is has changed and this is one of the, I think the largest changes in popular music over the last 60 or so years.

If you go back to the days of Leni McCartney, any of the songwriting duos, you can think of Bernie, Toppin, Elton John, Burt Baccarat and Hal David, you had them writing a song song.

They hand it off to a producer and the producer is going to decide how we're going to record the song.

What's the instrumentation going to be?

Do we need to create any orchestration?

That doesn't exist really anymore because recordings and recording software is so ubiquitous.

I can sit in my bedroom right now and record a professional quality song.

So the songwriting and production processes are no longer divorced from one another.

Max Martin, who's the most successful songwriter and producer of the last 20 years, said when he was accepting the Polar Music Prize, writing and producing, I don't really know what's what anymore.

The old sort of way of here's a song and you record it and produce it, it doesn't really work like that anymore.

It's kind of married together.

We don't even think of the abstract idea of a song and the fixed idea of a recording as separate anymore, whereas for decades we did, songs were, a song didn't belong to a single person.

It belonged to the writer, but tons and tons of artists would cover that song.

We would often see within the same year, multiple artists recording a hit song.

There was a, in the late 1950s, there was a number one hit called The Three Bells.

It got to number one by a band called The Browns.

During that same week, a different version got to number 23 by another artist named Dick Flood.

This seems bizarre these days.

You imagine Lizzo has a number one hit and then Ariana Grande records the same exact song and also charts, which is weird to our perspective because we can listen to recordings anywhere, basically the song and the recording have become the same thing.

Because of that, on the recording side, songwriting and production are the same thing.

The reason, part of the reason you see more songwriters is people who are producing, people who are creating rhythms, doing things that would typically just be credited as production are also getting credited as songwriters too.

There's tons of overlap between producers and songwriters in a way that didn't exist 60 years ago.

The last trend I want to talk to you about is the decline of key changes.

I was born in 1986 and maybe my favorite song from 1986 is Living on a Prayer, which has a very, very famous key change, Devin, if we could sync that up.

And also the very next year, one of the most iconic pop songs for the key change was released

[Transcript] Plain English with Derek Thompson / The Science of How Music Hits Have Changed in the Last 60 Years

by Whitney Houston, I want to dance with somebody.

Now it seems like the key change is basically gone.

Beyonce's Love on Top very famously has like seven or eight key changes, but really there just aren't songs with key changes anymore.

And you pointed this out in a recent article and I thought it was such a fascinating observation. What's going on there?

Yeah.

So again, a lot of this is connected to digital production.

I can record a song in my bedroom on Logic Pro or Pro Tools.

And the way these digital audio workstations are laid out is you see all your tracks vertically and because of that there is an incentive to write songs vertically, which doesn't lend itself to making music with key changes.

Joe Bennett who can you just spot what is what is vertical songwriting mean in this case?

Yeah.

So we can, if we think of two types of songwriting, vertical songwriting and horizontal songwriting, horizontally songwriting.

And these are not terms that are widely used, but it's a good way to, it's a good mental model to imagine this.

Horizontal songwriting is think you're writing the song section by section.

I'm going to write a verse.

I'm going to write a chorus.

I'm going to write a second verse.

I'm going to write a bridge, so on and so forth.

If you imagine sitting in a room by yourself playing the guitar, that's probably how you're going to think about the song.

You're going to think section by section, whereas if I'm using a digital audio workstation, I might make a loop, you know, a four bar loop and I'm going to have that play throughout my entire song.

So the way I'm going to create intrigue is by stacking and unstacking elements vertically.

Maybe during the verse, I had some other L, I had a couple synthesizers during the chorus.

I had more, and then during the bridge, I pull one or two of those away.

The way that the digital audio workstation lays out music physically, it makes it, so you sort of, you're incentivized to stack elements like that.

You don't have to immediately think, okay, I'm going verse chorus first.

So, Chris, just to help me understand vertical songwriting, can we tee up a song that is just a classic example of vertical songwriting?

Just throw one out.

Throw out a hit that's a classic example.

Probably like break your heart by Tile Cruise from about 10, 15 years ago is a great example.

Okay, Devin, can you cue up, break your heart and then walk me through what you're talking about in terms of vertical songwriting?

So, as this song plays, you're really going to hear just the same chord progression throughout

[Transcript] Plain English with Derek Thompson / The Science of How Music Hits Have Changed in the Last 60 Years

the whole song.

But what you're going to notice is as we go section to section, the producers and Tile Cruise are really just going to add and remove synthesizers to try to draw you in.

So I think the pre-chorus is coming here.

You hear an ostinato thing there.

Drum beats changed a little bit here.

You still hear that arpeggiating synthesizer in the back that you're going to hear throughout most of the song, but they've layered in more and more synthesizers, again, just adding and removing elements vertically.

It's almost like, okay, I think we can wind down Tile Cruise.

That was fantastic.

I listened to that song a thousand times with my kickball team in 2009 to reveal way too much about that particular year.

What I think of this like when I'm imagining your metaphor of vertical songwriting, it's kind of like a sandwich.

It's like I can see like looking at the computer screen, it's like, okay, here's my BLT, and the BLT is going to get us through the verse, but then I'm going to layer in some avocado for the pre-chorus.

I'm going to layer in the avocado, and then when we hit the chorus, I might take out the avocado and I'm putting in something else, I don't know, where I'm running out of sandwich metaphors, turkey.

And so you have the same basic vertical sandwich, but by taking away and adding certain textures and instruments and synthesizers, you're queuing the audience to sort of expect different things from that part of the song.

And so you can think of it as just sort of stacking rather than writing it linearly.

Yeah, that's a good way to put it.

And it's not to say that decades ago, it's like since the beginning of time, when you get to a chorus, you're probably going to hear some different elements or different instrumentation.

It's just a bit more subtle with how the digital audio workstation is laid out.

Another thing you might notice when you're hearing that is all of the melodic phrases in the verse were very, very short melodic phrases.

You can almost see them building them around these short little loops, whereas if you take another song that was probably around the same time like, hey, there, Delilah, that's built around like one very long melodic phrase that you would associate with music from decades before.

And it was probably composed, again, to use this terminology horizontally where the lead songwriter of the plain white tease is thinking verse, chorus, rather than I have a loop and now I'm in a build intrigue by adding and removing certain elements to the production.

I am not a musical genius.

So this question might not be particularly intelligent, but is there a way in which 21st century pop music genius in an age of vertical songwriting is almost as visual as it is audio? Because what you're describing, when I imagine what you're describing, I can imagine like

[Transcript] Plain English with Derek Thompson / The Science of How Music Hits Have Changed in the Last 60 Years

a really smart producer almost producing visually saying, we need a downbeat here. We need staccato syllables for the chorus in order to syncopate against the arpeggiating synth.

And that kind of intelligence seems almost more visual than audio to me, even though ironically, of course, we're talking about pop music.

The first guy, so I record music and this is something I've seen in myself is I used to typically write, again, just sitting in this chair that I'm sitting in now with a guitar, record a little voice memo and then go produce later.

But then when I got the software on my computer, I noticed I was doing exactly what I'm trying to describe and it's hard if you've never done it before is building little loops and then writing over those loops, this more vertical approach.

And it is a very visual process and the first guy I ever recorded with, I remember I was just like staring at the screen.

I was like, that looks like it's off.

It looks like we came in a beat early there and he was like, you don't make music with your eyes.

Even if it is a beat early, if it sounds good to you, then forget about it.

But it is a much more visual.

There is a larger visual component that just couldn't have existed 40 years ago when we didn't have these beautiful visual displays.

So it's a very keen observation.

So putting it all together, you have these changes since 1991 that have made hit songs shorter, the trip to the chorus is faster.

There is a shifting emphasis toward rhythm over melody.

People play these songs more.

They're more likely to hit number one multiple times in a year, stay on the charts for a longer period of time.

They have more songwriters and they're less likely to have key changes.

Is there some big picture trend in the evolving shape of pop music in the 21st century that you want to talk about that we have not hit in the last few minutes?

I think one other interesting thing with the musical keys is that it's not just that there are less key changes, but the keys that songwriters choose to work in are different.

For decades, the keys of C and G were the most popular keys and that's because if you pick up a guitar, it's the easiest to play.

Yes, the easiest to play.

No one is picking up a guitar and they don't know how to play it that much and they're playing an F-sharp.

When we're making most of our music and computers, we're more key agnostic.

It's easy to change keys if you're building everything with a MIDI synthesizer.

What you see between 1990 and 2020 is that it's more of a uniform distribution for key selection, whereas previously there was a strong favoring towards certain keys.

That's when I've talked about the decline of key changes.

I try to situate it in this larger discussion that a lot of things related to keys, key

[Transcript] Plain English with Derek Thompson / The Science of How Music Hits Have Changed in the Last 60 Years

selection has changed.

This piece about the actual selection of keys, I think it's brushed under the rug a little bit more, but I find it just as interesting.

It's due to the same sort of technology that's inspired the decline in key changes.

Look, you have answered a very important mystery for me, which is why do I have to when I play or learn a new hit song for my wife and the piano, I always have to transpose these complicated keys back into C major because that's the only key that I can actually play with any kind of facility on our little keyboard.

There we have it.

That's the reason.

It's because computerized songwriting gives people this key agnostic attitude toward music.

That's fascinating.

I had no idea that we'd seen that kind of evolution.

Yeah.

Obviously, if you're very dexterous on the keyboard, you're going to be pretty much agnostic to keys, but a lot of people who are writing songs on piano are not Beethoven.

They know how to play the piano a little.

They know how to write a melody.

The key of C is very easy to work with in that case.

As a Coldplay fan, you definitely don't have to tell me that facility with a piano is not necessarily important for becoming one of the bigger bands in the world.

Before you even have an opportunity to make fun of me for my fandom in Coldplay, Chris, thank you very, very much.

I really appreciate all of your intelligence and data breakdowns.

Yeah, thanks for having me, Derek.

It was a lot of fun.

Thank you for listening.

Plain English is produced by Devon Manzi.

If you like the show, please go to Apple Podcasts or Spotify.

Give us a five-star rating, leave a review, and don't forget to check out our TikTok at Plain English Underscore, that's at Plain English Underscore on TikTok.