Ear, Mind, or Brain?
Reflections on Musical Similarity

Eleanor Selfridge-Field
Stanford University
Melodic elaboration in Mozart


Example 1:

Example 2:
Human factors in assessments of similarity

- **Cognitive weights** of feature-based comparisons
- **Perceptual factors** in the experience of “similarity”
- **Cultural conditions**
We shall overcome
Morehouse College Glee Club 2009
[arr. Wendell P. Whalum]

Cultural dissonance

O Sanctissima (after Beethoven, WoO 157)

https://www.youtube.com/watch?v=Aor6-DkzBJ0

Coro Città di Castellarano, dir. Marco Giudorizzi, 2017
Musical similarity in music-copyright infringement
Two foundational cases

Arnstein vs. Porter (1946)
- establishes concept of **substantial musical similarity** (SMS)
- establishes idea of **lay listener** test

Gaye vs. Williams and Thicke (2013)
- Verdict on appeal—March 2018
- Provisionally **prohibits similarity of style** in protected work
Sardonic view of music copyright

Absent copyright, it is difficult to imagine how the creation of popular songs—short, simple permutations of a limited number of tones, easily reproducible ad infinitum with the readily available technologies of the human ear and voice—could be a remunerative enterprise.
Irving Berlin’s opinion of Arnstein

Upon learning that he had just been sued, and not for the first time, by Ira B. Arnstein, Irving Berlin responded with uncharacteristic equanimity: “I suppose we have to take the bad with the good in our system which gives everyone a chance to have their day in court.” “Of course,” he added puckishly, “Arnstein is stretching his day in court into a lifetime.”
Detectives investigate musical similarity

Dr. Sigmund Spaeth parlayed an amusing musical dissection of “Yes! We Have No Bananas” into a long career as America’s favorite popularizer of classical music and classicizer of popular music, and into a lucrative sideline giving expert testimony in music plagiarism cases, playing a relentless Inspector Javert to Ira B. Arnsen’s beleaguered Jean Valjean.

READ MORE »
Similarity of which features?

1946: Notation base
Main parameters
- Melody
- Harmony
- Rhythm

2013: Audio/video base
Main parameters
- Timbre
- Tempo
- Dynamics
Contractual disagreements

- We shall overcome (2015)
- Audio-visual synchronization rights: $100,000 [film = The Butler, Lee Daniels, 2013]
Gaye (L) vs Williams, Thicke (R) (2013; appeal, 2015; re-appeal pending)


Pharrell Williams and Robin Thicke (2013).
Melody comparison (involves slipping oppositions)

- Timbre
- Tempo
- Dynamics

Note position, Scale degrees

Fig. 1. Marvin Gaye, “Got to give it up,” Bars 8-11.

Fig. 2. Pharrell Williams and Robin Thicke, “Blurred Lines,” Bars 25-28.
What is a substantial melody?

- Timbre
- Tempo
- Dynamics

Note position, Scale degrees

Fig. 1. Marvin Gaye, “Got to give it up,” Bars 8-11.

Fig. 2. Pharrell Williams and Robin Thicke, “Blurred Lines,” Bars 25-28.
Notated vs. performed music in copyright litigation

Chart comparing bass lines for “Blurred Lines” and “Got to Give You Up” Courtesy of Sandy Wilbur
Gaye estate vs Williams and Thicke; Williams et al vs Gaye estate*

2013 (copyright), 2015 (suit), 2018 (appeal),

Standing judgment:
*Musical style is a protectable element
Notated vs performed music in (US) copyright registrations, 1940-2017

<table>
<thead>
<tr>
<th>Decade</th>
<th>Score only</th>
<th>Recording only</th>
<th>Score &amp; recording</th>
<th>Music video/film</th>
<th>MIDI file</th>
</tr>
</thead>
<tbody>
<tr>
<td>1940-49</td>
<td>2</td>
<td>3</td>
<td>7</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>1950-59</td>
<td>0</td>
<td>2</td>
<td>7</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1960-69</td>
<td>1</td>
<td>0</td>
<td>5</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>1970-79</td>
<td>1</td>
<td>0</td>
<td>4</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>1980-89</td>
<td>2</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>1990-99</td>
<td>2</td>
<td>9</td>
<td>5</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2000-09</td>
<td>0</td>
<td>25</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>2010-17</td>
<td>0</td>
<td>21</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Source: Charles Cronin's
Drift in registration media (1940-2017)

- Score only
- Recording only
- Score & recording
- Music video/film
- MIDI file

Changing music technology as pivot

- 1999: Record sales peak
- 2009: Streaming music downloads peak
- 2015: Digital downloads = 90% music sales
RIAA revenue by delivery medium (2016)
Controversial points ( "Blurred Lines")

Should cases be argued on the basis of registered copies only?

What is fair when competing registrations are in different medium (media…)?
Should every “**style**” be exclusive to its own creator?

**Improvisatory pastiche**
(18\textsuperscript{th}/20\textsuperscript{th} centuries)

Ethan Uslan, 2012