

The Death of Melody

I. Introduction

Over the past decade or so, the concept of melody seems to have changed from what it was for Rock or Big Band melodies. There are songs being written with the traditional concept of melody and I have provided some examples below. However, the most prominent interpretation of melody is what I'm calling contemporary melody.

In the past melodies were an important component of the marketability of the song. However, today melodies seem more like an afterthought. As I will demonstrate in this paper, it is possible to statistically measure the difference in variation between traditional and contemporary melodies. Moreover, traditional melodies exhibit a larger range of pitch whereas the contemporary melodies are confined to a narrow set of notes.

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II. Traditional Melody

The notes in a good melody have a direction up or down. Overall the notes may have many up and down movements. However, they don't just randomly jump around or on the other hand remain in a very narrow range. Here are a set of guidelines for a traditional melody:

A good melody has movement.

A good melody is familiar – yet unexpected.

A good melody has a center.

A good melody repeats itself.

A good melody has form.

A good melody creates and resolves tension.

A good melody has repetition and structure.

Finally, the best melodies combine both the familiar with elements of surprise.


This melody written for Lady Gaga is a good example of a traditional melody. As you can see in the first verse the melody builds on a theme. This excerpt from the lyrics expresses the theme:

The melody for the verses reinforces the theme in the lyrics.

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BAD ROMANCE

WORDS AND MUSIC BY
NADIR KHAYAT
AND STEFANI GERMANOTTA

♩ = 116  F

G *WANT YOUR BAD RO - MANCE

WHOA _____ WHOA _____ WHOA _____

*SMALL NOTES LAST TIME ONLY.

AM C WANT YOUR BAD RO - MANCE F

CAUGHT IN A BAD RO - MANCE. WHOA _____ WHOA _____

G WANT YOUR BAD RO - MANCE E/G# AM


WHOA _____ CAUGHT IN A BAD RO - MANCE.

N.C.(AM) (C) (F) (AM)

RAH - RAH - AH - AH - AH _____ RO - MA, RO - MA - MA _____ GA - GA, OOH LA LA _____

*2. BA -
*2ND TIME ONLY.

VERSE

4TH TIME TO CODA 
5TH TIME FINE
REPEAT 1ST AND 3RD TIME

(C) AM C F

WANT YOUR BAD RO - MANCE 1. I WANT YOUR UG - LY I WANT YOUR DIS - EASE.
2. I WANT YOUR HOR - ROR, I WANT YOUR DE - SIGN.

AM C *F(2°Bdim7) AM

I WANT YOUR EV - 'RY - THING AS LONG AS IT'S FREE. I WANT YOUR LOVE,
'CAUSE YOU'RE A CRIM - I - NAL AS LONG AS YOU'RE MINE. I WANT YOUR LOVE,

*2ND TIME PLAY Bdim7.

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2

C F Am C

LOVE, LOVE, LOVE, I WANT YOUR LOVE HEH
 LOVE, LOVE, LOVE, I WANT YOUR LOVE UH

*SMALL NOTES 2ND TIME ONLY.

Am C F Am

I WANT YOUR DRA-MA, THE TOUCH OF YOUR HAND - HEY! I WANT YOUR LEATH-ER-STUD-DED
 I WANT YOUR PSY-CHO, YOUR VIR - TI-GO STICK - HEY! WANT YOU IN MY REAR WIN-DOW

C F(2' Bdim7) Am C F

KISS IN THE SAND - } I WANT YOUR LOVE, LOVE, LOVE, I WANT YOUR
 BA - BY, YOU'RE SICK - }

Am C Am

LOVE YOU KNOW THAT I WANT YOU

*(LOVE, LOVE, LOVE, I WANT YOUR LOVE)
 *SMALL NOTES EVERY TIME.

*1 CAUSE I'M A FREE BITCH BA - BY

AND YOU KNOW THAT I NEED YOU I WANT A BAD, BAD RO - MANCE -

*SMALL NOTES 2ND TIME ONLY.

CHORUS

F G

I WANT YOUR LOVE AND I WANT YOUR RE - VENGE - YOU AND ME -

Am C F *SMALL NOTES LAST TIME ONLY.

— COULD WRITE A BAD RO - MANCE — I WANT YOUR LOVE AND ALL YOUR

*WHOA — *SMALL NOTES EVERY TIME.

1ST TIME D.S. C
 2ND TIME D.S. C AL CODA
 3RD TIME D.S. C AL FINE

G E/G# Am

LOV-ER'S RE-VENGE - YOU AND ME — COULD WRITE A BAD RO - MANCE — WHOA —

BAD ROMANCE p. 2 of 3 *SMALL NOTE LAST TIME ONLY.

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CODA

Am **PLAY 3 TIMES**

WALK, WALK FASH-ION BA-BY WORK IT, MOVE THAT BITCH CRA-ZY

BRIDGE

F

WALK, WALK PAS-SION BA-BY WORK IT, I'M A FREE BITCH BA-BY I WANT YOUR LOVE

G **Am** **C**

AND I WANT YOUR RE-VENGE. I WANT YOUR LOVE, I DON'T WAN-NA BE FRIENDS

F **G** **E/G#**

JE VEUX TON A-MOUR ET JE VEUX TON RE-VENGE JE VEUX TON A-MOUR

Am **F** **G**

I DONT WAN-NA BE FRIENDS WHOA WHOA WHOA

Am **C** **F**

CAUGHTIN A BAD RO-MANCE I DON'T WAN-NA BE FRIENDS WHOA WHOA

G **E/G#** **N.C.** **D.S.S.**

WANT YOUR BAD RO-MANCE WHOA CAUGHT IN A BAD RO-MANCE

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III. Contemporary Melody

Contemporary melody by and large ignores the guidelines that I described for traditional melody. Instead contemporary melodies move up and down by every single note for much of the song. Every so often the melody will include a high note to emphasize a particular point. These melodies are not very much different than rap. A good example of this type of melody is Love You Like a Love Song performed by Selena Gomez. This song is a different type of love song, as you can see from this sample of the lyrics of the first verse:

It's been said and done
Every beautiful thought's been already sung
And I guess right now here's another one
So your melody will play on and on, with the best of 'em
You are beautiful, like a dream come alive, incredible
A sinful, miracle, lyrical
You've saved my life again

The difference is that whereas the melody for Bad Romance reinforces the lyrics, the melody for Love You Like a Love Song is fairly monotonic.

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LOVE YOU LIKE A LOVE SONG

Instrument in F

arranged for Piano with Solo Instrument

Words and Music by
ANTONINA ARMATO, TIM JAMES
and ADAM SCHMALHOLZ

Moderately ♩ = 120

Verse:

5

9

13

17

Chorus:

21

25

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2



1. 2.



Chorus:



Love You Like a Love Song - Part: Instrument in F / 2 of 2

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IV. Variance Methodology

If what I have just described about the difference between contemporary melodies and traditional melodies is true, the variation of the pitch in contemporary melodies will be significantly less than the variation of traditional melodies. There is a way to demonstrate this statistically. We can compute what is known as the coefficient of variation. This in turn requires us to compute the average pitch and the pitch variance. While these terms are meaningless musically they do provide a useful way to demonstrate my hypothesis. The average pitch is the sum of all the note pitches divided by the number of notes. To calculate the variance, subtract the average pitch from each individual pitch and square the result. The coefficient of variation is the variance divided by the average pitch. It's not correct simply to use the variance because, for example, the variance of the same song at a higher pitch would be higher than the variance of the lower pitch. However, the coefficient of variation would be the same.

V. Results

Admittedly this is a small sample. As you can see from Figure 1, the average coefficient of variation for traditional songs is significantly higher than the coefficient of variation for contemporary songs.

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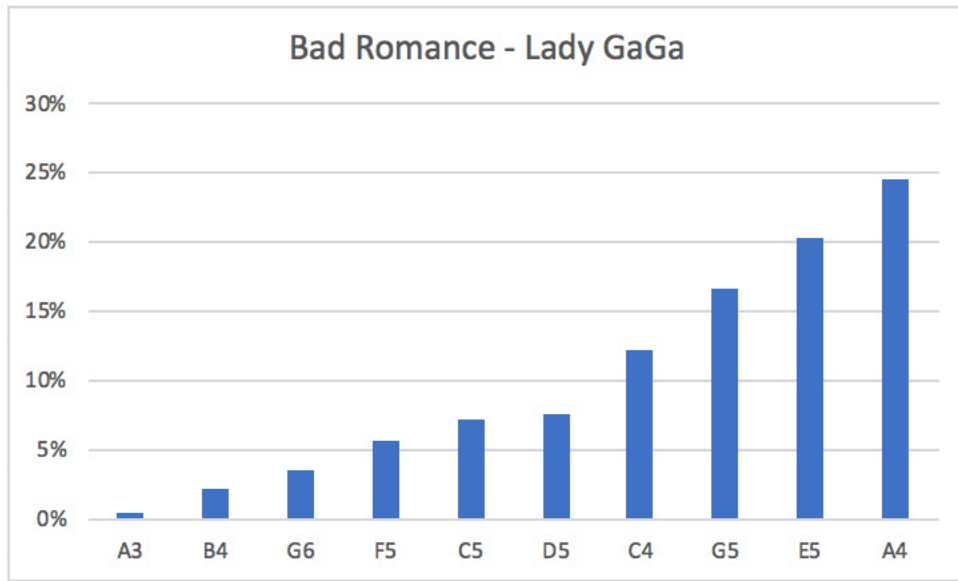
Song	Traditional	Contemporary
California King Bed - Rihanna	0.368	
Only Girl in the World-Rihanna	0.349	
Sway - Michael Buble	0.414	
Quando Quando Quando - Michael Buble	0.293	
Thinking Out Loud - Ed Sheeran	0.325	
Perfect - Ed Sheeran	0.569	
Bad Romance - Lady GaGa	0.541	
Beautiful Liar Feat Shakira - Beyonce	0.205	
Just The Way You Are - Bruno Mars	0.555	
Single Ladies - Beyonce		0.193
Love You Like A Love Song - Selena Gomez		0.096
Find Your Love - Drake		0.275
Marvins Room - Drake		0.241
Happy - Pharrell		0.351
Marilyn Monroe - Pharrell		0.015
Apologize - Timbaland		0.409
The Way I Are - Timbaland		0.772
Let It Rock - Lil Wayne		0.113
Average	0.402	0.294

Figure 1

The statistics of each of these songs reflects the principles that I have discussed for each melody. Take a look at these histograms for each song. The melody for Bad Romance is primarily distributed over nine different notes which account for 99% of the notes in this song. The range of these notes and is 12 semitones. On the other hand in the melody for Love You Like a Love song a single note is used 43% of the time and only four notes account for 86% of the melody. The range of these notes is only five semitones.

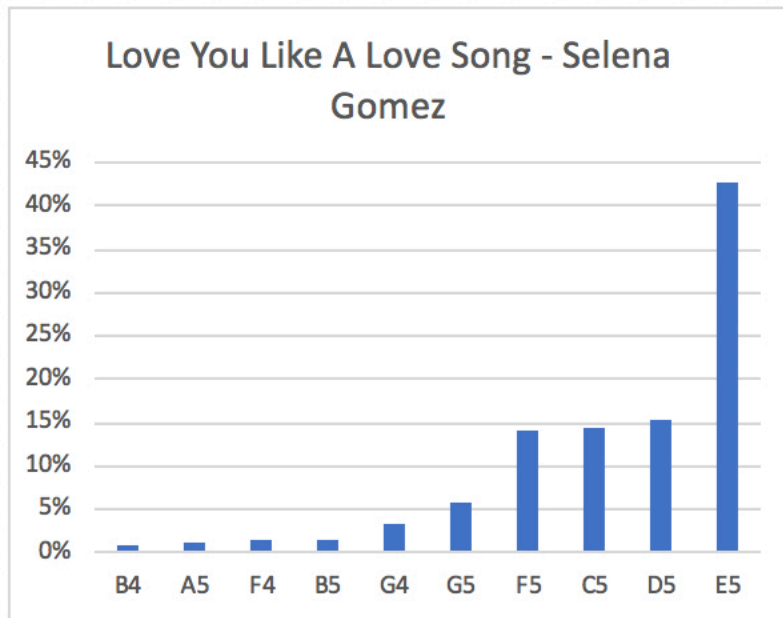
The Death of Melody

MIDI Note	Note	%	Frequency
69	A3	0%	4
83	B4	2%	19
103	G6	3%	31
89	F5	6%	51
84	C5	7%	64
86	D5	7%	67
72	C4	12%	109
91	G5	17%	149
88	E5	20%	181
81	A4	25%	220
			895



The Death of Melody

MIDI Note	Note	%	Frequency
83	B4	1%	4
93	A5	1%	7
77	F4	1%	8
95	B5	1%	8
79	G4	3%	18
91	G5	6%	32
89	F5	14%	77
84	C5	14%	79
86	D5	15%	84
88	E5	43%	235
			552



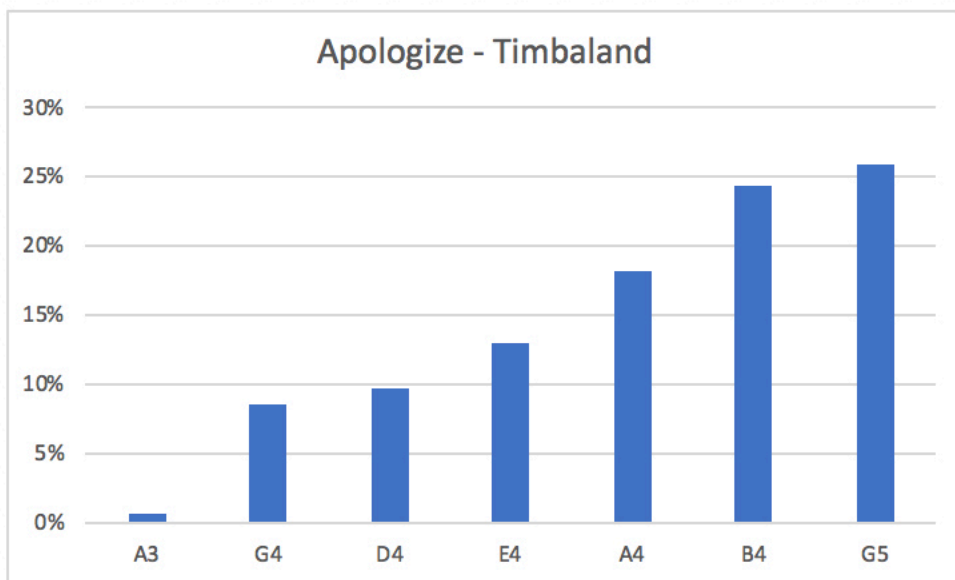
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Appendix

Here are the histograms and graphs for all of the songs included in this analysis:

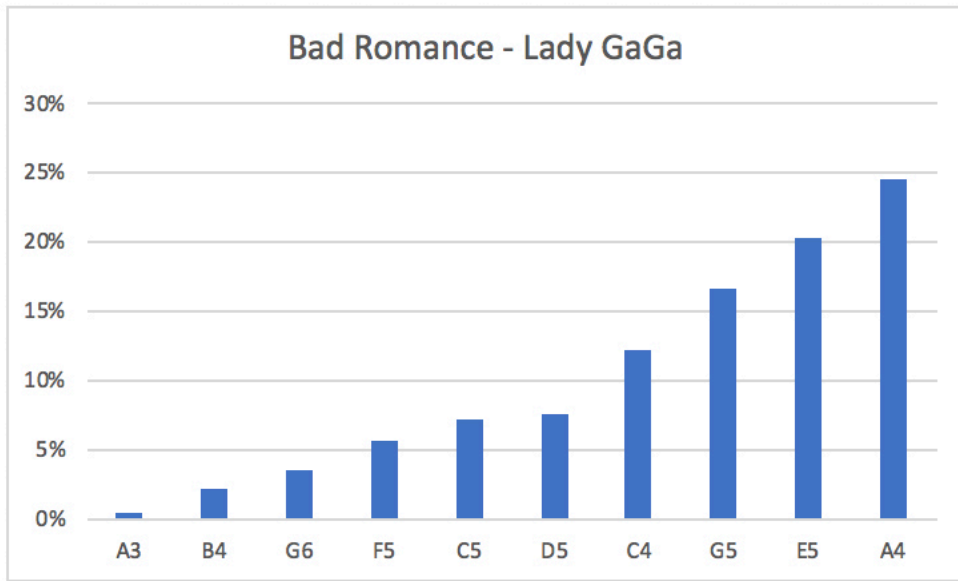
The Death of Melody

MIDI Note	Note	%	Frequency
69	A3	1%	2
79	G4	8%	30
74	D4	10%	34
76	E4	13%	46
81	A4	18%	64
83	B4	24%	86
91	G5	26%	91
			353



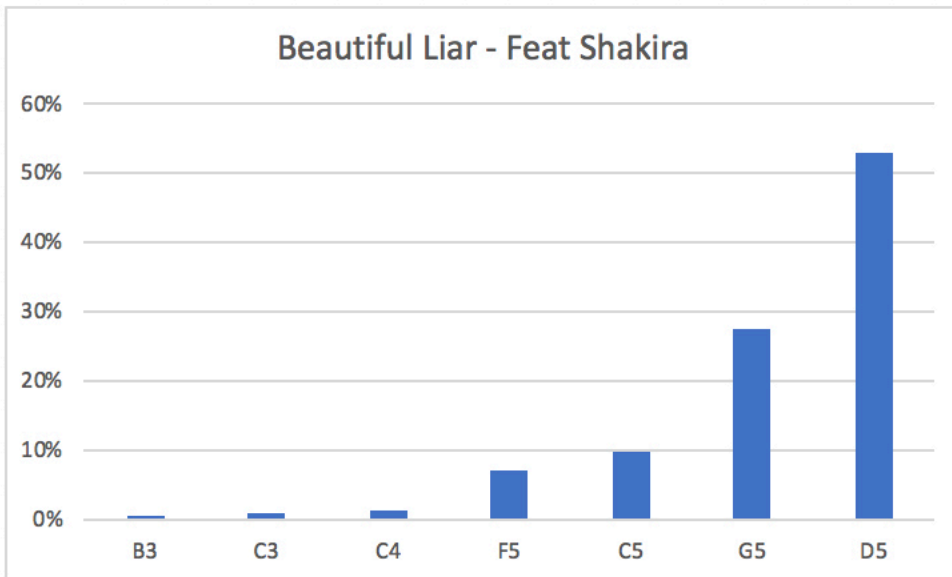
The Death of Melody

MIDI Note	Note	%	Frequency
69	A3	0%	4
83	B4	2%	19
103	G6	3%	31
89	F5	6%	51
84	C5	7%	64
86	D5	7%	67
72	C4	12%	109
91	G5	17%	149
88	E5	20%	181
81	A4	25%	220
			895



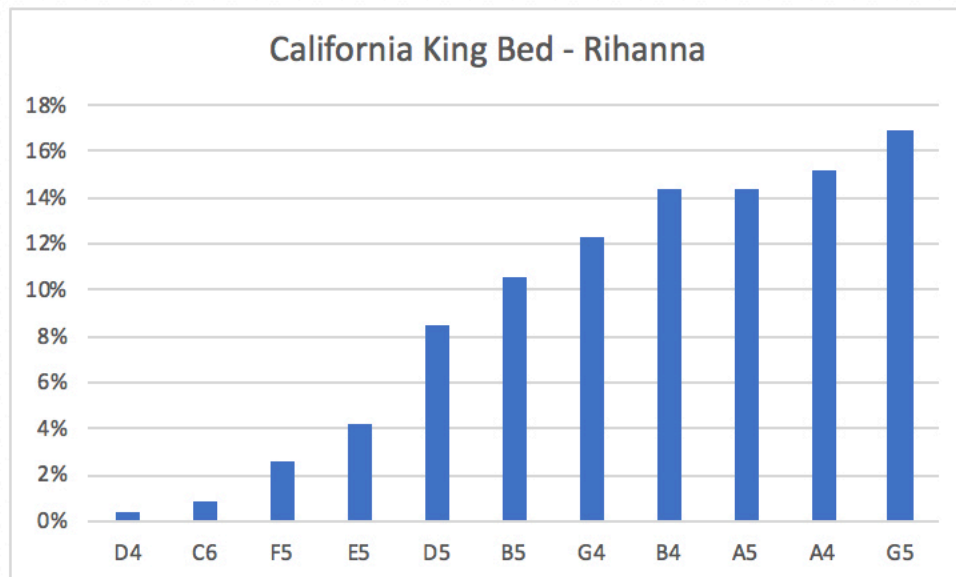
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MIDI Note	Note	%	Frequency
71	B3	0%	2
60	C3	1%	5
72	C4	1%	6
89	F5	7%	33
84	C5	10%	45
91	G5	28%	130
86	D5	53%	249
			470



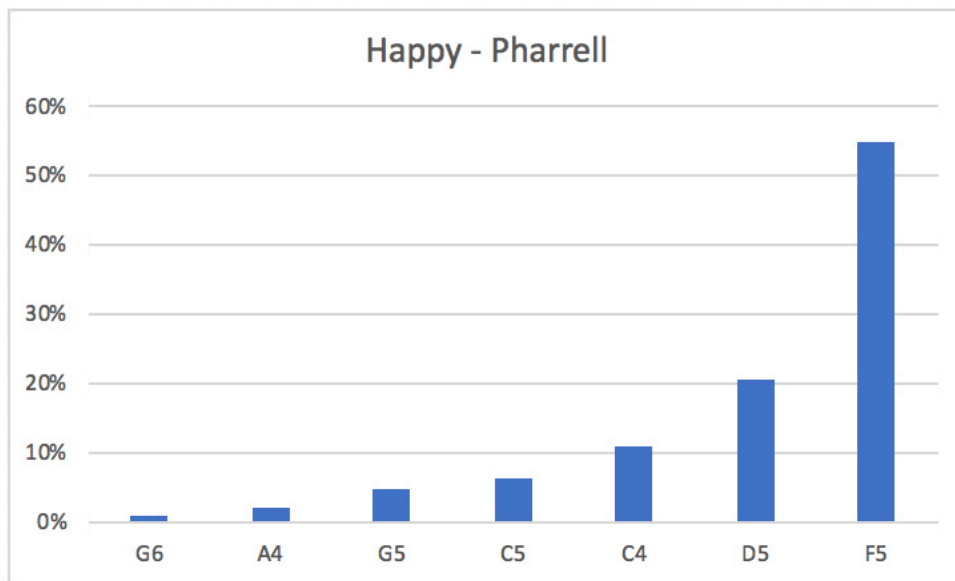
The Death of Melody

MIDI Note	Note	%	Frequency
74	D4	0%	1
96	C6	1%	2
89	F5	3%	6
88	E5	4%	10
86	D5	8%	20
95	B5	11%	25
79	G4	12%	29
83	B4	14%	34
93	A5	14%	34
81	A4	15%	36
91	G5	17%	40
			237



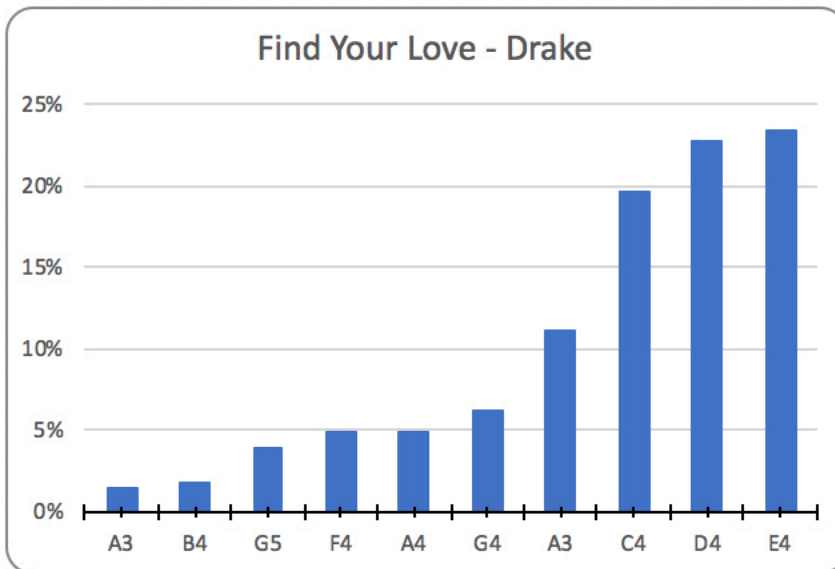
The Death of Melody

MIDI Note	Note	%	Frequency
103	G6	1%	7
81	A4	2%	18
91	G5	5%	43
84	C5	6%	59
72	C4	11%	103
86	D5	21%	195
89	F5	55%	519
			944



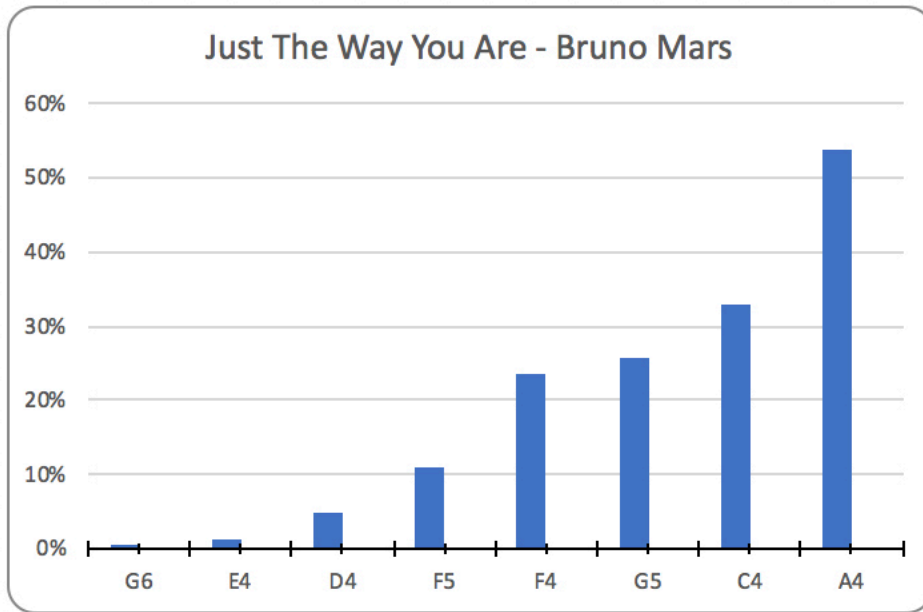
The Death of Melody

MIDI Note	Note	%	Frequency
69	A3	1%	12
83	B4	2%	14
91	G5	4%	32
77	F4	5%	40
81	A4	5%	40
79	G4	6%	50
69	A3	11%	91
72	C4	20%	160
74	D4	23%	186
76	E4	23%	191
			816



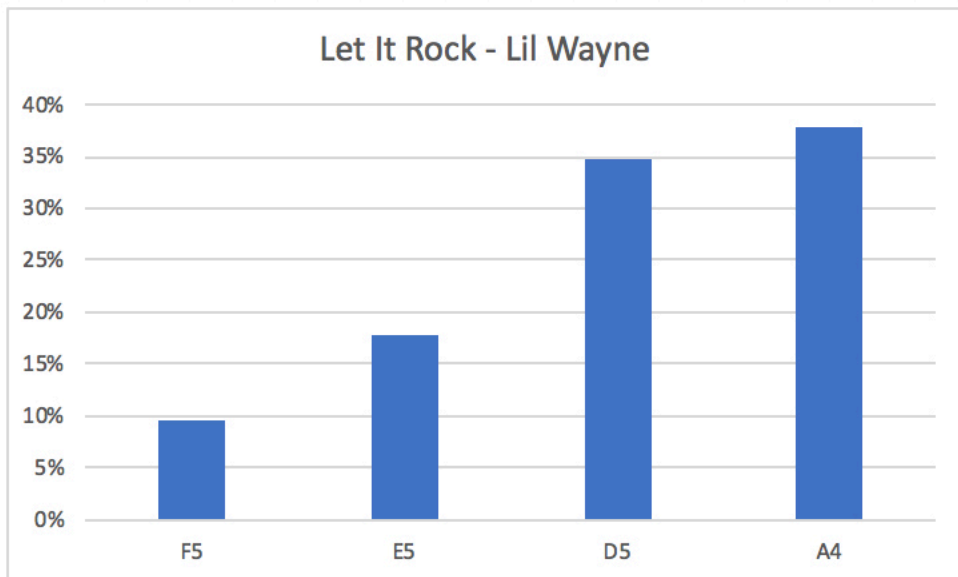
The Death of Melody

MIDI Note	Note	%	Frequency
103	G6	1%	2
76	E4	1%	4
74	D4	5%	16
89	F5	11%	36
77	F4	24%	77
91	G5	26%	84
72	C4	33%	108
81	A4	54%	176
			327



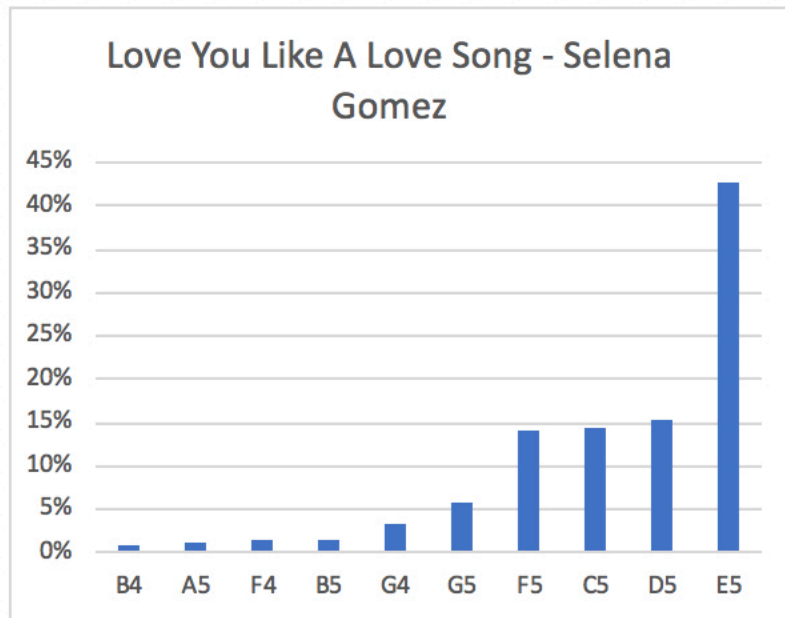
The Death of Melody

MIDI Note	Note	%	Frequency
89	F5	9%	9
88	E5	18%	17
86	D5	35%	33
81	A4	38%	36
			95



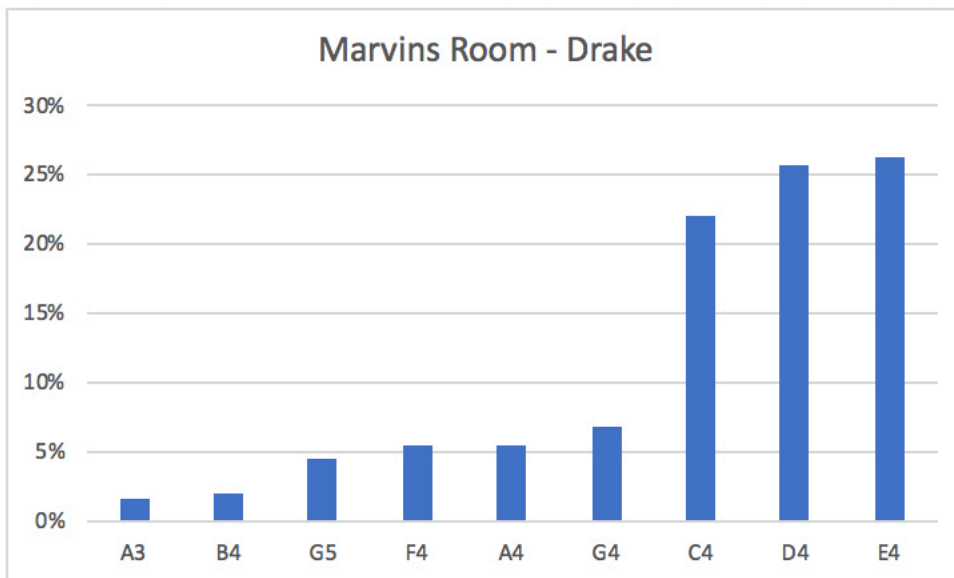
The Death of Melody

MIDI Note	Note	%	Frequency
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77	F4	1%	8
95	B5	1%	8
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91	G5	6%	32
89	F5	14%	77
84	C5	14%	79
86	D5	15%	84
88	E5	43%	235
			552



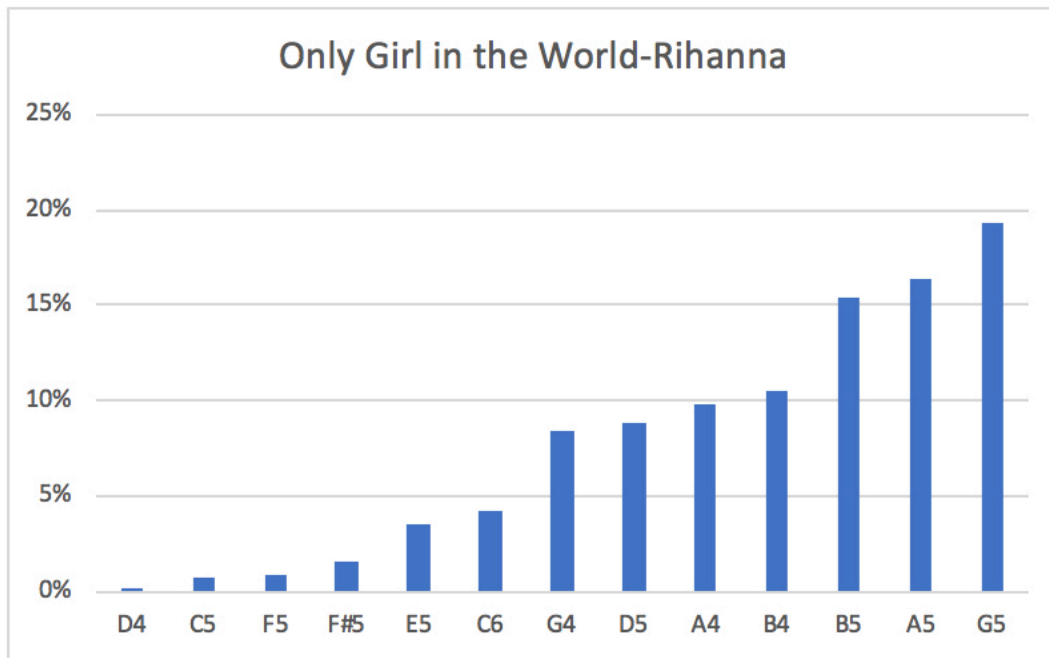
The Death of Melody

MIDI Note	Note	%	Frequency
69	A3	2%	12
83	B4	2%	14
91	G5	4%	32
77	F4	6%	40
81	A4	6%	40
79	G4	7%	50
72	C4	22%	160
74	D4	26%	186
76	E4	26%	191
			725



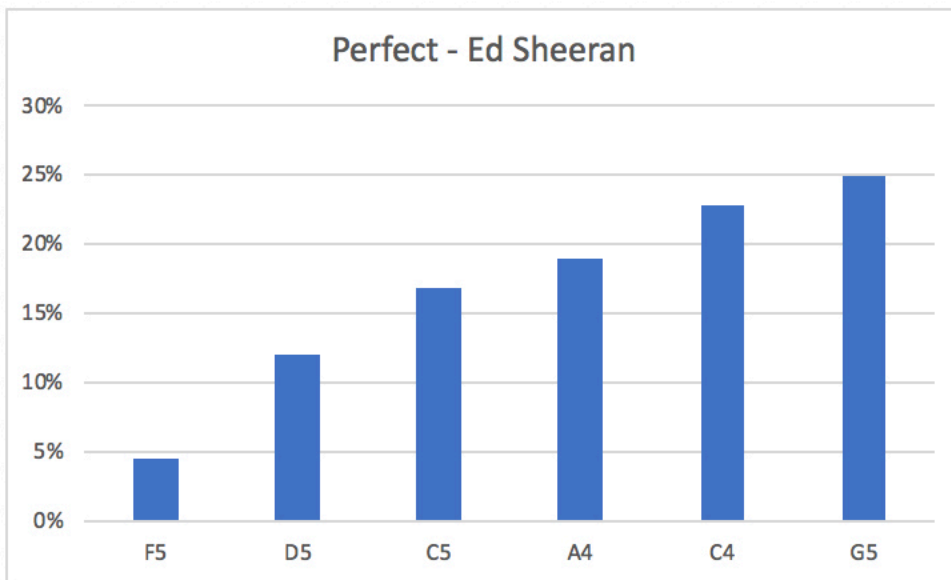
The Death of Melody

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74	D4	0%	1
84	C5	1%	3
89	F5	1%	4
90	F#5	2%	7
88	E5	4%	15
96	C6	4%	18
79	G4	8%	36
86	D5	9%	38
81	A4	10%	42
83	B4	11%	45
95	B5	15%	66
93	A5	16%	70
91	G5	19%	83
			428



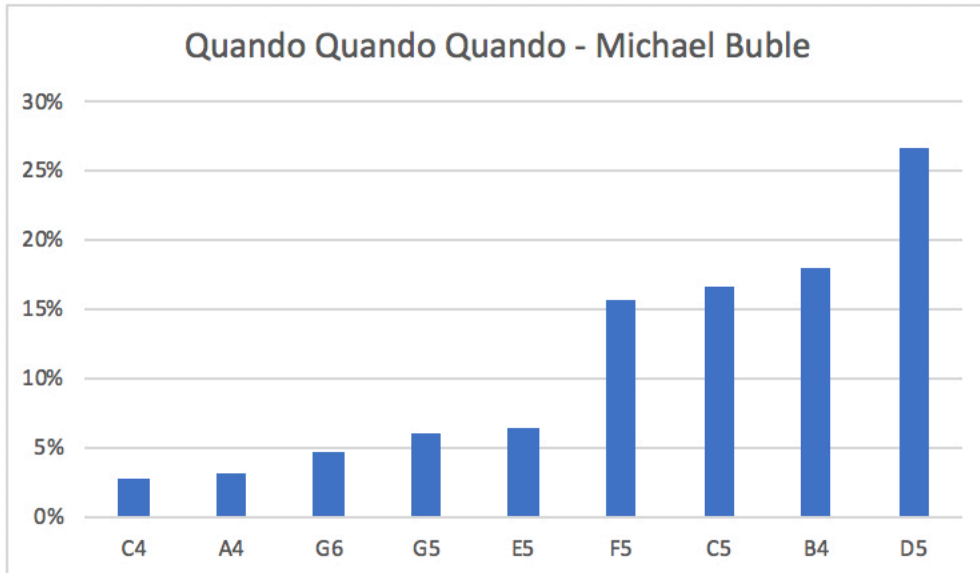
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MIDI Note	Note	%	Frequency
89	F5	4%	28
86	D5	12%	76
84	C5	17%	106
81	A4	19%	119
72	C4	23%	143
91	G5	25%	157
			629



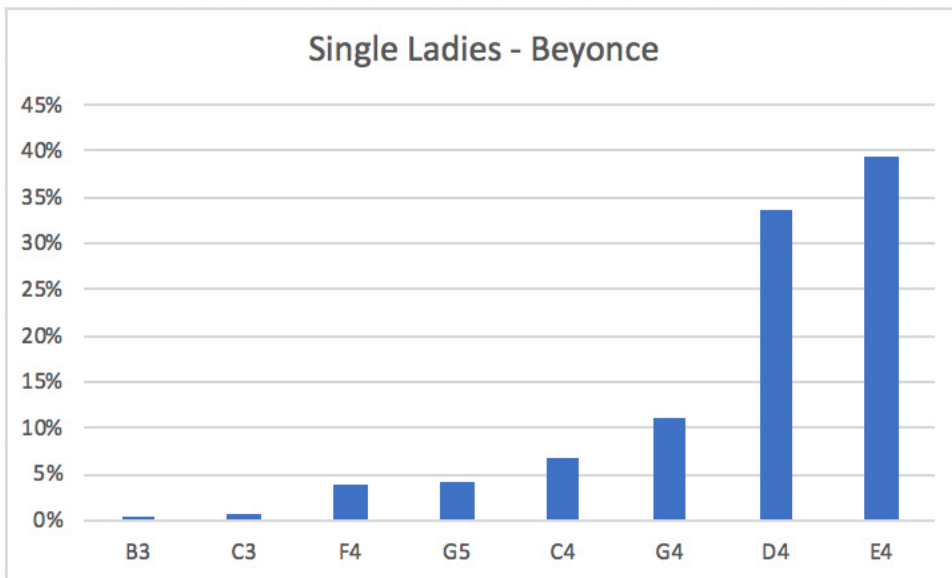
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MIDI Note	Note	%	Frequency
72	C4	3%	14
81	A4	3%	15
103	G6	5%	23
91	G5	6%	30
88	E5	7%	32
89	F5	16%	77
84	C5	17%	82
83	B4	18%	88
86	D5	27%	131
			492



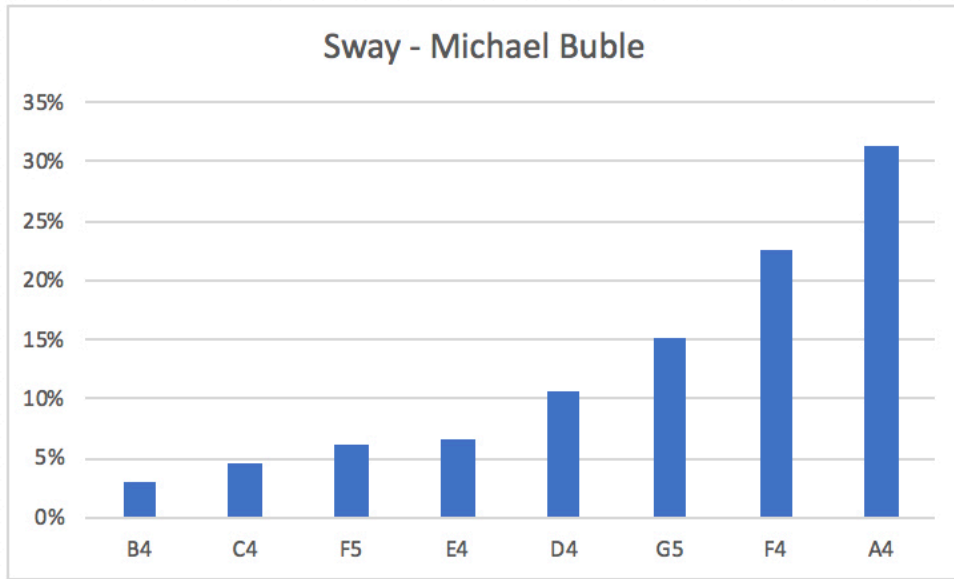
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MIDI Note	Note	%	Frequency
71	B3	0%	2
60	C3	1%	5
77	F4	4%	29
91	G5	4%	32
72	C4	7%	52
79	G4	11%	85
74	D4	34%	257
76	E4	40%	302
			764



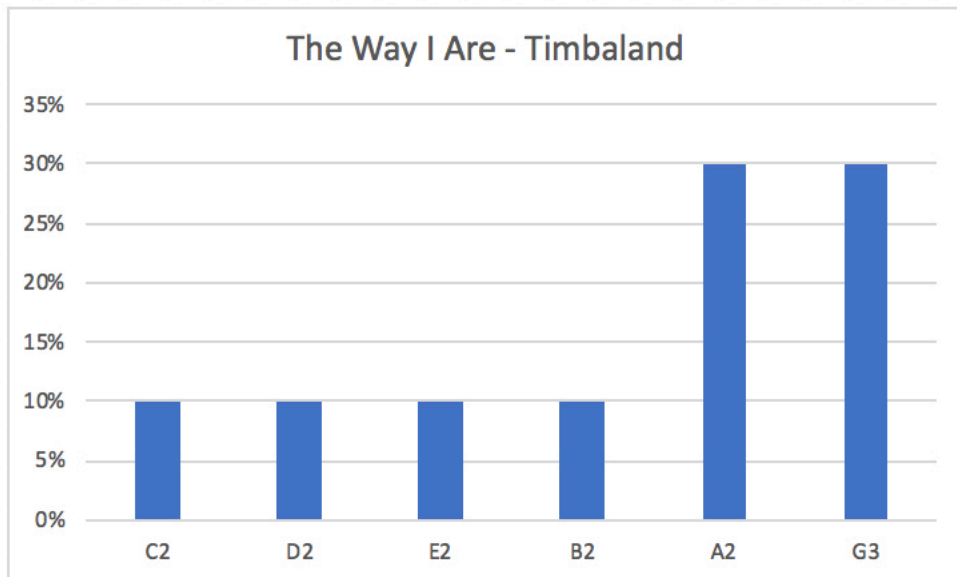
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MIDI Note	Note	%	Frequency
83	B4	3%	18
72	C4	5%	28
89	F5	6%	37
76	E4	7%	40
74	D4	11%	64
91	G5	15%	91
77	F4	22%	135
81	A4	31%	188
			601



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MIDI Note	Note	%	Frequency
48	C2	10%	28
50	D2	10%	28
52	E2	10%	28
59	B2	10%	28
57	A2	30%	84
67	G3	30%	84
			280



The Death of Melody

MIDI Note	Note	%	Frequency
72	C4	1%	6
69	A3	2%	8
83	B4	5%	20
74	D4	7%	32
91	G5	11%	48
81	A4	14%	61
88	E5	17%	72
86	D5	20%	88
89	F5	22%	97
			432

