

Western University

Scholarship@Western

Master of Studies in Law Research Papers
Repository

Law School

November 2024

Understanding Music Copyright Through Legal Analysis and Music Theory

Gillian Radcliffe
Western University

Supervisor: Samuel Trosow, Dennis Klimchuk
University of Western Ontario

Follow this and additional works at: <https://ir.lib.uwo.ca/mslp>



Part of the [Intellectual Property Law Commons](#), and the [Music Theory Commons](#)

Recommended Citation

Radcliffe, Gillian, "Understanding Music Copyright Through Legal Analysis and Music Theory" (2024).
Master of Studies in Law Research Papers Repository. 9.
<https://ir.lib.uwo.ca/mslp/9>

This Dissertation/Thesis is brought to you for free and open access by the Law School at Scholarship@Western. It has been accepted for inclusion in Master of Studies in Law Research Papers Repository by an authorized administrator of Scholarship@Western. For more information, please contact wlsadmin@uwo.ca.

Abstract

This paper focuses on the intersection of law and music. Specifically, the intersection between music copyright law and music theory, and the role of musicologists and music theorists in copyright infringement cases. In particular, the influence they have on court decisions when acting as expert witnesses, or forensic musicologists. Recent decisions regarding copyright infringement in popular music have been strongly influenced by testimony from these forensic musicologists due to the imbalance of musical understanding between the expert and the court.

Forensic musicology is a form of “public music theory,” an approach used by academics in the music theory field when issues in society rely on the knowledge of professionals, or experts. Public music theory is expected to prioritize public knowledge over analytic methods and should be primarily focused on improving the musical understanding of the public (Jenkins 2021). Unfortunately, this is not often prioritized in the testimony of forensic musicologists. Having been hired to defend one side of an argument, these experts will often force their analyses and are then rarely held accountable for their testimony. This paper offers two solutions. First, the implementation of Schenkerian analysis for analyzing musical works discussed in court cases due to the theory’s legal background and similarity to the legal understanding of “music.” Second, the requirement that experts present their testimony with *amicus curiae* attached, in an attempt to reduce the possibility of dishonest opinions from experts.

Keywords

Music Copyright Law, Forensic Musicology, United States Copyright Law, Schenkerian Analysis, Public Music Theory, Intellectual Property Law

Acknowledgements

I would like to express my gratitude to my supervisors, Professors Sam Trosow and Dennis Klimchuk for sharing their valuable feedback and knowledge. Thank you both for your dedication and interest in my project, as well as your patience and guidance through my completion of the Master of Studies in Law program.

I am also grateful to Professor Jonathan De Souza for his expertise in music theory, detailed advice and suggestions, and constant willingness to help.

Finally, I would like to thank my friends, family, and cohort for their continuous support and encouragement over the past year.

Table of Contents

Abstract	ii
Keywords	ii
Acknowledgements	iii
Table of Contents	iv
List of Figures	vi
List of Tables	vii
Chapter 1	1
1 Introduction	1
Chapter 2	4
2 Methodology	4
2.1 Legal Background	4
2.1.1 United States Copyright Law	4
2.1.2 <i>Arnstein</i> Test for Infringement	5
2.1.3 <i>Krofft</i> Test for Infringement	7
2.1.4 Infringement Test Issues	9
2.2 Forensic Musicology	10
2.2.1 Accountability Ideal	11
2.2.2 Public Music Theory	12
2.2.3 Court Application	13
2.3 Schenkerian Analysis	14
2.3.1 Theoretical Basics	16
2.3.2 Terms and Definitions	17
2.3.3 Graphic Notation	19
2.3.4 Connections to Legal Theory	20

Chapter 3	25
3 Case Study: <i>Gray v. Perry</i>	25
3.1 Case Overview	25
3.2 Expert Testimony	25
3.3 Analysis.....	27
Chapter 4	31
4 Case Study: <i>Skidmore v. Zeppelin</i>	31
4.1 Case Overview	31
4.2 Expert Testimony	32
4.3 Analysis.....	34
Chapter 5	38
5 Case Study: <i>Williams v. Bridgeport</i>	38
5.1 Case Overview	38
5.2 Expert Testimony	39
5.3 Analysis.....	41
Chapter 6.....	50
6 Conclusion	50
Bibliography	52

List of Figures

Figure 1 “Joyful Noise” ostinato court notation	26
Figure 2 “Dark Horse” ostinato court notation	26
Figure 3 “Dark Horse” Schenkerian graphs.....	28
Figure 4 “Joyful Noise” Schenkerian graphs.....	28
Figure 5 “Taurus” original deposit copy.....	32
Figure 6 “Taurus” court submission	32
Figure 7 “Stairway to Heaven” court submission.....	33
Figure 8 “Taurus” chord reduction	35
Figure 9 “Stairway to Heaven” chord reduction.....	35
Figure 10 “Taurus” Schenkerian graphs	36
Figure 11 “Stairway to Heaven” Schenkerian graphs.....	37
Figure 12 “Got To Give It Up” bassline from deposit copy	41
Figure 13 “Blurred Lines” bassline.....	41
Figure 14 “Got To Give It Up” bassline graph	42
Figure 15 “Blurred Lines” bassline graph	42
Figure 16 “Got To Give It Up” chord progression	44
Figure 17 “Blurred Lines” chord progression.....	44
Figure 18 “Theme X” from “Got To Give It Up” and “Blurred Lines”	44
Figure 19 “Got To Give It Up” (Part II)	46
Figure 20 “Blurred Lines” (mm. 5-8)	47
Figure 21 “Blurred Lines” (mm. 9-13)	48

List of Tables

Table 1 Summary of similarities between Schenkerian graphs and copyright infringement	15
Table 2 Summary of graph similarities, <i>Gray v. Perry</i> (ostinatos).....	29
Table 3 Summary of graph similarities, <i>Skidmore v. Zeppelin</i>	37
Table 4 Summary of graph similarities, <i>Bridgeport v. Williams</i> (basslines)	43
Table 5 Summary of graph similarities, <i>Bridgeport v. Williams</i> (“Theme X”).....	48

Chapter 1

1 Introduction

Over the past fifty years, copyright infringement cases have become increasingly common in the United States. From the late 1880s to now, popular music in North America has been created and exploited for monetary gain. Historically, this was seen in the music produced by the musicians, songwriters, and publishers of Tin Pan Alley in New York. Today, record labels such as EMI, Sony, Universal, and Warner, tend to control the popular music marketplace in North America.¹ A major issue in cases of music copyright infringement is the lack of musical education in the courts. These cases tend to employ the expertise of “forensic musicologists” to analyze the music in question and explain whether certain musical motifs are original and therefore should be protected by copyright, or if they are considered basic elements of music that should not be protected by copyright. These expert witnesses usually hold a terminal degree in music theory or musicology, yet there is a lack of accountability in the work they present to the courts. Judges and juries do not have the same musical understanding that these experts have and therefore must rely on the experts’ explanations of their analyses. However, when experts fail to adequately explain their analyses, it can result in misunderstandings from the court.

This paper highlights three prominent copyright cases that have occurred over the last decade: *Marcus Gray, et al. v. Katy Perry, et al.* No. 2:15-cv-05642 (C.D. Cal. March 16, 2020); No. 20-55401 (9th Cir., March 10, 2022) (*Gray v. Perry*), *Michael Skidmore v. Led Zeppelin* 952 F.3d 1051 (9th Cir. 2020) (*Skidmore v. Zeppelin*), and *Pharrell Williams, et al. v. Bridgeport*

¹ Olufunmilayo B. Arewa, “From J.C. Bach to Hip Hop: Musical Borrowings, Copyright and Cultural Context” (2006) 84:2 N.C. L. Rev. 547 at 608.

Music 895 F.3d 1106 (9th Cir. 2018) (*Williams v. Bridgeport*) and argues that in order to achieve any form of accountability in forensic musicology, public music theory needs to be more prominent in the work of forensic musicologists.² Two solutions are suggested: the adoption of Schenkerian analysis to analyze the musical works discussed in court cases and promote public music theory; and an idealized version of the *amicus curiae* system where experts are required to submit amicus briefs with their analyses, similar to a “peer-review” process. Because music theory is a highly subjective field, adding an *amicus curiae* requirement would create a system of accountability for forensic musicologists by requiring them to prove to the court that there are other members of the field that understand the argument being made and agree with the conclusion.

Although this paper does not require an advanced understanding of music theory, an assumption has been made that the reader is able to read music notation as there is a significant amount of musical analysis included in the discussion. The basic concepts of Schenkerian analysis are outlined in Chapter 2 (2.3) for readers unfamiliar with the analysis technique; as it is used throughout this paper to analyze the alleged similarities between musical works in the cases previously mentioned. *Gray v. Perry* acts as a further introduction the analytical technique of Schenkerian analysis and stresses the importance of recognizing basic musical structures. *Skidmore v. Zeppelin* offers an example of how Schenkerian analysis can be used to come to the same decision as the court and supplement the argument that copyright infringement did not occur. The final case discussed in this paper, *Williams v. Bridgeport*, highlights how important it is to have a form of accountability for the testimony of forensic musicologists.

² Public music theory refers to work done by experts to improve a non-expert’s understanding of music. See Daniel J. Jenkins, “An Introduction to Public Music Theory” in *The Oxford Handbook of Public Music Theory*, Daniel J. Jenkins ed., (Oxford: Oxford University Press, 2021).

In fact, recent research has found that the current format for expert testimony can have little effect on a jury's decision, due to the forensic musicologist's inability to explain their analysis.³ However, the use of expert testimony continues to be the norm in music copyright cases, and until an alternative has been implemented, there needs to be some form of accountability. The goal of this paper is not to offer an idealized version of what the music copyright system should be, but instead, offer a more practical solution that could work within the current state of copyright.

³ Edward Lee and Andrew Moshirnia, "Do Experts Matter? A Study of the Effect of Musicologist Testimony in Music Cases" (2022) 2022:2 U. Ill. L. Rev. 707 at 715, 716.

Chapter 2

2 Methodology

2.1 Legal Background

2.1.1 United States Copyright Law⁴

The copyright laws of the United States are protected under the Title 17 of the United States Code. Although a “musical work” is not defined under the *United States Copyright Act* of 1976, it is generally understood that “a musical work must demonstrate some originality to receive copyright protection.”⁵ Additionally, its definition is “discussed extensively in case law,” however, “cases and commentary do not consistently define what constitutes an original musical work.”⁶ On the other hand, a “sound recording” is defined in the *Copyright Act (1976)* as “works that result from the fixation of a series of musical, spoken, or other sounds, but not including the sounds accompanying a motion picture or other audiovisual work, regardless of the nature of the material objects, such as disks, tapes, or other phonorecords, in which they are embodied.”⁷ It was not until the *Sound Recording Act* of 1971 that Congress extended federal copyright protection to the sound recording.⁸

The United States copyright laws are controlled by two pieces of legislature. Any copyright that was registered prior to the *United States Copyright Act* of 1976 is controlled by the *United States Copyright Act* of 1909. The crucial difference between these two Acts being

⁴ Canadian copyright law has been excluded from the discussion in this paper for a variety of reasons. Including the lack of extensive case law in music copyright, the difference in trial procedure between the two countries, and the fact that most of the North American music industry is based inside of the United States.

⁵ Arewa, “From J.C. Bach to Hip Hop” 547 at 565-566.

⁶ Ibid.

⁷ *Copyright Act, 1976*, 17 U.S.C., at §101, 5.

⁸ Robert Brauneis, “Musical Work Copyright for The Era of Digital Sound Technology: Looking Beyond Composition and Performance” (2014) 17:2 *Tulane Journal of Technology & Intellectual Property* 1 at 4.

that for the 1909 Act, copyright only extends to the deposit copy of the music submitted at the time of registration. In comparison, copyright registration after 1976 can also include sound recordings as a part of copyright infringement cases. This issue is crucial to the outcome of two of the three case studies discussed throughout this paper; both *Williams v. Bridgeport* and *Skidmore v. Zeppelin* hinge on the deposit copy submitted prior to 1976.⁹

There are two common tests used to determine copyright infringement within the United States. Both tests are used to prove substantial similarity between two copyrighted works. The first comes from *Arnstein v. Porter* (1946) and outlines an “ordinary observer” type test (*Arnstein*). The second test comes from the *Sid & Marty Krofft Television Productions Inc. v. McDonald's Corp.* (1977) case, which outlines the extrinsic and intrinsic tests for substantial similarity (*Krofft*).

2.1.2 *Arnstein* Test for Infringement

The two-step test outlined in *Arnstein* is often applied in the Second Circuit Court of Appeals. The initial case dealt with a claim of music copyright infringement between Ira B. Arnstein and Cole Porter. The court outlines the process of testing for copyright infringement, stating that there are “two separate elements essential to a plaintiff's case in such a suit: (a) that defendant copied from plaintiff's copyrighted work and (b) that the copying (assuming it to be proved) went so far as to constitute improper appropriation.”¹⁰

When trying to prove the first step of this test, the court outlined two things that the evidence may consist of, either the “defendant's admission that he copied” or “circumstantial

⁹ For the purposes of this paper, only the copyright protections for musical works are being considered. The copyright protections surrounding sound recordings are not covered in the scope of this paper.

¹⁰ *Arnstein v. Porter*, 154 F.2d 464 (2d Cir. 1946) at 468.

evidence usually evidence of access from which the trier of the facts may reasonably infer copying.”¹¹ This first step of the test does not prove if infringement has occurred, it just determines if infringement may have occurred. The court further outlines what can be used to prove copying has occurred stating that “on this issue, analysis (‘dissection’) is relevant, and the testimony of experts may be received to aid the trier of the facts.”¹² Only after this first step has been achieved will the court move to the next step of the test for infringement.¹³ If there is no evidence that the defendant had access to the plaintiff’s work, the court states that “the similarities must be so striking as to preclude the possibility that plaintiff and defendant independently arrived at the same result.”¹⁴

In the second step of the test, the court focuses on the “lay hearer” to decide whether the amount copied by the defendant could be understood as “permissible copying” or, if the defendant has in fact infringed the copyright of the plaintiff. The reasoning behind using a “lay hearer” in this step is explained by the court below:

The proper criterion on that issue is not an analytic or other comparison of the respective musical compositions as they appear on paper or in the judgment of trained musicians. The plaintiff’s legally protected interest is not, as such, his reputation as a musician but his interest in the potential financial returns from his compositions which derive from the lay public’s approbation of his efforts. The question, therefore, is whether defendant took from plaintiff’s works so much of what is pleasing to the ears of lay listeners, who comprise the audience for whom such popular music is composed, that defendant wrongfully appropriated something which belongs to the plaintiff.¹⁵

As a result, analysis or testimony from forensic musicologists can no longer be submitted as evidence during this step.

¹¹ *Arnstein v. Porter* (1946) at 468.

¹² *Ibid.*

¹³ *Ibid.*

¹⁴ *Ibid.*

¹⁵ *Ibid.*, at 473.

2.1.3 *Krofft* Test for Infringement

Krofft v. McDonald's takes the two-step test from *Arnstein* and clarifies some of the requirements for proving infringement. In the initial case, in 1969, NBC began airing “H. R. Pufnstuf,” a children’s television show created by Sid and Marty Krofft.¹⁶ Krofft was approached in 1970 by an advertising agency, Needham, Harper & Steers, Inc. At the time, Needham was in the process of acquiring McDonald’s as an account and was looking to create an advertising pitch for the company using the H. R. Pufnstuf characters as a part of the campaign.¹⁷ Krofft and Needham discussed the plan multiple times over the phone and Needham provided a letter to Krofft on August 31, 1970, outlining the pay the Kroffts would receive for artistic design and engineering. However, soon after, the Kroffts received a call informing them that the advertising campaign was cancelled.¹⁸ In reality, the campaign continued, and the advertisements began running in 1971. The Kroffts filed for infringement soon after and the trial began in 1973, receiving a verdict in their favour.¹⁹

In the court’s discussion of how to prove copyright infringement, they refer back to the test set out in *Arnstein*. Noting that proof of copying is shown by “circumstantial evidence of access to the copyrighted work and substantial similarity between the copyrighted work and defendant's work.”²⁰ The court points out that this is a broadly defined rule that may create “untenable” results, using the following example as an explanation:

[A] copyright could be obtained over a cheaply manufactured plaster statue of a nude. Since ownership of a copyright is established, subsequent manufacturers of

¹⁶ *Sid & Marty Krofft Television Productions Inc. v. McDonald's Corp.* 562 F.2d 1157 (9th Cir. 1977) “Facts” at para. 1.

¹⁷ *Krofft v. McDonald's* (1977) “Facts” at para. 2.

¹⁸ *Ibid*, at para. 3.

¹⁹ *Ibid*, at paras. 4, 6, 8.

²⁰ *Krofft v. McDonald's* (1977) “Proof of Infringement” at para. 1.

statues of nudes would face the grave risk of being found to be infringers if their statues were substantially similar and access were shown. The burden of proof on the plaintiff would be minimal, since most statues of nudes would in all probability be substantially similar to the cheaply manufactured plaster one.²¹

From here, they propose that “a limiting principle is needed. This is provided by the classic distinction between an ‘idea’ and the ‘expression’ of that idea. It is an axiom of copyright law that the protection granted to a copyrighted work extends only to the particular expression of the idea and never to the idea itself.”²² The court then outlines the new requirements to prove copyright infringement: 1) ownership of the copyright; 2) access to the copyrighted work; 3) substantial similarity of general ideas; and 4) substantial similarity in the expression of ideas.²³

The court labels substantial similarity of ideas the “extrinsic” test, explaining that the test “depends not on the responses of the trier of fact, but on specific criteria which can be listed and analyzed [...] Since it is an extrinsic test, analytic dissection and expert testimony are appropriate.”²⁴ In comparison, the test for substantial similarity between expression is then labeled the “intrinsic” test. The court clarifies that:

If there is substantial similarity in ideas, then the trier of fact must decide whether there is substantial similarity in the expressions of the ideas so as to constitute infringement. The test to be applied in determining whether there is substantial similarity in expressions shall be labeled an intrinsic one depending on the response of the ordinary reasonable person. [...] It is intrinsic because it does not depend on the type of external criteria and analysis which marks the extrinsic test.²⁵

Similar to *Arnstein*, analysis or testimony from expert witnesses cannot be considered in the last step of the *Krofft* test for infringement.

²¹ *Krofft v. McDonald's* (1977) “Proof of Infringement” at para. 2.

²² *Ibid.*

²³ *Ibid.*, at para. 8.

²⁴ *Ibid.*, at para. 10.

²⁵ *Ibid.*, at para. 11, 12.

2.1.4 Infringement Test Issues

The issues that occur from only allowing expert testimony during the first step of the tests for substantial similarity have been extensively noted by Mark Lemley. He argues that the current tests are backwards, believing that the question from the first step, “does the similarity between the two works lead you to believe that the defendant must have copied from the plaintiff despite his denials,” could easily be answered by the jury.²⁶ On the other hand, step two of the test asks, “whether the defendant copied a more than de minimis amount of material that was in fact legally protected.”²⁷ Lemley argues that this step “does require analytic dissection of the work and expert testimony in the vast majority of cases,” and therefore, expert testimony should be permitted during this step of the test.²⁸ Lemley offers two solutions to the problems associated with restricting expert testimony to the first step of the tests. First, he argues that the courts could switch which step of the test expert testimony is admissible. Second, he argues that the expert should be allowed for both steps of the tests for infringement.²⁹

In the first solution, Lemley suggests switching the steps of the *Krofft* test specifically, he suggests that we, “simply to reverse the ‘intrinsic’ and ‘extrinsic’ components of the test. If we think expert testimony and analytic dissection belong in the improper appropriation prong, but not the probative similarity prong, we could simply do the opposite of what we do now.”³⁰ By doing this, the court would allow the jury to answer the question of if copying occurred, and then use the expert testimony to determine if the amount copied infringed copyright. In his second

²⁶ Mark A Lemley, “Our Bizarre System for Proving Copyright Infringement” (2010) 57 Journal of the Copyright Society 719 at 744.

²⁷ Lemley, “Our Bizarre System” at 744.

²⁸ Ibid.

²⁹ Ibid, at 747, 748.

³⁰ Ibid, at 747.

solution, Lemley argues that the forensic musicologist should be allowed during both steps of the test for substantial similarity. He cites software cases, where expert testimony is used throughout the entire test in order to explain protectable and unprotectable code and that therefore, music should receive the same benefit by allowing musicologists to guide the judge and jury through which elements of the copied music can and cannot be protected by copyright laws.³¹

Overall, Lemley's solutions offer excellent alternatives to the current tests for substantial similarity. However, without any form of accountability put in place for expert witnesses, a new issue arises; giving the experts too much power to influence the court's decision. The current system relies on them to move to the second step of the test, which already provides quite a bit of influencing power over the decision. However, it does not give them the "last word" of the decision. If we switch the order the steps of the test are taken, we run into the issue of allowing musicologists even more control over music copyright disputes. Furthermore, in the *Arnstein* test the court sets out why the second step of the test for infringement cannot involve the testimony of expert witnesses, and explanation that is then also reiterated in the *Krofft* decision.

2.2 Forensic Musicology

The role of forensic musicology is, as Katherine Leo explains, that forensic musicologists and theorists act as translators for judges and juries. Their job is essentially, "offering musical translations as meaningful legal evidence."³² The goal or expectation of these "translations" is to help explain if there are similarities between the works in question. Since expert testimony is only admissible during step one of the tests for substantial similarity, experts often end up

³¹ Lemley, "Our Bizarre System" at 738.

³² Katherine M. Leo, "Forensic Translations of Music in Copyright Litigation" in *The Oxford Handbook of Public Music Theory*, Daniel J. Jenkins ed., (Oxford: Oxford University Press, 2021) at 2.

providing analyses of the two works to show how they are or are not similar, in order to satisfy the first step requirement that copying has occurred. As a part of these analyses, they may also be asked to identify if elements of the music are copyrightable or if they are basic, common, or unoriginal elements of music.

2.2.1 Accountability Ideal

Having an expert witness's opinions reviewed by other experts (leading to a "peer review" type outcome) could add a level of accountability to an expert's testimony that is currently severely lacking. The current *amicus curiae* system functions somewhat similarly to a peer-review process, allowing members of the musicology and music theory field to write reports in support of one forensic musicologist's analysis. As Leo explains, *amici curiae* are:

Court documents are prepared by specialists that are neither parties to a lawsuit nor hired by them, thus serving only as "friend(s) of the court." The documents they author, often in collaboration with attorneys, introduce additional factual information and alternative translations that may not have been mentioned by the parties or expert witnesses but are still relevant to the case and its legal implications.³³

These briefs are often supportive of one side of the debate, and their existence "highlights the subjectivity of forensic music analysis."³⁴ Therefore, one form of accountability could be requiring expert musicologists to also attach amicus briefs to their analyses, proving that there are other experts in the field that agree with and understand the argument being made. As Leo notes, the "commonalities between amicus briefs and expert analyses can serve to confirm an expert witness's musical translation and to amplify central arguments advanced in a lawsuit."³⁵

³³ Leo, "Forensic Translations" at 7.

³⁴ *Ibid.*, at 8.

³⁵ *Ibid.*

Due to the subjectivity of music theory, and in particular Schenkerian analysis, adding a requirement that the amicus briefs be submitted by other theorists or musicologists creates an additional step of accountability for experts. First ensuring that the analysis being offered is not just the opinion of one expert. And second, creating a safeguard where experts are required to show their analyses to other respected colleagues, which would ideally cause experts to avoid submitting trivial or misleading analyses of musical works.

2.2.2 Public Music Theory

Public music theory is an approach used by academics in the music theory field when issues in society rely on the knowledge of professionals, or experts. It emphasizes public knowledge and is primarily focused on improving musical understanding or using musical skills to improve people's lives.³⁶ One of the main issues that occurs during music copyright cases is the fact that "legal scholars, judges, and practitioners generally do not understand how music is written and recorded today."³⁷ One of the key elements of public music theory is that "the public comes before the music (which comes before the theory)."³⁸ This ideology is often left out of the courtroom, and instead, the forensic musicologist is left to prove the opposing side's expert wrong, resulting in a traditional "dueling" musicologists framework where the focus shifts towards disproving the analysis of the other expert instead of explaining their own analysis. An emphasis on public music theory would benefit all members of the court, particularly in cases where a court-appointed expert is not available.

³⁶ Jenkins, "An Introduction to Public Music Theory" at 5.

³⁷ Gabriel J. Fleet, "What's in a Song? Copyright's Unfair Treatment of Record Producers and Side Musicians" (2008) 61:4 Vand. L. Rev. 1235 at 1250.

³⁸ Jenkins, "An Introduction to Public Music Theory" at 12-13.

2.2.3 Court Application

The lack of musical understanding from judges and juries also results in the courts reliance on expert testimony to explain if musical works are similar enough to prove that copying has occurred. When presenting their analyses, forensic musicologists will need to clarify which musical elements are original and therefore copyrightable, and which elements are commonplace musical elements. Popular music is often subjected to questions of originality because the harmonic progressions used are repeated frequently,³⁹ for example, the progression, I-V-vi-IV (e.g., C-G-A minor-F in the key of C major).⁴⁰ Because tonal progressions can be written in any key, music theorists often use Roman numerals to represent chords in relative terms; with the numeric value corresponding to the chordal root's position in the scale and the numeric case (capital vs. lowercase) corresponding to the chord's quality (major or minor). For example, in C major, "V" would denote a major chord based on the fifth degree of the scale, G. The I-V-vi-IV progression is an excellent example of what has become a non-copyrightable element of music.

In most cases, the law views of music as something consisting of melody, harmony, and rhythm, but primarily melody.⁴¹ This is similar to the view associated with the music analysis technique known as Schenkerian analysis. Named after the music theorist Heinrich Schenker (1868-1935), Schenkerian analysis is a form of music analysis used by music theorists to show the basic structure of a musical work. The analytic style prioritizes melody and counterpoint, and omits rhythmic duration. Harmony in Schenkerian analysis is produced by the counterpoint of

³⁹ Bryn Hughes and Megan Lavengood, "Introduction to Harmonic Schemas in Pop Music," online: Open Music Theory <<https://viva.pressbooks.pub/openmusictheory/chapter/intro-to-pop-schemas/>>.

⁴⁰ Comedy rock-band, Axis of Awesome, and comedian Rob Paravonian have both noted how common this chord progression appears in popular music. (See Benny Davis et al., "Axis of Awesome - All Popular Songs Are The Same 4 Chords" (2015) online: YouTube <<https://www.youtube.com/watch?v=dFpryVMgni0>>; and Rob Paravonian, "Pachelbel Rant" (2006) online: YouTube <<https://www.youtube.com/watch?v=uxC1fPE1QEE>>.)

⁴¹ Leo, "Forensic Translations" at 5.

multiple, simultaneous melodic lines (e.g., the melody and the bass line) and is essential for determining which tones of the music are structurally important. These elements of Schenker's theory also happens to align with a legal understanding of musical importance during copyright infringement issues, where melody is prioritized, and rhythm is largely ignored.⁴²

2.3 Schenkerian Analysis

Schenkerian analysis is structured around different levels of analysis, with each one reducing the music more than the last until the music from the score has been reduced to its most basic form. The analyses are notated as "Schenkerian graphs," and the levels are referred to as the "foreground," "middleground," and "background." Reducing the musical work to different levels requires the theorist to "[strip] away the top layer of musical structure so as to reveal the underlying and more essential configurations that represent the large-scale motions of the music."⁴³ By reducing the music to these levels, theorists can also see what standard (non-copyrightable) elements of music are used to create the overall musical work. Although the theory was initially intended for the analysis of nineteenth-century Western art music, there has been a rather large increase in theorists adopting Schenkerian techniques for the analysis of jazz, rock and pop music over the last 30 years.⁴⁴

⁴² Leo, "Forensic Translations" at 5.

⁴³ Allen Forte, *The American Popular Ballad of the Golden Era, 1924-1950*. (Princeton: Princeton University Press, 1995) at 42.

⁴⁴ See Matthew Brown, "'Little Wing': A Study in Musical Cognition" in *Understanding Rock, Essays in Musical Analysis*, John Covach and Graeme M. Boone, eds. (New York: Oxford University Press, 1997); Walter Everett, "Making Sense of Rock's Tonal Systems" (2004) 10:4 Music Theory Online; Forte, *The American Popular Ballad*; David J. Heyer, "Applying Schenkerian Theory to Mainstream Jazz: A Justification for an Orthodox Approach" (2012) 18:3 Music Theory Online; Steve Larson, *Analyzing Jazz: A Schenkerian Approach*. (Hillsdale: Pendragon Press, 2009), Steve Larson, "Schenkerian Analysis of Modern Jazz: Questions about Method" (1998) 20:2 Music Theory Spectrum 209; Henry Martin, "Expanding Jazz Tonality: The Compositions of John Coltrane" (2012-13) 37-38 Theory and Practice 185; Henry Martin, "Prolongation and Its Limits: The Compositions of Wayne Shorter" (2018) 40:1 Music Theory Spectrum 84; Henry Martin, "Schenker and the Tonal Jazz Repertory" (2011) 16:1 Tijdschrift voor Muziektheorie 1; Drew F. Nobile "Counterpoint in Rock Music" (2015) 37:2 Music Theory

In terms of music copyright, this technique is particularly useful because it shows how similar the musical works are on each level and has already been used by theorists to analyze popular music over the past few decades. This is particularly important because the vast majority of copyright cases involve disputes between popular music. When trying to decide what would prove copying has occurred, the two best levels to compare are the “foreground” and the “middleground.” A foreground graph can show how similar the music is, but only on a fairly superficial level that could then be used to address if copying has occurred or not. The next step would involve the middleground graph, which shows the most important elements of the music, similarity at the foreground and at the middleground level would suggest substantial copying. The “background” graph is the least detailed, and if two musical works appeared to be the exact same at this level, but not at any other, it would not be evidence that copying has occurred between the two musical works. The purpose of the background graph is to show basic (non-copyrightable) elements of music were used to create the work. (See Table 1 for further clarification).

Spectrum 189; Drew F. Nobile, “Form and Voice Leading in Early Beatles Songs” (2011) 17:3 Music Theory Online; Steve Strunk, “Tonal and Transformational Approaches to Chick Corea’s Compositions of the 1960s” (2016) 38:1 Music Theory Spectrum 116; Keith Waters, “Chick Corea and Postbop Harmony” (2016) 38:1 Music Theory Spectrum 37.

Table 1 Summary of similarities between Schenkerian graphs and copyright infringement.

NUMBER OF SIMILAR GRAPHS ⁴⁵	GRAPH SIMILARITY NAME	POSSIBLE RELATION TO INFRINGEMENT
1 GRAPH	Foreground only	Likely proof of copying, but not to be considered substantially similar.
	Middleground only	Unlikely proof copying has occurred. Both works may belong to a similar genre or style.
	Background only	Unlikely proof copying has occurred. Both works use the same basic compositional techniques that are non-copyrightable.
2 GRAPHS	Foreground Middleground	Likely proof of copying and to be considered substantial similar.
	Foreground Background	Likely proof of copying, but not to be considered substantially similar. Both works may belong to a similar genre or style.
	Middleground Background	Unlikely proof copying has occurred. Both works may belong to a similar genre or style.
3 GRAPHS	Foreground Middleground Background	Likely proof of copying and to be considered substantial similar.

2.3.1 Theoretical Basics

A core element of Schenkerian analysis is the idea of counterpoint. Counterpoint occurs in music when there are two or more melodies moving simultaneously.⁴⁶ As the melodies are heard together, they produce harmonies that result in harmonic progressions. Separating these melodic strands and discerning their harmonic implications is an essential element of

⁴⁵ It is important to clarify that these similarities do not refer to similarity within one song. When the table refers to a “Foreground and Middleground Similarity,” it does not mean that the foreground and middleground of one song are similar. Instead, it refers to the Foreground analysis of two different songs being similar, and then the Middleground analysis of the two songs also being similar.

⁴⁶ Allen Cadwallader et al., *Analysis of Tonal Music: A Schenkerian Approach*. (Oxford: Oxford University Press, 2020) at 21.

Schenkerian analysis. The hierarchies mentioned above each have a different purpose and way of displaying musical elements. In the foreground, the melody is often in its clearest form where the motion towards the resolution on $\hat{1}$ is the goal. In the middleground, the harmonic elements become more visible as the structure is stripped away to reveal the large-scale motions of the music. In the background, the priority is neither linear nor vertical but depth, allowing the theorist to see dimension in the musical structure.

Prolongation is another important concept in Schenkerian analysis and refers to harmonic or melodic progressions that maintain a harmonic function despite containing chords that do not fit into the initial function. For example, a harmonic progression such as I-V-I can sometimes be understood as a prolongation of Tonic (I) function. Even though V is associated with Dominant function, in these cases, the V is acting in a way that connects the two I chords and therefore prolongs the tonic harmony. In this way, harmonies can be nested or embedded within other harmonies.

2.3.2 Terms and Definitions

Some of the most important Schenkerian terms include the “fundamental line” and “fundamental structure.” The fundamental line refers to the primary melody of the music that begins on an upper note from the tonic triad ($\hat{3}, \hat{5}, \hat{8}$) and then descends towards $\hat{1}$.⁴⁷ These different lines are referred to as 3-, 5-, and 8-lines, with the number corresponding to the scale degree that the line begins its descent from. The fundamental structure refers to the different archetypes used in music and is formed by the bassline and fundamental line.

⁴⁷ The symbol “^” is used as a shorthand for the term “scale degree.” Therefore “ $\hat{5}$ ” would be read as “scale degree 5” or “the fifth scale degree.”

In some cases, the musical work or excerpt does not immediately start on the “primary tone” (the member of the tonic triad that initiates the descent towards $\hat{1}$). In these cases, the music tends to either arrive at the primary tone by moving step-by-step up towards the pitch (initial ascent). In other cases, the music will arpeggiate up to the primary tone (initial arpeggiation). So, the terms “initial ascent” and “initial arpeggiation” both refer to the beginning of the fundamental line.

Furthermore, not all notes of a melodic line are equally important to the musical structure, for example, passing tones and neighbour notes. A passing tone is comprised of stepwise motion and is used to connect one tone to another, for example, the melodic motion of “C-D-E” in C major uses D as a passing tone to connect C and E. Similar to the passing tone, a neighbour note also moves using stepwise motion, however, rather than connecting two separate notes, it is used to prolong a single pitch. Neighbour notes either move up or down by step before returning to the initial note, for example, the melodic motion “C-B-C” the B acts as a “lower neighbour” to C.⁴⁸

At times, Schenkerian analysis includes tones that are only implied. Implied tones are notes that could be present in specific contexts; often notes that would complete an otherwise incomplete chord but are not actually notated in the score. In these situations, implied tones are notated in parentheses to indicate that the pitch is not technically present.⁴⁹

⁴⁸ Cadwallader et al., *Analysis of Tonal Music* at 29.

⁴⁹ *Ibid*, at 109.

2.3.3 Graphic Notation

The notation used to represent Schenkerian analysis borrows from traditional music notation, however the original meaning of the notation is altered to express new concepts.⁵⁰ Rhythmic duration symbols—which look like eighth, quarter, and half notes—no longer refer to the duration the note is played. Instead, open noteheads are viewed as more structural and therefore more important to the fundamental structure of the graphs, while filled in note heads, like quarter notes, are viewed as less important.⁵¹ Relatedly, notes without stems are also seen as less relevant to the structure of the music. The exception to this is eighth notes, where the flag stem indicates that the note is acting as a neighbour to another tone.⁵²

Slurs in Schenkerian analysis are another notation device that do not retain traditional meaning when used in graphic notation. Instead, they group together notes that are related to each other. This includes notes used in arpeggiations, harmonic intervals that are expressed horizontally, linear motions, and other nonadjacent stepwise movement that occurs deeper in levels of structure.⁵³ Additionally, slurs can be dashed to symbolize that the note at either end is prolonged throughout the section, despite additional pitches seen in the graphs. Alternatively, the dashed slur can also refer to a register transfer, where a pitch is displaced by an octave and enters into a new register. Beaming is similar to slurs in terms of connecting one note to the next, however beams are often reserved for the fundamental line to show the connections as the primary tone moves down towards the resolution.⁵⁴ Diagonal lines are used to realign displaced

⁵⁰ For a more detailed explanation of Schenkerian graphic notation see Cadwallader et al., *Analysis of Tonal Music* at 390-407.

⁵¹ Cadwallader et al., *Analysis of Tonal Music* at 391.

⁵² *Ibid*, at 396.

⁵³ *Ibid*, at 391.

⁵⁴ *Ibid*, at 394-95.

itches that belong within a single chord but are not originally written as a part the chord.⁵⁵ All of these different notation tools are used to express subtle hearings and interpretations of a composition.⁵⁶

2.3.4 Connections to Legal Theory

Additionally, the technique of Schenkerian analysis was created with a legal framework in mind, something that has been noted extensively by Wayne Alpern.⁵⁷ Schenker studied law during his university education and used the legal theories of Georg Jellinek to structure his theory of music analysis.⁵⁸ This separates Schenkerian analysis from other styles of music theory analysis in one particularly distinct way: the philosophy that is used to support the theory is based in legal philosophy rather than in the more traditional philosophies often used to explain music.^{59, 60} In comparison to other philosophies of music, Schenker's work is viewed as one of the first theories in almost two centuries (since the work of Jean-Phillipe Rameau) to offer "a

⁵⁵ Cadwallader et al., *Analysis of Tonal Music* at 396-97.

⁵⁶ *Ibid.*, at 390.

⁵⁷ See Wayne Alpern, "Music Theory as a Mode of Law: The Case of Heinrich Schenker, Esq." (1999) 20: 5-6 *Cardozo L. Rev.* 1459.

⁵⁸ Alpern, "Music Theory as a Mode of Law" at 1482.

⁵⁹ The work of Pythagoras in ancient Greece is one example of different philosophies used to explain music. See André Barbera, "Pythagoras," in *Grove Music Online*. Explains that "Pythagorean music theory rests on the theory of numerical ratios presented in books 7–9 of Euclid's *Elements* and given philosophical interpretation by Nicomachus in his *Introduction to Arithmetic*." And further notes that "Pythagoras's importance for music lies in his purported establishment of the numerical basis of acoustics. On passing a blacksmith's shop, he is said to have heard hammers of different weights striking consonant and dissonant intervals. He discovered that musical consonances were represented by the ratios that could be obtained from the musical tetractys: 1, 2, 3, 4. The ratios are relations of string lengths or frequencies. Thus 4:1 corresponds to the double octave; 3:1 to the octave plus the 5th; 2:1 (and 4:2) to the octave; 4:3 to the 4th; and 3:2 to the 5th."

⁶⁰ The works of Jean-Phillipe Rameau during the Enlightenment era offer multiple philosophies, first taking a Cartesian approach to explaining harmony, and later adopting a Newtonian system. See Joel Lester, "Rameau and Eighteenth-Century Harmonic Theory" in *The Cambridge History of Western Music Theory*, Thomas Christensen ed., (Cambridge: Cambridge University Press, 2002) at 770.

substantially different yet compelling vision of musical structure of comparable power and influence.”⁶¹

The theories of Jellinek function as a combination of the work of Fredrick Karl von Savigny and Rudolf von Jhering. Jellinek’s theory centers on the relation between social order and individual freedom. He embraces Savigny’s interest in the historical origins of law, and Jhering’s conflicting human interests, but overall aims to create a “harmonious coexistence of the individual with the whole.”⁶² In his theory, there are three states of law, Roman, Democratic, and Teutonic. In Roman law, society and citizens are controlled entirely by the state. Any form of “freedom” that the citizens have only exists because the state has allowed it and agreed to yield control for this freedom. Whereas Democratic law viewed individual freedom as a “right” of the people that was prioritized over the state.⁶³ As one of Schenker’s professors from law school, Jellinek had a direct connection to Schenker and managed to influence his understanding of legal thought and music. Schenker argues that these two forms of law can be replicated in the musical world, through strict twelve-tone serialism and dodecaphony.⁶⁴ Within twelve-tone serialism, the composer takes “shelter in the excessive law, order, and systematization of a musical Rome.”⁶⁵ And within dodecaphony (or simply atonal music), the composer “abdicates order in the irresponsible caprice of his private musical democracy, wallowing in the anarchy of his own intuition.”⁶⁶

⁶¹ Lester, “Rameau and Eighteenth-Century Harmonic Theory,” 774.

⁶² Alpern, “Music Theory as a Mode of Law” at 1470.

⁶³ Ibid, at 1472.

⁶⁴ Paul Griffiths, “Serialism,” in *Grove Music Online*. Explains “twelve-tone serialism” as: “A method of composition in which a fixed permutation, or series, of elements is referential (i.e. the handling of those elements in the composition is governed, to some extent and in some manner, by the series). Most commonly the elements arranged in the series are the 12 notes of the equal-tempered scale.” And defines “dodecaphony” as: “a term which is ambiguous in that it can refer to non-serial atonal music.”

⁶⁵ Alpern, “Music Theory as a Mode of Law” at 1461, 1496.

⁶⁶ Ibid.

In contrast to these two states of law, there exists Jellinek's theory of the Teutonic state. This was his answer to the issue revolving around how law should be utilized in balancing social order and individual freedom.⁶⁷ Under the law of the Teutonic state, both the citizens and state are understood to be equals. There is a "reciprocal relationship of mutual autonomy and respect" between the two as they recognize the need for individual autonomy and freedoms as a result of "the self-limitation of the state."⁶⁸ Alpern notes that Schenker's theory of music follows a similar philosophy to Jellinek, he manages to incorporate the same tensions that occur in Jellinek's Teutonic state into musical concepts.⁶⁹ The tension between freedom and order that are present in society are also present in music; and Schenker's theory of analysis offers the best approach for societal issues involving music, (such as issues of copyright infringement), because of the intricate connections that occur between legal thought, (specifically social theory), and music that are then reflected in Schenker's method of musical analysis.

In Schenker's theory, the concept of tonality acts as the political, Teutonic, state where "each note, like each individual, contracts with the other to relinquish a degree of its personal autonomy to a centralized authority for the mutual sake of collective order, in exchange for an assurance of its own retained freedom."⁷⁰ Schenker further mirrors Jellinek's theory in his rejection of the "democracy of the tones."⁷¹ He emulates Jellinek's "minority consciousness," which argues that votes should be weighted rather than uniformly counted in society as to not allow two people to be "worth more than one."⁷² In doing so, Schenker argues that members of

⁶⁷ Alpern, "Music Theory as a Mode of Law" at 1467.

⁶⁸ *Ibid*, at 1473.

⁶⁹ *Ibid*, at 1467.

⁷⁰ *Ibid*, at 1484.

⁷¹ *Ibid*, at 1496.

⁷² *Ibid*, at 1476.

the tonal community are not equal, but possess unique roles and individuality.⁷³ Overall, Schenker and Jellinek's theories both identify tensions that then mirror each other. Jellinek's theories of social order can be clearly applied to music, creating a quasi-society of tones, reproducing the tensions found in society at large.

Schenker's legal background is often discounted by music theorists as not being relevant to his theory of analysis.⁷⁴ However, music copyright scholars would come to that same conclusion. Although it is unreasonable to expect legal scholars to be aware of Schenkerian analysis, it is not unreasonable to point out that this analysis technique offers a way of analyzing music that is based on legal theory, unlike any other form of music theory analysis. Furthermore, the key aspects of the theory—the prioritization of melody, the removal of rhythmic distinction, and reduction of harmony to basic functions—all align with how music is often viewed by the law.⁷⁵

Overall, there are considerable similarities between Schenkerian analysis and the legal understanding of a musical work. As stated previously, there is no definition of a “musical work” in the United States *Copyright Act* and despite having extensive discussion in case law, this does not constitute a definition of a musical work.⁷⁶ What has been agreed upon from legal precedents and legal treatises is that “a musical work consists of rhythm, harmony and melody.”⁷⁷ Within these three categories, the courts tend to count melody as most important musical element. Forensic musicologists have noted through their own experiences as expert witnesses that “certain musical elements, especially melody, have carried greater legal weight than others” and

⁷³ Alpern, “Music Theory as a Mode of Law” at 1496.

⁷⁴ *Ibid.*, at 1467.

⁷⁵ *Ibid.*, at 1482.

⁷⁶ Arewa, “From J.C. Bach to Hip Hop” 547 at 565-566.

⁷⁷ Leo, “Forensic Translations” at 5.

that “melody is often examined as representing the original essence of a musical work as intellectual property. When comparing copyright-protected elements, contemporary courts thus ‘pay little attention to rhythm, harmony, or other elements of music. They mention them, if at all, as support for their findings.’”⁷⁸ This prioritization of the melody in the law creates further evidence that Schenkerian analysis is an ideal technique for the analysis of musical works when dealing with cases of copyright infringement.

⁷⁸ Leo, “Forensic Translations” at 5.

Chapter 3

3 Case Study: *Gray v. Perry*

3.1 Case Overview

In November of 2016, Marcus Gray filed a complaint for copyright infringement against Katy Perry, claiming that her song “Dark Horse” infringed his copyright for the song “Joyful Noise.” On July 29, 2019, the jury found Perry liable for copyright infringement. On March 16, 2020, Perry’s motion to overturn the jury verdict was granted. On October 13, 2020, Gray appealed this decision to the Ninth Circuit, claiming that the District Court judge erred by considering the musicologists’ amicus brief submitted on behalf of Katy Perry. And further objected to the fact that musicologists used “authoritative databases of melodies to determine that the pitch sequence that the plaintiff claims Perry infringed can be found in thousands of earlier works.”⁷⁹ On March 10, 2022, the Ninth Circuit upheld the District Court’s decision to overturn the jury verdict.

3.2 Expert Testimony

For this case, the expert musicologist for the Plaintiff (Gray) was Todd Decker, and the expert musicologist for the Defendant (Perry) was Lawrence Ferrara. The debate is over four measures of music, an ostinato⁸⁰ that repeats throughout the entirety of “Joyful Noise” (see Figure 1) and during the chorus of “Dark Horse” (see Figure 2).

⁷⁹ Charles Cronin, “Comments: Marcus Gray, et al. v. Katy Perry, et al.” (2022) online: The George Washington University Law School Music Copyright Infringement Resource <<https://blogs.law.gwu.edu/mcir/case/marcus-gray-et-al-v-katy-perry-et-al/>>.

⁸⁰ Laure Schnapper, “Ostinato,” in *Grove Music Online*, defines an ostinato as: “A term used to refer to the repetition of a musical pattern many times in succession while other musical elements are generally changing.”



Figure 1 “Joyful Noise” ostinato court notation.



Figure 2 “Dark Horse” ostinato court notation.

The Plaintiff’s musicologist, Todd Decker, argued that there are six points of similarity between the two ostinatos:

- 1) The length of each ostinato is eight notes
- 2) The rhythm of both ostinatos is similar
- 3) The melodic content and scale degrees present are similar
- 4) The melodic shape, the way the melody moves through musical space is similar.
- 5) The timbre of the sound is similar,
- 6) And the placement of the ostinato in the musical space of the recordings is also similar.⁸¹

The Defendant’s musicologist, Lawrence Ferrara, disagreed with Decker’s six points of similarity proving that the ostinatos are substantially similar. He takes particular issue with the claims that “the melodic content and scale degrees present are similar” and “the way the melody moves through musical space is similar,” noting:

[T]he use of different scale degrees at the end of each ostinato, pointing out that Dark Horse has a “leap” from 1 to 5 while Joyful Noise uses “step-wise” motion from 2 to 1 at the corresponding point in time. In addition, Dr. Ferrara explained that two well-known songs— “Jolly Old Saint Nicholas” and “Merrily We Roll Along” (which, as Dr. Ferrara noted, has the same tune as “Mary Had a Little Lamb”)—also use the 3-3-3-3-2-2 pitch sequence that the Dark Horse and Joyful Noise ostinatos share.⁸²

⁸¹ *Marcus Gray, et al. v. Katy Perry, et al.* (9th Cir. 2022), at 9.

⁸² *Gray v. Perry* (2022), at 9-10.

Decker does not reiterate his claims after Ferrara's testimony disproves them. Instead, he explains that "'Any single one of those elements would not have been enough' for him to conclude that substantial similarity existed, and that only 'the combination' of those elements led him to this conclusion."⁸³ Furthermore, Decker also states that "it is uncommon to use completely even rhythms in popular music," however, he also testified that "the use of such a rhythm in Joyful Noise and Dark Horse was a 'relatively simple rhythmic choice' that 'no composer's entitled to monopolize.'"⁸⁴ Although there were amicus briefs submitted in support of the case, there was a more interesting discussion of the case that occurred on YouTube, by jazz musician and composer, Adam Neely.⁸⁵ Neely describes the issues with the *Gray v. Perry* case extremely well, and manages to support Ferrara's claims in what could be considered a non-traditional amicus brief.

3.3 Analysis

The similarities that Decker lists between the two excerpts are relatively accurate, however, some of his arguments are debatable. The first being the length of the ostinatos. The ostinato in "Joyful Noise" is a four-measure phrase consisting of sixteen notes, while the ostinato in "Dark Horse" is a repeated two-measure phrase that consists of eight notes. In the "Dark Horse" ostinato, mm. 1-2 and mm. 3-4 are identical, and should therefore be notated as two measures long. Furthermore, the placement of the ostinato in the musical works is also different. In "Joyful Noise" it repeats throughout the entirety of the song, while in "Dark Horse" it is only heard during the chorus. Both melodies are in A minor and begin on $\hat{3}$ before descending by step

⁸³ *Gray v. Perry* (2022), at 15.

⁸⁴ *Ibid*, at 17.

⁸⁵ Adam Neely, "Why the Katy Perry/Flame lawsuit makes no sense" (August 2019) online: YouTube <<https://www.youtube.com/watch?v=0ytoUuO-qvg>>.

to $\hat{1}$. Halfway through the second bar however, there is a change in the music. As Ferrara notes, “Dark Horse” (see Figure 3) moves down to $\hat{5}$ after arriving at $\hat{1}$, whereas “Joyful Noise” (see Figure 4) repeats $\hat{2}$ on the third beat of measure two before moving down to $\hat{1}$, resulting in only the first six notes of the ostinatos being the same.

Figure 3 shows three staves of music for the piece "Dark Horse". The top staff is the melodic line, the middle staff is the bass line, and the bottom staff is the fundamental line. The fundamental line starts on $\hat{3}$ and descends to $\hat{2}$ and then $\hat{1}$. The melodic line starts on $\hat{3}$, moves to $\hat{2}$, and then $\hat{1}$. The bass line starts on $\hat{3}$, moves to $\hat{2}$, and then $\hat{1}$. A dashed line connects the $\hat{3}$ in the melodic line to the $\hat{3}$ in the fundamental line.

Figure 3 “Dark Horse” Schenkerian graphs showing the descent from $\hat{3}$ to $\hat{1}$.

Figure 4 shows three staves of music for the piece "Joyful Noise". The top staff is the melodic line, the middle staff is the bass line, and the bottom staff is the fundamental line. The fundamental line starts on $\hat{3}$ and descends to $\hat{3}$, $\hat{2}$, and then $\hat{1}$. The melodic line starts on $\hat{3}$, moves to $\hat{3}$, $\hat{2}$, and then $\hat{1}$. The bass line starts on $\hat{3}$, moves to $\hat{3}$, $\hat{2}$, and then $\hat{1}$. A dashed line connects the $\hat{3}$ in the melodic line to the $\hat{3}$ in the fundamental line.

Figure 4 “Joyful Noise” Schenkerian graphs showing the descent from $\hat{3}$ to $\hat{1}$.

The music for both ostinatos fit very neatly into a Schenkerian graph where the fundamental line starts on $\hat{3}$. The fact that both excerpts fit into a $\hat{3}$ -line (see the bottom staff of

Figures 3 and 4) does not necessarily mean that Perry has infringed Gray’s copyright. Instead, this shows that both excerpts are created from basic musical structures that cannot be copyrighted (see Table 2) as the bottom staff of Figures 3 and 4 would be referred to as the “background” level of the music.⁸⁶

Table 2 Summary of graph similarities, *Gray v. Perry* (ostinatos)

NUMBER OF SIMILAR GRAPHS	GRAPH SIMILARITY NAME	POSSIBLE RELATION TO INFRINGEMENT
1 GRAPH	Background only	Unlikely proof copying has occurred. Both works use the same basic compositional techniques that are non-copyrightable.

The differences between them can be seen in the second staff of Figures 3 and 4. In “Joyful Noise” the ostinato prolongs $\hat{3}$ for the first three measures, the move from $\hat{3}$ to $\hat{1}$ in mm. 1-2 can be understood as motion into an inner voice, which allows C to be prolonged. Measure 4 contains the resolution to $\hat{1}$, but this is followed by an F that can be viewed as an upper neighbour to an implied E, which would connect to C in order to begin the ostinato again. In comparison, “Dark Horse” also prolongs $\hat{3}$ for the first measure before resolving to $\hat{1}$ at the end of the second measure. As the music descends in m. 2, the A is expanded through an arpeggiation. The E ($\hat{5}$), is the last note before the ostinato is repeated, yet because it is a part of an arpeggiation of A minor, it is better understood that both notes are heard simultaneously as a part of an A minor chord, with A ($\hat{1}$) being the priority to the listener. From a Schenkerian perspective, these ostinatos are not particularly deep. The musical surfaces of both are almost

⁸⁶ Note that the score of the ostinato for “Dark Horse” and “Joyful Noise” is almost identical to the background reduction. This does not imply that there has been substantial copying. Refer to Table 2 for discussion of *Gray v. Perry* specifically, and Table 1 to compare the difference between “background similarity” with “foreground, middleground and background” similarity.

identical to the background, which suggests that both songs involve basic, non-copyrightable musical elements.

Chapter 4

4 Case Study: *Skidmore v. Zeppelin*

4.1 Case Overview

Skidmore v. Zeppelin, began in 2014 when Michael Skidmore, acting as Trustee for the Randy Craig Wolfe Trust, filed a complaint claiming that Led Zeppelin’s “Stairway to Heaven,” infringed Skidmore’s copyright of the song “Taurus.” At the initial trial, the court decided in favour of Zeppelin. However, Skidmore appealed to the Ninth Circuit, claiming that “the district court unfairly limited the jury’s determination regarding substantial similarity of musical expression to a comparison of the *music* of the two songs, and not the *sounds* of the recorded performances in which they were distributed to the public.”⁸⁷ In September 2018, the Ninth Circuit ordered a new trial, agreeing that the lower court erred in instruction of the jury.

Despite this, it was decided that because “Taurus” was registered in 1967, prior to the 1976 amendment to the US *Copyright Act*, the deposit copy defines the scope of the “Taurus” copyright and therefore sound recordings of “Taurus” performed by Spirit could not be used to prove substantial similarity. Sound recordings were not protected under federal copyright until the *Sound Recording Act* of 1971, which extended federal copyright protection to include sound recordings.⁸⁸ Due to this, any work registered prior to the 1976 amendment is therefore controlled by the 1909 Act, and only the deposit copy of the musical score can be used to prove that infringement has occurred. Following the decision to use only the deposit, both parties

⁸⁷ Charles Cronin, “Michael Skidmore v. Led Zeppelin” (2020) online: The George Washington University Law School Music Copyright Infringement Resource <<https://blogs.law.gwu.edu/mcir/case/inplay-michael-skidmore-v-led-zeppelin/>>. Explaining the Plaintiff Appeal Brief for *Michael Skidmore v. Led Zeppelin* (9th Cir. 2017) at 29-30.

⁸⁸ Brauneis, “Musical Work Copyright for The Era of Digital Sound Technology” at 4.

petitioned for an en banc rehearing of the appeal. In the March 9, 2020, the en banc opinion restored the decision of the district court (in favour of Zeppelin). On August 6, 2020, Michael Skidmore petitioned the Supreme Court to overturn the Ninth Circuit’s decision in favor of Zeppelin. The appeal was denied on October 5, 2020.⁸⁹

4.2 Expert Testimony

For this case, the expert musicologist for the Plaintiff (Skidmore) was Alexander Stewart, and the expert musicologist for the Defendant (Zeppelin) was Lawrence Ferrara. An excerpt from the music for “Taurus,” as seen in the deposit score, is shown below (see Figure 5). The score that was submitted to the courts however, had the rhythmic durations cut in half to facilitate comparison between “Taurus” (see Figure 6) and “Stairway to Heaven” (see Figure 7).



Figure 5 “Taurus” original deposit copy.



Figure 6 “Taurus” court submission.

⁸⁹ Cronin, “Michael Skidmore v. Led Zeppelin.”

Am G#+ C/G D/F# Fmaj7 G/B Am

Figure 7 “Stairway to Heaven” court submission.

The plaintiff’s musicologist, Alexander Stewart, argued that there are five categories of similarities between the two songs.⁹⁰ Prior to listening his five categories, Stewart acknowledged that both the chromatic scale and arpeggios are common musical elements. Despite this, his five similarities are as follows:

- 1) The descending chromatic scales in the two compositions skip the note E and return to the tonic pitch, A.
- 2) The notes in the scale have the same durations.
- 3) There are to three two-note sequences—AB, BC, and CF#—that appear in both compositions.
- 4) The presence of successive eighth-note rhythms in both compositions also makes them similar.
- 5) Finally, the two compositions have the same “pitch collection,” explaining that certain notes appear in the same proportions in the beginning sequence of both works.⁹¹

In comparison, the testimony from Led Zeppelin’s expert, Lawrence Ferrara, stated that “the two compositions are completely distinct,” explaining that “the similarities claimed by Skidmore either involve unprotectable common musical elements or are random.”⁹² For example, Stewart’s third similarity, that there are three two-note sequences, is explained away in Ferrara’s testimony:

Dr. Ferrara explained that the similarity in the three two-note sequences is not musically significant because in each song the sequences were preceded and

⁹⁰ *Michael Skidmore v. Led Zeppelin* 952 F.3d 1051 (9th Cir. 2020) at 12.

⁹¹ *Skidmore v. Zeppelin* (2020) at 12.

⁹² *Ibid*, at 13-14.

followed by different notes to form distinct melodies. He described the purported similarity based on these note sequences as akin to arguing that “crab” and “absent” are similar words because they both have the letter pair “ab.”⁹³

In terms of accountability for the two experts, the content of the amicus briefs offers a glimpse into what the musicology/music theory field would agree is a reasonable analysis of the two songs. Ferrara’s testimony was supported up by an amicus brief that had signed by fourteen professors of musicology or music theory in the United States and Canada. In comparison, Stewart’s testimony was backed by a brief signed by Sean M. O’Connor of the Institute for Intellectual Property and Social Justice. While the lack of a brief from musicologists and theorists in support of Stewart’s testimony does not have any legal outcome, it does question the legitimacy of his analysis. Notably in his fifth similarity between the songs, Stewart chooses to use the phrase “pitch collection,” to explain that certain notes appear throughout both songs. Ferrara takes Stewart’s “pitch collection” and explains that this similarity “is not musically meaningful because it is akin to arguing that the presence of the same letters in ‘senator’ and ‘treason’ renders the words similar in meaning.”⁹⁴

4.3 Analysis

The main similarity between the two excerpts are the opening arpeggiations, which are identified as the “melody” for both songs, and the bassline and resultant harmony. When presented as a chord reduction (see Figures 8 and 9) the excerpts no longer appear to be as similar as they were when the notes of each chord were played in an arpeggiated pattern. An arpeggiation is not an original musical structure. It is extremely commonplace and should not be

⁹³ *Skidmore v. Zeppelin* (2020) at 13-14.

⁹⁴ *Ibid*, at 14.

viewed as a copyrightable musical structure. Furthermore, the harmony and bassline of the two excerpts look similar because they both use a chromatic descending bassline. However, this is another example of a common place element of music that is not original and should not be protected by copyright.



Figure 8 “Taurus” chord reduction

**Note that original A^b and G^b have been notated as $G^\#$ and $F^\#$ for clarity.*

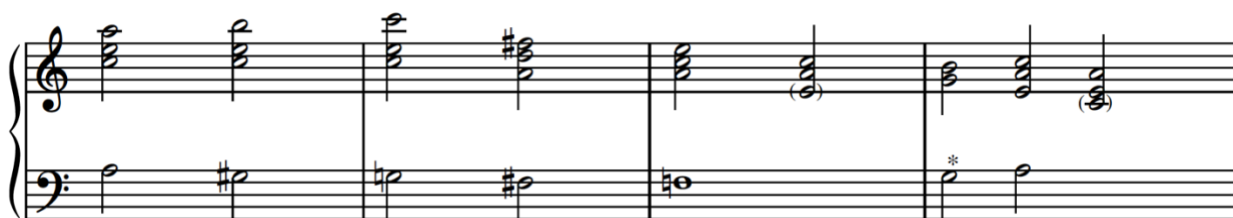


Figure 9 “Stairway to Heaven” chord reduction.

**Note that the court submission labels this chord as G/B . However, the lowest notated pitch is the G in the upper staff where the bass clef is located.*

The placement of the excerpt is also important to the analysis of each musical work. In the case of “Taurus” the excerpt is heard during the lead-in to the chorus, and in “Stairway to Heaven” it is heard at the beginning of the song. This corresponds to the overall prolongation differences between the two excerpts. In “Taurus” (see Figure 10), the music contains an initial arpeggiation up to $\hat{5}$. For the remainder of the excerpt, $\hat{5}$ continues to be prolonged and does not descend to $\hat{1}$. In the context of where this occurs in the song, as a lead-in to the chorus, it makes sense that there is no resolution down to $\hat{1}$. The purpose here is to create tension to be released during the chorus. Throughout the excerpt, $\hat{5}$ is prolonged mainly through a lower neighbour D . The inner voices foreshadow the eventual descent to $\hat{1}$, but this line begins on $\hat{3}$, not $\hat{5}$.

Figure 10 “Taurus” Schenkerian graphs showing the initial arpeggiation to $\hat{5}$ and continued prolongation of $\hat{5}$.

In contrast, the excerpt from “Stairway to Heaven” is used to begin the song (see Figure 11). The phrase opens with an initial ascent from A to C, before beginning its descent from $\hat{3}$ down to $\hat{1}$. Since this is the first opportunity for listeners to orient themselves to the music, confirming the tonality of A minor at the beginning through the descent from $\hat{3}$ to $\hat{1}$ would be beneficial. As $\hat{3}$ is prolonged, there is a register transfer in m. 3, which results in some of the inner voice being heard above the descending line. The E that is prolonged in the inner voices throughout mm. 1-2 is also prolonged by an upper neighbour, F# in measure 2. When F# resolves back to E, it is easier to understand it as if the E has also experienced a register transfer and is now a part of the inner voices. This allows C ($\hat{3}$) to remain as the primary tone of the fundamental line and eventually move down towards $\hat{1}$.

Figure 11 “Stairway to Heaven” Schenkerian graphs showing the initial ascent to $\hat{3}$ and then resolution to $\hat{1}$.

Despite the similarities in the bass lines, the fundamental line and overall structure of the music is different. Any similarity between these two musical works is superficial, and only found at a Foreground or even at the score level (see Table 3).

Table 3 Summary of graph similarities, *Skidmore v. Zeppelin*

NUMBER OF SIMILAR GRAPHS	GRAPH SIMILARITY NAME	POSSIBLE RELATION TO INFRINGEMENT
1 GRAPH	Foreground only	Likely proof of copying, but not to be considered substantially similar.

“Taurus,” uses an initial arpeggiation to reach $\hat{5}$, which is then prolonged for the remainder of the excerpt. Whereas “Stairway to Heaven,” uses an initial ascent to reach the primary tone ($\hat{3}$) before resolving to $\hat{1}$. The differences between the remaining levels of fundamental structure emphasizes the fact that the excerpts are not substantially similar.

Chapter 5

5 Case Study: *Williams v. Bridgeport*

5.1 Case Overview

The final case study is *Williams v. Bridgeport*. In 2015, the Marvin Gaye estate filed a claim of copyright infringement against Pharrell Williams, Robin Thicke, and Clifford Harris Jr. over their musical composition “Blurred Lines,” claiming it infringed on the copyright of the Gayes’ “Got To Give It Up.” In March 2015, the court found, after a trial by jury, that the defendants’ “Blurred Lines” did in fact infringe the copyright of the plaintiff’s “Got To Give It Up.”⁹⁵ In May of 2015, Williams et al. filed a motion to discard the jury’s verdict, claiming that the testimony of the Gayes’ expert witness, Judith Finell, was “based on a comparison of the sound recordings of the works, and not the rudimentary primary musical information they contain as revealed in the graphical representations of the works.”⁹⁶ The copyright protection for “Got To Give It Up” was filed prior to the 1976 amendment to the US *Copyright Act*. Therefore, the copyright protection only covers the deposit copy of the musical work, not the sound recording. In August 2016, Williams et al. filed an appeal to the Ninth Circuit. However, in March 2018, the court upheld the district court’s decision (with Judge Nguyen dissenting) in favour of the Gaye Estate.

⁹⁵ *Pharrell Williams, et al. v. Bridgeport Music* 895 F.3d 1106 (9th Cir. 2018) at 4-5.

⁹⁶ Charles Cronin, “Comments: *Pharrell Williams, et al. v. Bridgeport Music, et al.*” (2021) online: The George Washington University Law School Music Copyright Infringement Resource <<https://blogs.law.gwu.edu/mcir/case/pharrell-williams-et-al-v-frankie-gaye-et-al/>>.

5.2 Expert Testimony

For this case, the expert musicologists for the Plaintiff (Gaye) were Judith Finell and Ingrid Monson.⁹⁷ The expert musicologist for the Defendants (Williams, et al.) was Sandy Wilbur. The Plaintiff's expert witness Ingrid Monson used audio mashups with Marvin Gaye's vocals from "Got To Give It Up" onto the accompaniment in "Blurred Lines," and vice versa. The Defendants argued that the elements used in the mashup were unprotectable and created a skewed similarity between the two songs.⁹⁸ "Got To Give It Up," was registered prior to the 1976 amendment to the US *Copyright Act* and therefore the copyright protection should be limited to the deposit copy of the musical score.

The other expert witness that the Gaye Estate hired, Judith Finell, offered a testimony that has since become infamous in copyright law. Finell argued that there are eight similarities between "Got To Give It Up" and "Blurred Lines." 1) the signature phrase, 2) hooks, 3) hooks with backup vocals, 4) "Theme X," 5) backup hooks, 6) bass melodies, 7) keyboard parts, and 8) unusual percussion choices.⁹⁹ Of the eight similarities, three were argued against: "Theme X," the descending bassline, and keyboard rhythms. In her testimony, Finell claimed that all three similarities appeared in the deposit copy of "Got To Give It Up." However, during the four-hour cross examination she agreed that:

The notes of "Theme X" were not written on the sheet music. [...] She also acknowledged that the bass melody she presented at trial differed from that notated

⁹⁷ It is interesting to note that prior to retaining Finell and Monson, the Gaye estate demanded that EMI sue Williams and Thicke for copyright infringement; however, EMI refused because "there was no substantial similarity between the songs." The estate then retained forensic musicologist, Lawrence Ferrara to "conduct a preliminary comparative analysis." And after hiring legal counsel, they also hired Peter Oxendale and Gerald Eskelin. However, "like EMI's internal investigation, both musicologists determined that the two songs were not similar" See Katherine Leo, *Forensic Musicology and the Blurred Lines of Federal Copyright History*. (Lanham: Lexington Books, 2021) at 160.

⁹⁸ *Williams, v. Bridgeport* (2018) at 32.

⁹⁹ *Ibid*, at 13.

in the deposit copy. She was impeached with her deposition testimony, in which she admitted that the rhythm of the keyboard parts in the sound recording of “Got To Give It Up” is not notated in the deposit copy.¹⁰⁰

The expert for the Defendants, Sandy Wilbur, argued that “‘Theme X,’ the descending bass line, and the keyboard rhythms are not contained in the deposit copy.”¹⁰¹ And further argued that there “are no substantial similarities between the melodies, rhythms, harmonies, structures, and lyrics of ‘Blurred Lines’ and ‘Got To Give It Up,’ disputing each area of similarity Finell had identified.”¹⁰²

Another argument was made by Judge Nguyen in her dissenting opinion. The twenty-seven-page dissent begins by stating that “the majority allows the Gayes to accomplish what no one has before: copyright a musical style.”¹⁰³ Nguyen expands on this, noting that “Blurred Lines” may share the same groove or musical genre as “Got To Give It Up,” however, this is something that “everyone agrees is an unprotectable idea,” and it should be understood that the two songs are not objectively similar because they “differ in melody, harmony, and rhythm.”¹⁰⁴ The remainder of the dissent goes through Finell’s argument and explains the issues from both a musicological and legal perspective, Nguyen explains:

[T]he Gayes’ expert, musicologist Judith Finell, cherry-picked brief snippets to opine that a “constellation” of individually unprotectable elements in both pieces of music made them substantially similar. That might be reasonable if the two constellations bore any resemblance. But Big and Little Dipper they are not. The only similarity between these “constellations” is that they’re both compositions of stars.¹⁰⁵

¹⁰⁰ *Williams, v. Bridgeport* (2018) at 31

¹⁰¹ *Ibid.*

¹⁰² *Ibid.*, at 13.

¹⁰³ *Ibid.*, at 58.

¹⁰⁴ *Ibid.*, at 62, 58.

¹⁰⁵ *Ibid.*

The basslines in both songs begin on A, however, their overall functions are completely different. In “Got To Give It Up” the bass consists almost exclusively of A major. There is some movement to G \sharp throughout, however this acts as a lower neighbour to A and is not structurally relevant (see Figure 14).

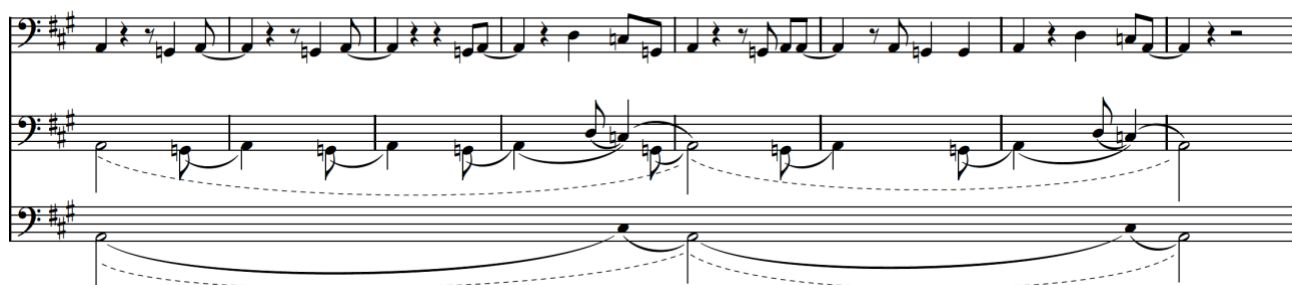


Figure 14 “Got To Give It Up” bassline graph showing the prolongation of A major.

The bassline in “Blurred Lines” prolongs A major for four measures and E major for three measures and then uses the last measure as a transition back to A major (see Figure 15). This movement from I-V-I creates a stronger harmonic motion in the bass than the harmony presented in the bassline of “Got To Give It Up.” The decision to reduce the basslines to only five measures is interesting and could suggest the false idea that “Blurred Lines” is also exclusively prolonging A major, when it is actually prolonging two different harmonies.



Figure 15 “Blurred Lines” bassline graph showing movement from tonic (I) to dominant (V).

The similarity between the basslines is an issue of musical style, not an issue of substantial similarity (see Table 4). Both songs are written in the same musical style, which results in the works having similar grooves. Groove should not be a copyrightable element of

music; it is a characteristic of a musical style, not an original idea.¹⁰⁹ Many other genres of music, or musical styles, contain different characteristics that come together to form a cohesive genre. The R&B/soul/funk style utilizes grooves that are similar to those heard in “Got to Give it Up” and “Blurred Lines.” Other examples of this includes jazz music, which will often utilize a “swing” rhythm (or groove) to gives the music a jazz characteristic.¹¹⁰ Similarly, “clave” rhythms, are characteristics of musical styles popular in the Americas and Caribbean.¹¹¹ These clave patterns key elements of sacred, folkloric, or popular music from the Americas and Caribbean, and are commonly used to identify the musical genre.

Table 4 Summary of graph similarities, *Bridgeport v. Williams* (basslines)

NUMBER OF SIMILAR GRAPHS	GRAPH SIMILARITY NAME	POSSIBLE RELATION TO INFRINGEMENT
1 GRAPH	Middleground only	Unlikely proof copying has occurred. Both works may belong to a similar genre or style.

Furthermore, the harmonic progressions used in both songs are completely different. In “Got To Give It Up” the deposit score clearly outlines the harmonic progression that repeats almost consistently throughout the song (see Figure 16).¹¹² In comparison, the harmony of “Blurred Lines” consists of essentially two chords, A major and E major, I and V (see Figure 17). The original bassline from the deposit score of “Got To Get It Up” is marked “simile” after

¹⁰⁹ Geoffrey Whitthall, “Groove” in Grove Music Online, defines Groove as “the result of a musical process that is often identified as a vital drive or rhythmic propulsion. It involves the creation of rhythmic intensity appropriate to the musical style or genre being performed.”

¹¹⁰ Whitthall, “Groove” explains, “Musicians often deliberately manipulate the specific timing of some musical elements to create a groove, notably in funk and jazz. Discussions of groove often center on the performance of the Swing rhythm.”

¹¹¹ See Katherine Hagedorn, “Clave” in Grove Music Online.

¹¹² The section from mm. 65-87 begins with A7 but does not complete the progression above. Instead, the music alternates from Am7 to Dm7 and back to Am7 before restating A7 and resuming the standard progression for the remainder of the song.

the introduction which would allow the bass to change slightly and accommodate the chord progression marked in the score.

A ⁷	D ⁷	E ⁷	A ⁷	B ⁷	D ⁷	E ⁷	A ⁷	B ⁷	A ⁷
I ⁷	IV ⁷	V ⁷	I ⁷	V ⁷ /V	IV ⁷	V ⁷	I ⁷	II ⁷	I ⁷

Figure 16 “Got To Give It Up” chord progression.

A ⁷	E ⁷	A ⁷
I ⁷	V ⁷	I ⁷

Figure 17 “Blurred Lines” chord progression.

The melodies in both songs were also debated in the court, and “Theme X” was the only melodic similarity argued by the Defendants’ expert witness. The melody of “Theme X” in both songs consists of two notes (see Figure 18). The only similarity between the two is that the motion of E to F# and C# to B are both a whole tone apart. Despite this intervallic similarity, the change in pitch does not occur at the same time and the only other similarity is that the rhythm of both excerpts is the same. However, as noted in the dissent, both the rhythm and pitches used in “Theme X” from “Got To Give It Up” are the same as in “Happy Birthday.”¹¹³



Figure 18 “Theme X” from “Got To Give It Up” (left) and “Blurred Lines” (right).

“Theme X” from “Got To Give It Up” (see Figure 19) is only notated in “Part II” of the deposit copy. According to the deposit copy, this additional section of the work seems to act as

¹¹³ *Williams, v. Bridgeport* (2018) at 76. Furthermore, “Happy Birthday” was still under copyright protection at the time when Marvin Gaye initially wrote “Got To Give It Up” and due to the precedent now set by *Williams, v. Bridgeport*, “Got To Give It Up” could have infringed the copyright of “Happy Birthday.”

mostly background vocals for the additional ending to the composition. In comparison, “Theme X” from “Blurred Lines” occurs at the beginning of the work and acts as an introductory section.

In the deposit copy of “Got To Give It Up” no harmony is notated other than A7, which allows the music to confirm the tonal area as the song comes to a close. The melody in this section also primarily focuses on the tonic, A ($\hat{1}$). There are moments where the melodic line moves away from A, however, the primary tone of the phrase remains as $\hat{1}$. The phrase begins with E ($\hat{5}$), which leads to primary tone of A. The primary tone is embellished by a B neighbour tone before being harmonized with an F# below. Following this, the A moves into an inner voice, to the E, where “Theme X” begins.

“Theme X” is not a particularly important element of the phrase as a whole; it consists of only two notes, E and F#. It can be understood as E with a neighbour motion to F# at the first level and can be reduced to just E in the lower level. As the phrase ends, the primary tone returns and is arpeggiated up to $\flat\hat{3}$, the minor third is also filled in with the B passing tone. Despite these motions away from the primary tone of A, the phrase overall emphasizes tonic and prolongs $\hat{1}$. “Theme X” offers a brief change to the melody, but it is not structurally relevant to the excerpt. At the deeper level, both the melody and harmony are static as they stay on $\hat{1}$, which results in the lack of a fundamental line.

Figure 19 “Got To Give It Up” (Part II) graphs showing the prolongation of tonic ($\hat{1}$). “Theme X” notated in red.

In comparison, “Theme X” in “Blurred Lines” is heard during the opening phrase (see Figure 20). Similar to “Stairway to Heaven,” this section acts as an introductory phrase and is used to confirm the tonal area. As a result, this section consists of a 5-line, but begins with a prolongation of $\hat{3}$ before eventually moving up to $\hat{5}$. At the beginning, C# is prolonged first through a lower neighbour B and then by an arpeggiation down to A that is filled in by a passing tone B. Once the melody reaches A it moves back up to C# to begin the process over again. On the second move from A to C#, the melody then also moves up to E, resulting in an initial arpeggiation up to the primary tone.

The image displays a musical score for the first four measures of "Blurred Lines" (mm. 5-8). The top staff is the vocal line in G major, 4/4 time, with lyrics: "If you can't hear what I'm try - na say, if you can't read from the same page,". The first four notes of the vocal line are highlighted in red. Below the vocal line are two piano accompaniment staves (treble and bass clef). Dashed lines represent pitch contours for the piano parts. The label "Initial Arp." is placed above the piano accompaniment staves.

Figure 20 “Blurred Lines” (mm. 5-8), graphs showing the prolongation of $\hat{3}$ before arpeggiation to $\hat{5}$. “Theme X” notated in red.

Once the primary tone has been reached it is then prolonged through a lower neighbour D \sharp (see Figure 21). The final measure of the phrase contains the full descent of the fundamental line down to $\hat{1}$. Two minor issues with the fundamental line are the use of $b\hat{3}$ instead of the diatonic $\hat{3}$, and the implied $\hat{2}$. However, it is commonly understood that when $\hat{7}$ (and in this case $b\hat{7}$) is heard before the resolution, $\hat{2}$ can also be assumed or implied by the listener. Although “Theme X” is not particularly important to the fundamental structure of “Blurred Lines” it does have more importance than “Theme X” from “Got To Give It Up.” The “Blurred Lines” version results in the initial prolongation of $\hat{3}$, which eventually leads to the primary tone.

may-be I'm go-ing deaf may-be I'm go-ing blind may-be I'm out of my mind.

Graphs showing the motion up to E (5) and descent to 1.

Figure 21 “Blurred Lines” (mm. 9-13), graphs showing the motion up to E (5) and descent to 1.

Overall, the argument made by Finell in claiming that the music used in “Got To Give It Up” and “Blurred Lines” are the same offers a weak amount of similarity between the two songs (see Table 5).

Table 5 Summary of graph similarities, *Bridgeport v. Williams* (“Theme X”)

NUMBER OF SIMILAR GRAPHS	GRAPH SIMILARITY NAME	POSSIBLE RELATION TO INFRINGEMENT
1 GRAPH	Middleground only	Unlikely proof copying has occurred. Both works may belong to a similar genre or style.

In the middleground graph, the main similarity is that both excerpts consist of a neighbouring motion, which is a commonplace melodic figure. The deeper issues here are the groove of the bassline. Any similarities between the two exists only because the songs belong to the same musical style, none of them are original ideas. They simply allow the listener to hear them as belonging to the same genre. Additionally, as stated in *Krofft*, “when the idea and its expression are thus inseparable, copying the expression will not be barred, since protecting the

expression in such circumstances would confer a monopoly of the idea upon the copyright owner.”¹¹⁴ Allowing the Gaye estate to copyright the “groove” of a musical style has provided them with a monopoly over a musical style and overall set a dangerous precedent for music copyright going forward.

¹¹⁴ *Krofft v. McDonald's* (1977) “Unity of Idea and Expression” at para. 4.

Chapter 6

6 Conclusion

The importance of creating a framework of accountability for expert witnesses cannot be overstated. One option offered in this paper is the prioritization of public music theory. Although a complex form of music analysis, Schenkerian analysis was used as a form of public music theory throughout this paper. This analysis technique was selected because of its similarity to the current legal understanding of music; it is easy to connect Schenkerian analysis to the current legal understanding of music. Furthermore, the theory has a strong philosophical background in legal theory and has been used by music theorists to analyze popular music for the last thirty years. Schenkerian analysis also provides levels of analysis that can be quickly compared to other analyses and determine if copying has occurred between two musical works.

Relatedly, the importance of amicus briefs should not be diminished. Particularly if the goal is to create a framework of accountability for forensic musicologists. It is essential that the expert witnesses provide amicus briefs from colleagues in music theory or musicology that believe the analysis being presented is a fair and reasonable presentation of the musical work. This quasi-peer review approach would ensure that the experts are not just arguing their side because it was what they were hired to do, but because it is a legitimate analysis of the musical works being discussed.

The expert testimony in *Williams v. Bridgeport* resulted in a decision that has set a dangerous precedent in music copyright. By allowing the Gaye Estate to essentially copyright the groove of “Got To Give It Up” the courts have opened the door for future lawsuits regarding songs of the same genre or style. Both the *Gray v. Perry* and *Skidmore v. Zeppelin* cases relied on the precedent set by *Williams v. Bridgeport* to make their arguments. Perry was initially found

liable for copyright infringement, and although Zeppelin was found not liable, the fact that these cases still make their way into the courts is unsettling for musicians everywhere.

As can be seen in the cases discussed above, the current system of forensic musicology lacks accountability. The ideal framework would prioritize the use of public music theory in explanations of analyses to the court and adopt the quasi-peer review process that requires the submission of amicus briefs to the court in addition to the musicologist's testimony. As musicologists continue to engage with elements of public music theory, prioritize accountability across the field, and move towards an approach that adopts inclusivity and understanding in their analyses, expert testimony will become more accessible to both judges and juries.

Bibliography

Articles and Books

- Alpern, Wayne. "Music Theory as a Mode of Law: The Case of Heinrich Schenker, Esq." (1999) 20: 5-6 *Cardozo L. Rev.* 1459.
- Arewa, Olufunmilayo B. "Creativity, Improvisation, and Risk: Copyright and Musical Innovation." (2011) 86:5 *Notre Dame L. Rev.* 1829.
- Arewa, Olufunmilayo B. "From J.C. Bach to Hip Hop: Musical Borrowings, Copyright and Cultural Context." (2006) 84:2 *N.C. L. Rev.* 547.
- Barbera, André. "Pythagoras." In *Grove Music Online*. 2001. Accessed 13 Aug. 2023. <<https://doi-org.proxy1.lib.uwo.ca/10.1093/gmo/9781561592630.article.22603>>.
- Burkholder, J. Peter. "The Uses of Existing Music: Musical Borrowing as a Field." (1994) 50:3 *Notes* 851.
- Brauneis, Robert. "Musical Work Copyright for The Era of Digital Sound Technology: Looking Beyond Composition and Performance." (2014) 17:2 *Tulane Journal of Technology & Intellectual Property* 1.
- Brown, Matthew. "'Little Wing': A Study in Musical Cognition." In *Understanding Rock, Essays in Musical Analysis*, edited by John Covach and Graeme M. Boone, 155–169. New York: Oxford University Press, 1997.
- Cadwallader, Allen, David Gagné, and Frank Samarotto. *Analysis of Tonal Music: A Schenkerian Approach*. Oxford: Oxford University Press, 2020.
- Craig, Carys & Guillaume LaRoche. "Out of Tune: Why Copyright Law Needs Music Lessons." In *Intellectual Property for the 21st Century: Interdisciplinary Approaches*, edited by Courtney Doagoo, Mistrale Goudreau, Madelaine Saginur, and Teresa Scassa, 43-71. Toronto: Irwin Law Publishing, 2014.
- Cronin, Charles. "Comments: Marcus Gray, et al. v. Katy Perry, et al." (2022) online: The George Washington University Law School Music Copyright Infringement Resource <<https://blogs.law.gwu.edu/mcir/case/marcus-gray-et-al-v-katy-perry-et-al/>>.
- Cronin, Charles. "Comments: Michael Skidmore v. Led Zeppelin." (2020) online: The George Washington University Law School Music Copyright Infringement Resource <<https://blogs.law.gwu.edu/mcir/case/inplay-michael-skidmore-v-led-zeppelin/>>.
- Cronin, Charles. "Comments: Pharrell Williams, et al. v. Bridgeport Music, et al." (2021) online: The George Washington University Law School Music Copyright Infringement Resource <<https://blogs.law.gwu.edu/mcir/case/pharrell-williams-et-al-v-frankie-gaye-et-al/>>.

- Doagoo, Courtney, Mistrale Goudreau, Madelaine Saginur, & Teresa Scassa. *Intellectual Property for the 21st Century: Interdisciplinary Approaches*. (Toronto: Irwin Law Publishing, 2014).
- Everett, Walter. "Making Sense of Rock's Tonal Systems." (2004) 10:4 Music Theory Online.
- Ferrara, Lawrence, *Philosophy and the Analysis of Music: Bridges to Musical Sound, Form, and Reference*. (New York: Greenwood Press, 1991).
- Forte, Allen, *The American Popular Ballad of the Golden Era, 1924-1950*. (Princeton: Princeton University Press, 1995).
- Goehr, Lydia. *The Imaginary Museum of Musical Works: An Essay in the Philosophy of Music*. (Oxford: Clarendon, 1992).
- Griffiths, Paul. "Serialism." In *Grove Music Online*. 2001. Accessed 13 Aug. 2023. <<https://doi-org.proxy1.lib.uwo.ca/10.1093/gmo/9781561592630.article.25459>>.
- Hagedorn, Katherine. "Clave." *Grove Music Online*. 2013. Accessed 11 July 2023. <<https://doi-org.proxy1.lib.uwo.ca/10.1093/gmo/9781561592630.article.A2248920>>.
- Heyer, David J. "Applying Schenkerian Theory to Mainstream Jazz: A Justification for an Orthodox Approach." (2012) 18:3 Music Theory Online.
- Hughes, Bryn and Megan Lavengood. "Introduction to Harmonic Schemas in Pop Music," online: *Open Music Theory* <<https://viva.pressbooks.pub/openmusictheory/chapter/intro-to-pop-schemas/>>.
- Jenkins, Daniel J. "An Introduction to Public Music Theory." In *The Oxford Handbook of Public Music Theory*, edited by Daniel J. Jenkins. Oxford: Oxford University Press, 2021.
- Khomami, Nadia. "Ed Sheeran Wins Court Battle Over Shape of You Plagiarism Accusation" (April 2022), online: *The Guardian* <<https://www.theguardian.com/music/2022/apr/06/ed-sheeran-wins-court-battle-over-shape-of-you-plagiarism-accusation>>.
- Larson, Steve. *Analyzing Jazz: A Schenkerian Approach*. (Hillsdale: Pendragon Press, 2009).
- Larson, Steve. "Schenkerian Analysis of Modern Jazz: Questions about Method." (1998) 20:2 Music Theory Spectrum 209.
- Lee, Edward & Andrew Moshirnia. "Do Experts Matter? A Study of the Effect of Musicologist Testimony in Music Cases." (2022) 2022:2 U. Ill. L. Rev. 707.
- Lemley, Mark A. "Our Bizarre System for Proving Copyright Infringement." (2010) 57 Journal of the Copyright Society 719.

- Leo, Katherine M. *Forensic Musicology and the Blurred Lines of Federal Copyright History*. (Lanham: Lexington Books, 2021).
- Leo, Katherine M. "Forensic Translations of Music in Copyright Litigation." In *The Oxford Handbook of Public Music Theory*, edited by Daniel J. Jenkins. Oxford: Oxford University Press, 2021.
- Lester, Joel. "Rameau and Eighteenth-Century Harmonic Theory." In *The Cambridge History of Western Music Theory*, edited by Thomas Christensen, 753-777. Cambridge: Cambridge University Press, 2002.
- Lund, Jamie. "An Empirical Examination of the Lay Listener Test in Music Composition Copyright Infringement." (2011) 11:1 VA Sports & Ent. L.J. 137.
- Martin, Henry. "Expanding Jazz Tonality: The Compositions of John Coltrane." (2012-13) 37-38 Theory and Practice 185.
- Martin, Henry. "Prolongation and Its Limits: The Compositions of Wayne Shorter." (2018) 40:1 Music Theory Spectrum 84.
- Martin, Henry. "Schenker and the Tonal Jazz Repertory." (2011) 16:1 Tijdschrift voor Muziektheorie 1.
- Nobile, Drew F. "Counterpoint in Rock Music." (2015) 37:2 Music Theory Spectrum 189.
- Nobile, Drew F. "Form and Voice Leading in Early Beatles Songs." (2011) 17:3 Music Theory Online.
- Schnapper, Laure. "Ostinato." Grove Music Online. 2001. Accessed 9 May 2023. <<https://doi-org.proxy1.lib.uwo.ca/10.1093/gmo/9781561592630.article.20547>>.
- Strunk, Steve. "Tonal and Transformational Approaches to Chick Corea's Compositions of the 1960s." (2016) 38:1 Music Theory Spectrum 116.
- Theberge, Paul. "Technology, Creative Practice and Copyright." In *Music and Copyright*, edited by Simon Frith and Lee Marshal, 139-156. New York: Routledge, 2004.
- Waters, Keith. "Chick Corea and Postbop Harmony." (2016) 38:1 Music Theory Spectrum 37.

Legal Sources

Arnstein v. Porter, 154 F.2d 464 (2d Cir. 1946).

Bridgeport Music, Inc. v. Dimension Films, 410 F.3d 792, 798 (6th Cir. 2005)

Campbell v. Acuff-Rose Music, Inc., 510 U.S. 569 (1994).

Computer Associates International, Inc. v. Altai, Inc., 982 F.2d 693 (2d Cir. 1992).

Copyright Act, 1976, 17 U.S.C.

Marcus Gray, et al. v. Katy Perry, et al. No. 2:15-cv-05642 (C.D. Cal., 2020); No. 20-55401 (9th Cir., 2022).

Michael Skidmore v. Led Zeppelin 952 F.3d 1051 (9th Cir. 2020).

Pharrell Williams, et al. v. Bridgeport Music, et al. 895 F.3d 1106 (9th Cir. 2018).

Sid & Marty Krofft Television Productions Inc. v. McDonald's Corp. 562 F.2d 1157 (9th Cir. 1977).

Swirsky v. Carey 376 F.3d 841 (9th Cir. 2004).