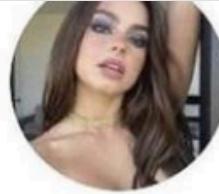


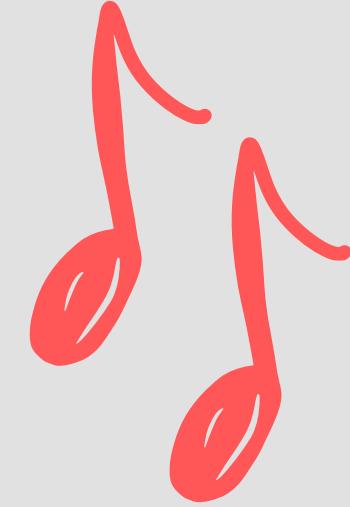


introduction

*“Here we go...”
—Lady Gaga, A-YO*

-  **Addison Rae**  @whoisad... · 5/10/20 ...
memories attached to music >
64 627 6,444 ↑
-  **Addison Rae**  @whoisad... · 4/19/20 ...
memories attach themselves to music
123 1,920 16K ↑
-  **Addison Rae**  @whoisad... · 4/22/20 ...
ugh music is so good
348 2,650 22.8K ↑
-  **Addison Rae**  @whoisad... · 5/17/20 ...
music controls my mood
340 4,537 34.5K ↑
-  **Addison Rae**  @whoisad... · 9/11/20 ...
I love music ugh
395 1,070 21.2K ↑
-  **Addison Rae**  @whoisad... · 9/17/20 ...
music speaks





dataset

*“I trace the evidence,
make it make some sense”*

— Taylor Swift, Hits Different

idea 1: billboard chart data

- Allows for popular songs to be examined
- But the data is too dense to be processed
 - 1 song/week * 54 weeks in a year * 10 years in a decade * 7 decades = 3780 songs
- Additional post-processing required to remove duplicates
- Relies too largely on zeitgeist, and not on the actual lyrics

idea 2: grammy awards

- Reasonably sized corpus
- Song of the Year Category specifically awarded for songwriting

step 1

Get Grammy Awards information from Wikipedia

Edition	Date	Venue	Venue City	Host	Network
1st	May 4, 1959			Mort Sahl	
2nd	November 29, 1959		Beverly Hills & New York City	Meredith Willson	
3rd	April 13, 1961	Various (including Beverly Hilton Hotel)		None	
4th	May 29, 1962		Chicago, Los Angeles & New York City	Frank Sinatra	
5th	May 15, 1963			None	NBC
6th	May 12, 1964				

step 2

Create URLs to scrape nominee data from 1960 to 2024

	Edition	Date	url
0	3rd	1960	https://www.grammy.com/awards/3rd-annual-grammy...
1	4th	1961	https://www.grammy.com/awards/4th-annual-grammy...
2	5th	1962	https://www.grammy.com/awards/5th-annual-grammy...
3	6th	1963	https://www.grammy.com/awards/6th-annual-grammy...
4	7th	1964	https://www.grammy.com/awards/7th-annual-grammy...

step 3

Use BeautifulSoup and regexes to extract artist and song information

SONG OF THE YEAR

WINNER



"Bridge Over Troubled Water"

Paul Simon, songwriter (Simon And Garfunkel)

step 3

Use BeautifulSoup and regexes to extract artist and song information

```
response = requests.get(url)
soup = BeautifulSoup(response.content, 'html.parser')
data = soup.find('script', id="__NEXT_DATA__" ,type="application/json")
data = json.loads(data.string)
categories = data["props"]["pageProps"]["pageContent"]["getAwardsYears"]["hits"][0]["categoryDetails"]
info = None
for category in categories:
    if "song of the year" in category["title"][0]['name'].lower():
        info = category["nominations"]
        break
```

```
[{"__typename": "Nominations",
  "title": "This Is America",
  "isWinner": true,
  "nomineeOrder": 8,
  "displayLine1": '"This Is America"',
  "displayLine2": '',
  "displayLine3": "Donald Glover, Ludwig Göransson & Jeffery Lamar Williams, songwriters (Childish Gambino)",
  "creditedArtists": [{"__typename": "Artist",
    "title": "Childish Gambino",
    "creditedAs": "Songwriter",
    "imageType": "Default",
    "manualImage": '',
    "slug": "artists/childish-gambino/18365",
    "tivoInfo": {"__typename": "TivoInfo",
      "idField": null,
      "titleField": "Childish Gambino",
      "damDynamic": null,
      "damThumbnail": null}},
   {"__typename": "Artist",
    "title": "Ludwig Goransson",
    "creditedAs": "Songwriter",
    "imageType": "Default",
    "manualImage": '',
    "slug": "artists/ludwig-goransson/187476",
    "tivoInfo": {"__typename": "TivoInfo",
```

step 4

Use LyricGenius and backup API to get lyrics for each song

```
genius = Genius(GENIUS_API_KEY,
                 skip_non_songs=True,
                 remove_section_headers=True,
                 verbose=False,
                 sleep_time=1,
                 retries=3
               )

def get_song(name, artist=None):
    pattern = r'^[\s\S]*?Lyrics\s*|(\d*)Embed$|See.*Live|Get tickets.*?\$[\d,]+|You might also like'
    song = genius.search_song(name, artist) if artist else genius.search_song(name)
    return re.sub(pattern, '', song.lyrics, flags=re.MULTILINE)

def get_song_alt(name, artist):
    try:
        return requests.get(f"https://api.lyrics.ovh/v1/{artist}/{name}", timeout=10).json()["lyrics"]
    except requests.Timeout:
        return ""
```

step 5

Use the Spotify library to get audio features

```
sp = spotify.Spotify(auth_manager=SpotifyClientCredentials(client_id=SPOTIFY_CLIENT_ID,
                                                               client_secret=SPOTIFY_CLIENT_SECRET),
                      requests_timeout=15, retries=5)

def get_audio_features(song_name, artist_name):

    results = sp.search(q=f'track:{song_name} artist:{artist_name}', type='track', limit=1)
    if results['tracks']['items']:
        track = results['tracks']['items'][0]
        track_id = track['id']

        audio_features = sp.audio_features(track_id)

        if audio_features:
            audio_features = audio_features[0]
            audio_features.pop('analysis_url')
            audio_features.pop('track_href')
            audio_features.pop('id')
            audio_features.pop('uri')
            audio_features.pop('type')
            return audio_features

    return empty
```

✓ 0.0s

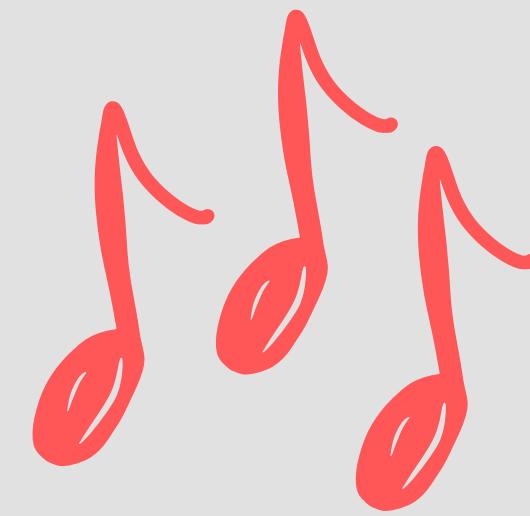
Python

step 6

Celebrate because you have a corpus!

	edition	year	status	track	artist	lyrics	danceability	energy	key	loudness	mode	speechiness	acousticness	instrumentalness	liven
0	3rd	1960	Winner	Theme From Exodus	Ernest Gold	Nan	0.0846	0.265	9.0	-13.867	0.0	0.0345	0.797	0.410000	0.1
1	3rd	1960	Nominee	Theme From A Summer Place	Percy Faith	Nan	0.3260	0.326	0.0	-15.144	1.0	0.0297	0.591	0.918000	0.1
2	3rd	1960	Nominee	Second Time Around	Frank Sinatra	Love is lovelier the second time around\nJust ...	0.2530	0.193	0.0	-12.149	1.0	0.0309	0.908	0.000003	0.1
3	3rd	1960	Nominee	Nice 'n Easy	Frank Sinatra	Let's take it nice and easy\nIt's gonna be so ...	0.5360	0.148	0.0	-14.903	1.0	0.0310	0.773	0.000000	0.1
4	3rd	1960	Nominee	He'll Have To Go	Jim Reeves	Put your sweet lips a little closer to	0.5670	0.168	1.0	-16.451	1.0	0.0380	0.850	0.001060	0.1

#	Column	Non-Null Count	Dtype
0	edition	347 non-null	object
1	year	347 non-null	int64
2	status	347 non-null	object
3	track	347 non-null	object
4	artist	347 non-null	object
5	lyrics	344 non-null	object
6	danceability	345 non-null	float64
7	energy	345 non-null	float64
8	key	345 non-null	float64
9	loudness	345 non-null	float64
10	mode	345 non-null	float64
11	speechiness	345 non-null	float64
12	acousticness	345 non-null	float64
13	instrumentalness	345 non-null	float64
14	liveness	345 non-null	float64
15	valence	345 non-null	float64
16	tempo	345 non-null	float64
17	duration_ms	345 non-null	float64
18	time_signature	345 non-null	float64
dtypes: float64(13), int64(1), object(5)			
memory usage: 51.6+ KB			



context

*“Just stop your crying
It's a sign of the times”*

— Harry Styles, Sign of the Times

preprocessing lyrics

```
def preprocess_lyrics(lyrics):
    if pd.isna(lyrics):
        return ''

    # Replace newline characters with space and remove extra whitespace
    lyrics = re.sub(r'\s+', ' ', lyrics.replace('\n', ' ')).strip()

    # Convert to lowercase
    lyrics = lyrics.lower()

    # Tokenize the lyrics by splitting on whitespace
    tokens = lyrics.split()

    # Remove stopwords and lemmatize the tokens
    lemmatizer = WordNetLemmatizer()
    stop_words = set(stopwords.words('english'))
    tokens = [lemmatizer.lemmatize(word.strip()) for word in tokens if word not in stop_words]

    return ' '.join(tokens)

df['cleaned_lyrics'] = df['lyrics'].apply(preprocess_lyrics)
```

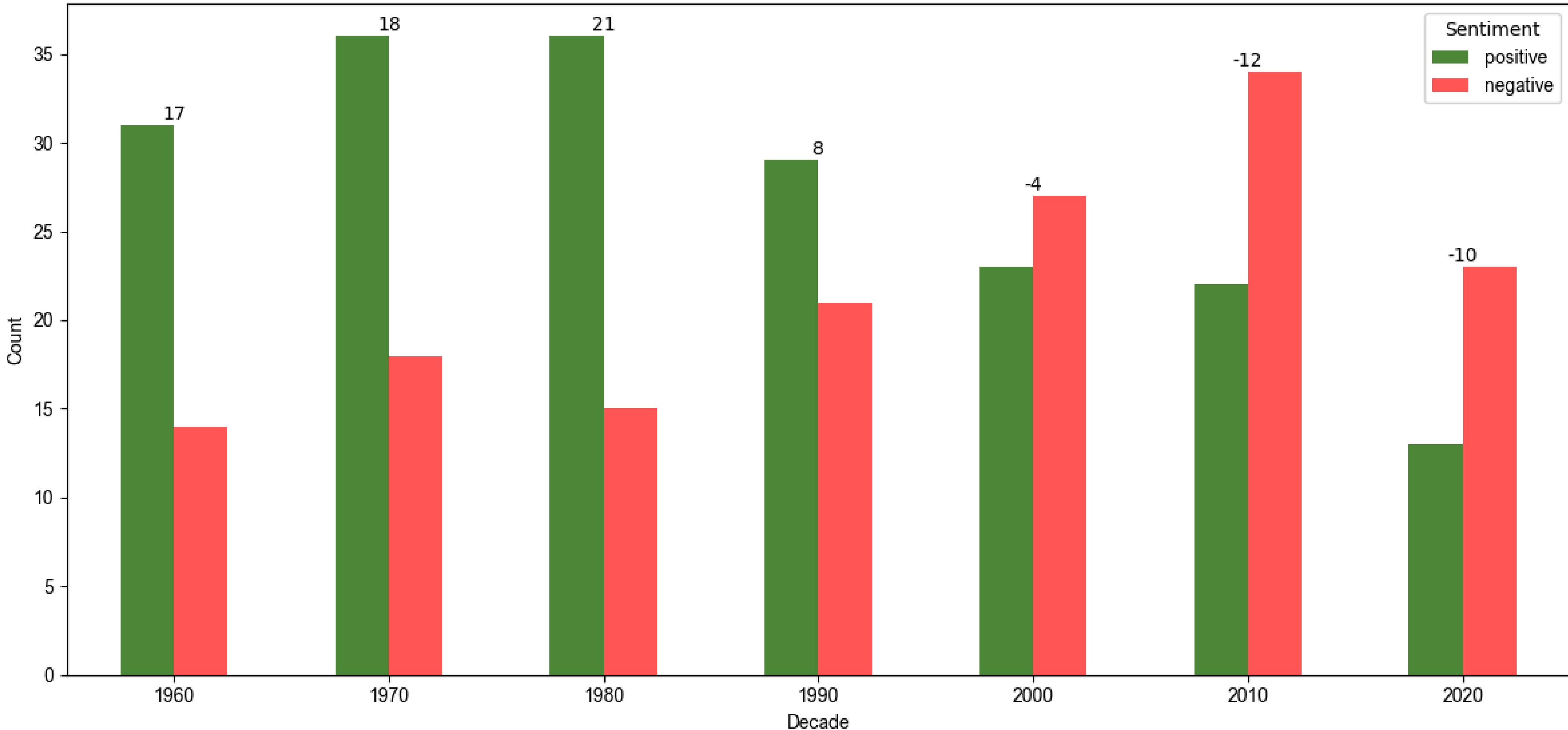
sentiment analysis

```
# Initialize sentiment analysis pipeline
sentiment_analyzer = pipeline("sentiment-analysis", model="distilbert-base-uncased-finetuned-sst-2-english")

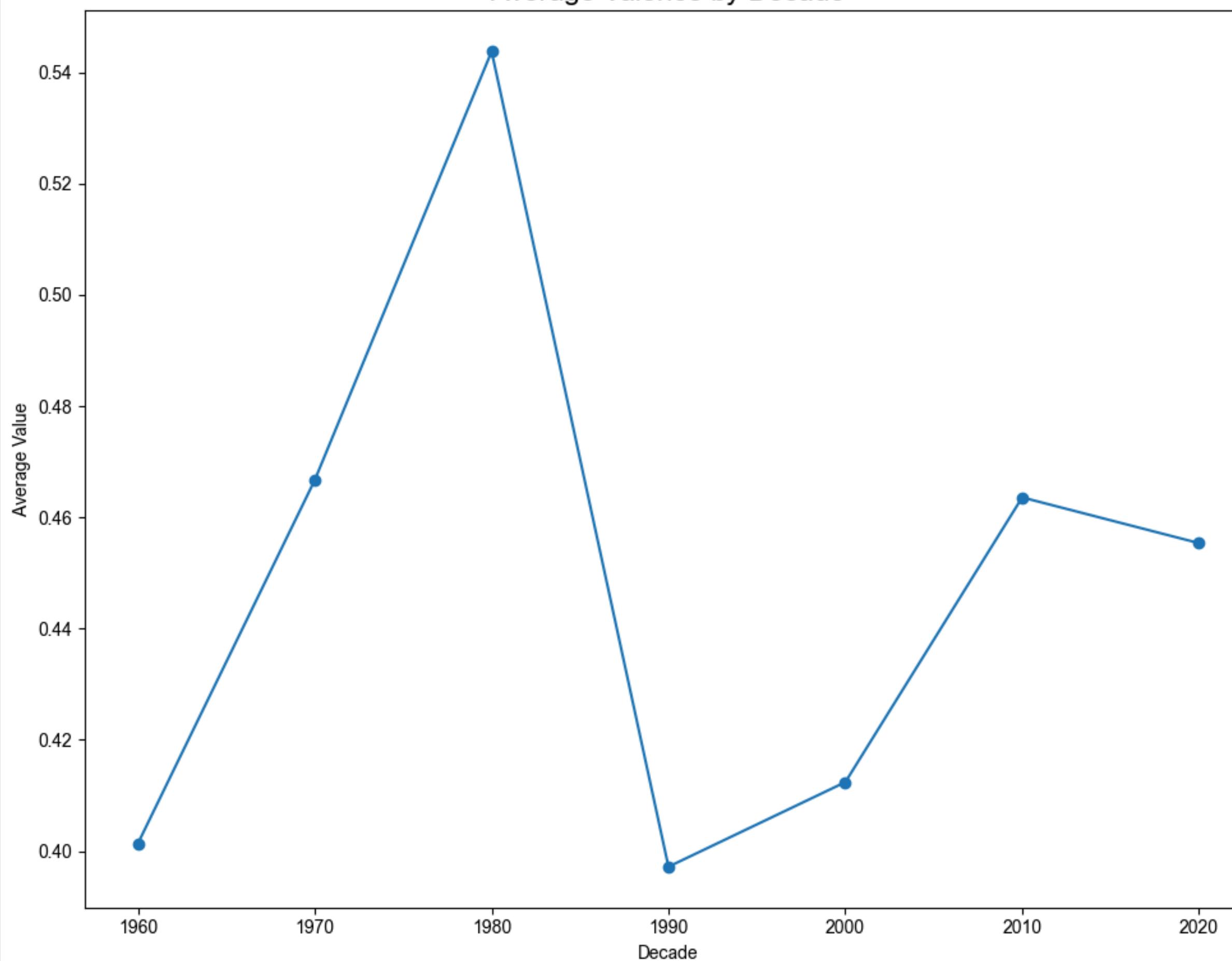
# Define a function to get sentiment label
def get_sentiment_label(text):
    if pd.isnull(text):
        return "neutral"
    result = sentiment_analyzer(text[:512])[0]
    return result['label'].lower()

# Create a 'decade' column and calculate sentiment
lyrics_df['decade'] = (lyrics_df['year'] // 10) * 10
lyrics_df['sentiment'] = lyrics_df['lyrics'].apply(get_sentiment_label)
```

Positive and Negative Sentiment Counts by Decade



Average Valence by Decade



Valence is a metric offered by Spotify which is “a measure from 0.0 to 1.0 describing the musical positiveness conveyed by a track”

Why are the lyrics from the 1980s so overwhelmingly positive?



johngilesyoder • 2y ago •

It's a reflection of the times. The early 80s saw the end of extensive economic downturn and socioeconomic troubles throughout the 70s. There was excess. There was success. There was forward momentum. Expendable incomes, etc. Life was generally pretty congenial for much of the population during the 80s.

Millennial pop during the late 90s and early 2010s had a similar optimism. Short-lived optimism in those two cases, unfortunately.



↑ 57 ↓

Reply

Award

Share

...



crotchrottingplague • 2y ago •

no. it was cocaine.

stop being an arm chair professor. It was cocaine.



↑ 24 ↓

Reply

Award

Share

...

what happened in the 80s

- Developments in the industry are seen as a “narrative of recuperation” — there is a shift in pop/rock charts in 1980s from “heterogeneous, eclectic groupings of styles and forms” to “an almost unprecedented degree of homogeneity” by 1983 – 84. (Straw)
- The “rebirth of [the] Top Forty, singles-based radio” and the “re-enfranchisement of younger teenager[s]” as audiences led to the increased glamorization of fame. (Straw)
- A new “pin-up culture” emerged in the mainstream pop landscape: “performer identity and the discourses of celebrity constituted the trappings through which songs acquired the distinctiveness necessary to their success” (Straw)

Fast Car
Tracy Chapman, 1988

You got a fast car
I want a ticket to anywhere
Maybe we make a deal
Maybe together we can get somewhere
Any place is better
Starting from zero, got nothing to lose
Maybe we'll make somethin'
Me, myself, I got nothing to prove

...
So I remember when we were drivin', drivin' in your car
Speed so fast, I felt like I was drunk
City lights lay out before us
And your arm felt nice wrapped 'round my shoulder
And I had a feeling that I belonged
I had a feelin' I could be someone
Be someone, be someone
...[cont'd]

Fame
Irene Cara, 1980

Baby, look at me
And tell me what you see
You ain't seen the best of me yet
Give me time, I'll make you forget the rest

I got more in me
And you can set it free
I can catch the moon in my hands
Don't you know who I am?
Remember my name

(Fame!)
I'm gonna live forever
I'm gonna learn how to fly
(High!)
... [cont'd]

Word Cloud for the 1960s



Word Cloud for the 2000s



Word Cloud for the 1970s



Word Cloud for the 2010s



Word Cloud for the 1980s



Word Cloud for the 2020



Word Cloud for the 1990s



Word Cloud for the 1960s



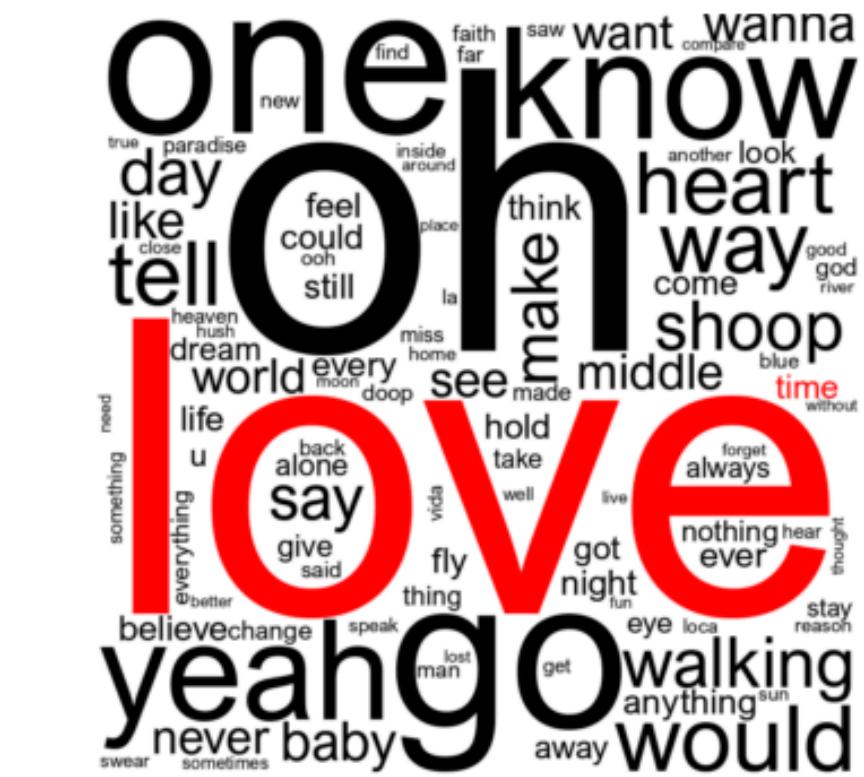
Word Cloud for the 1970s



Word Cloud for the 1980s



Word Cloud for the 1990s



Word Cloud for the 2000s



Word Cloud for the 2010s



Word Cloud for the 2020



themes of time

Songs which mentioned time often either commented on its fleeting nature in positivist language as a commentary on life and death or made oblique references to the need for sociopolitical momentum (or both)

Keep smilin', keep shinin'

Knowin' you can always count on me for sure

That's what friends are for

For good **times** and bad **times**

I'll be on your side forevermore

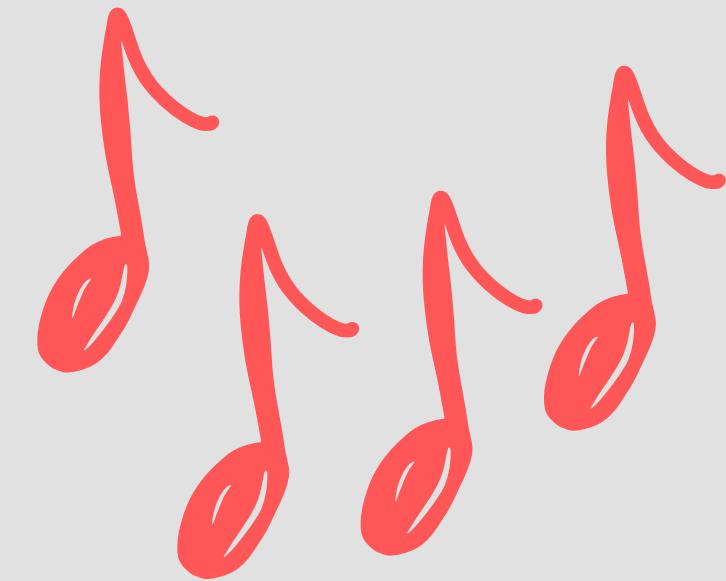
That's what friends are for

That's What Friends Are For
Dionne Warwick & Friends, 1986
HIV/AIDS

There comes a **time** when we heed a certain call
When the world must come together as one

There are people dying
Oh, and it's time to lend a hand to life
The greatest gift of all

We Are The World
USA For Africa, 1985
Ethiopian Famine



form

“Looking for signs in the gaps and the silence”
— Sabrina Carpenter, decode

The Summer Knows Sarah Vaughan, 1972

The summer smiles, the summer knows
And unashamed, she sheds her clothes
The summer smoothes the restless sky
And lovingly she warms the sand on which you lie

The summer knows, the summer's wise
She sees the doubts within your eyes
And so she takes her summer time
Tells the moon to wait and the sun to linger
Twists the world round her summer finger
Lets you see the wonder of it all

And if you've learned your lesson well
There's little more for her to tell
One last caress, it's time to dress for fall

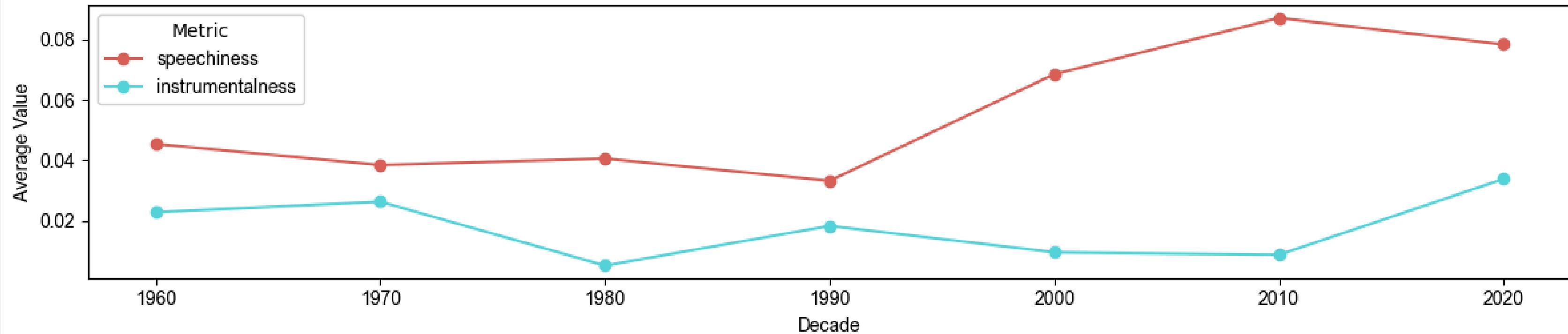
What Was I Made For? Billie Eilish, 2023

I used to float, now I just fall down
I used to know, but I'm not sure now
What I was made for
What was I made for?

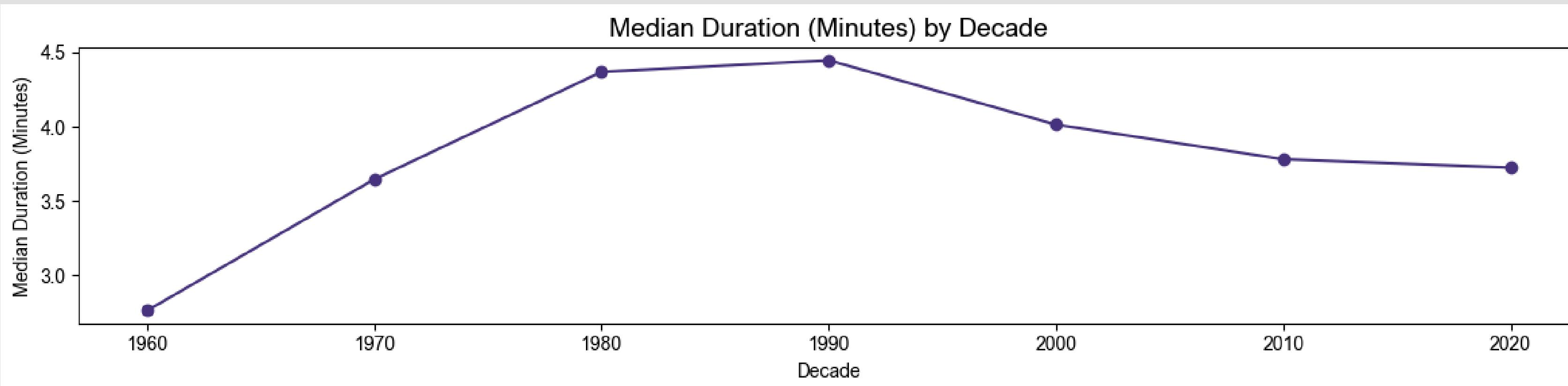
Takin' a drive, I was an ideal
Looked so alive, turns out I'm not real
Just somethin' you paid for
What was I made for?

'Cause I, I
I don't know how to feel
But I wanna try
I don't know how to feel
But someday, I might
Someday, I might ... [cont'd]

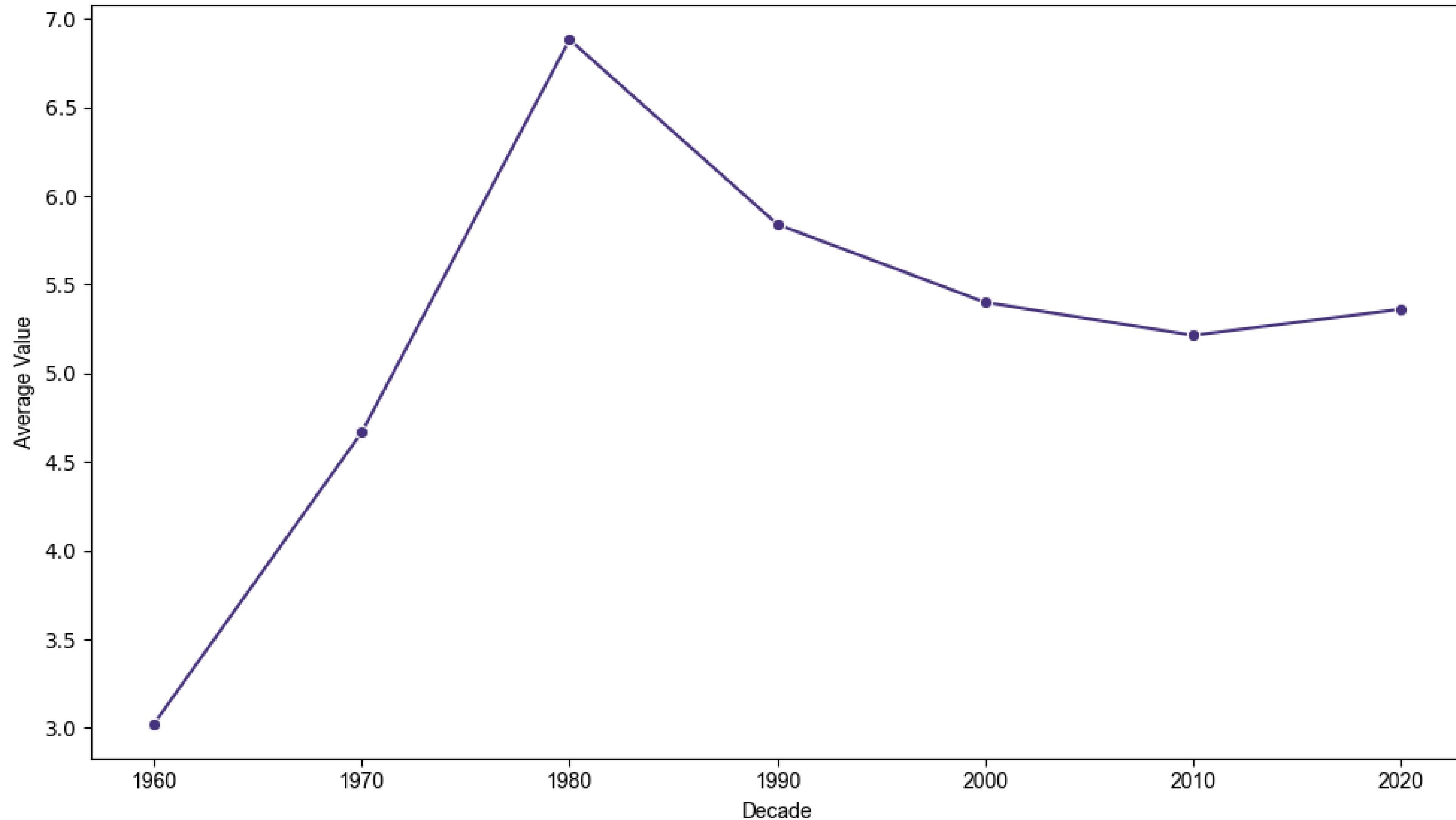
Average Speechiness and Instrumentalness by Decade



Median Duration (Minutes) by Decade



Average Repeated Phrase Count per Decade



the formalization of hooks

- The hook of a song is “the most memorable line or part of a song, the part that first comes to mind when you think about the song” (Trout)
- Within the ambit of this essay, the repetition of a particular phrase is treated as a proxy for a hook
- In “Simply Irresistible”, Don Trout formalizes “accent patterns” which appear in songs across the 1980s: hooks manifest either as the delivery of the title serving as the hook, or slightly longer title phrases where the actual title phrase is prefaced by a small bit of text (Trout)

The Rose
Bette Midler, 1980

Some say love, it is a river
That drowns the tender reed
Some say love, it is a razor
That leaves your soul to bleed
Some say love, it is a hunger
An endless aching need
I say love, it is a flower
And you, its only seed

It's the heart, afraid of breaking
That never learns to dance
It's the dream, afraid of waking
That never takes the chance
It's the one who won't be taken
Who cannot seem to give
And the soul, afraid of dying
That never learns to live ... [cont'd]

Time After Time
Cyndi Lauper, 1984

...

You say, "Go slow," I fall behind
The second hand unwinds

If you're lost, you can look and you will find me
Time after time

If you fall, I will catch you, I'll be waiting
Time after time

If you're lost, you can look and you will find me
Time after time

If you fall, I will catch you, (I'll be waiting) I will be
waiting

Time after time

Time after time (x7)

**thats that me
espresso**

spotify's algorithm is broken and our language is going to change

we're so cooked

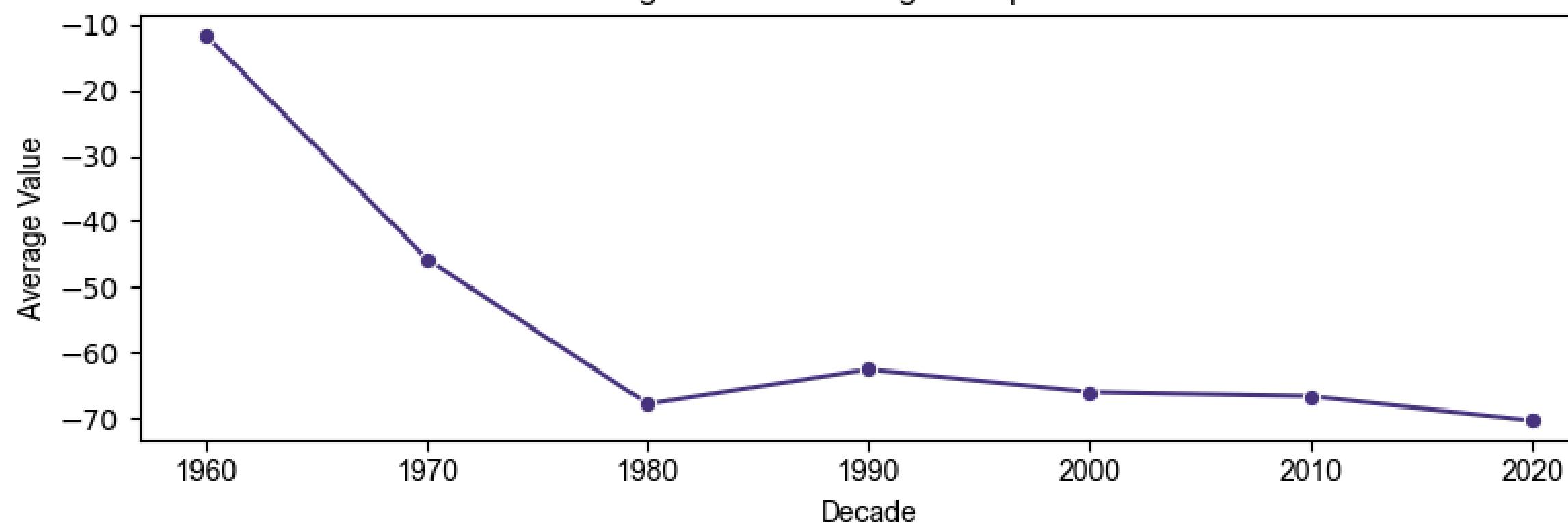


ETYMOLOGY NERD

MAY 31, 2024

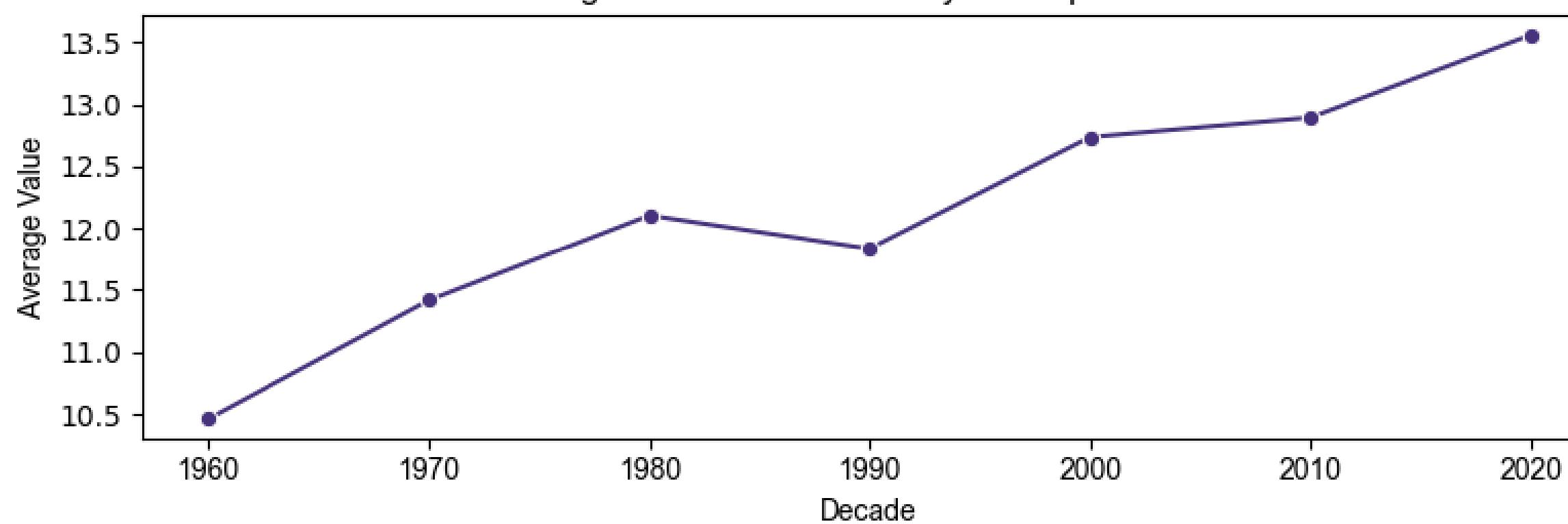
- “at this point language change has become inextricable from algorithms ... people are more likely to use words they hear in media”
- “Espresso has led to a discernible rise in people using the grammatical construction *that’s that me*, from the lyric *that’s that me espresso*”
- “[Spotify’s recommendation system is a harbinger of] a reality where our culture and words are predetermined by what is trending”

Average Flesch Reading Ease per Decade



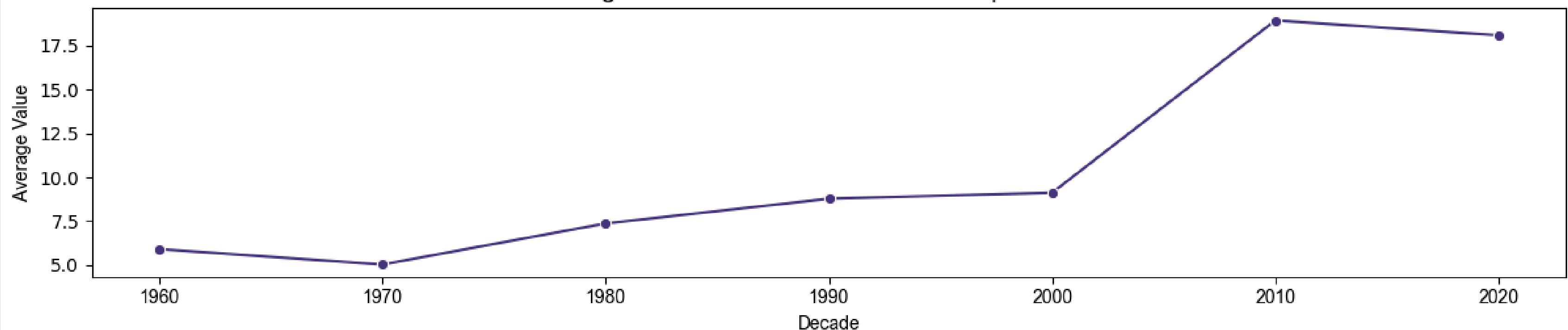
A **decreasing** average Flesch reading ease score indicates that text has become more complex, with longer sentences and/or more syllables per word

Average Dale-Chall Readability Score per Decade

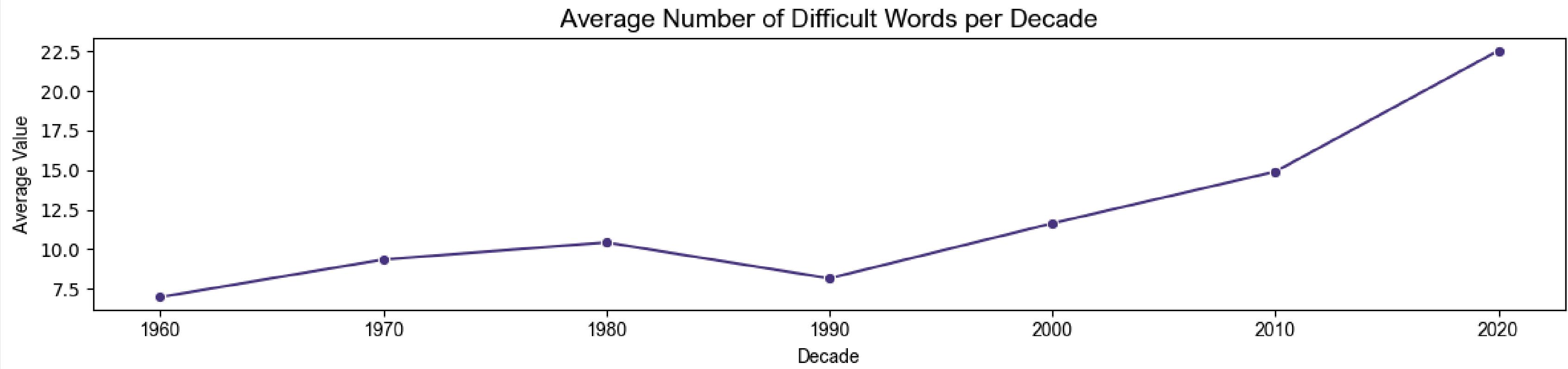


An **increasing** average Dale-Chall readability score indicates that the text uses more words which are less commonly used

Average Number of Grammatical Errors per Decade



Average Number of Difficult Words per Decade



The title 'hook, line and sinker' is displayed in large, bold, black sans-serif letters. The word 'hook' is circled with a red line, and a small red musical note is positioned above it. A red line extends from the right side of 'hook,' through the comma, across the top of 'line,' and down the right side of 'sinker,' ending with a red microphone icon. The word 'time' is written in a red, cursive script above 'line,' with a red line connecting it to the end of 'sinker.'

hook, line and sinker

A Stylistic Analysis of Songwriting through the Decades

works cited

Straw, Will. “Music Video in Its Contexts: Popular Music and Post-Modernism in the 1980s.” Popular Music, vol. 7, no. 3, 1988, pp. 247–66. JSTOR, <http://www.jstor.org/stable/853024>. Accessed 4 Nov. 2024.

Traut, Don. “‘Simply Irresistible’: Recurring Accent Patterns as Hooks in Mainstream 1980s Music.” Popular Music, vol. 24, no. 1, 2005, pp. 57–77. JSTOR, <http://www.jstor.org/stable/3877594>. Accessed 4 Nov. 2024.