

LED ZEPPELIN, “STAIRWAY TO HEAVEN,” AND COGNITIVE AGING: IMPLICATIONS FOR LACHES IN THE COPYRIGHT CONTEXT

*John M. McCormick-Huhn, Ph.D.**

TABLE OF CONTENTS

INTRODUCTION	1262
I. COPYRIGHT LAW	1265
II. DOCTRINE OF LACHES	1268
A. <i>Laches 101 and its Application to Copyright Law</i>	1268
B. <i>Supreme Court Greatly Limits Laches in the Copyright Context</i>	1270
III. AGING ROCK BANDS AND COGNITIVE AGING	1273
A. <i>Led Zeppelin as a Case Study on Aging, Memory, and Copyright Infringement</i>	1273
B. <i>Considering Copyright Infringement in the Shadow of Psychology and Aging</i>	1275
C. <i>Episodic and Autobiographical Memories</i>	1276
1. <i>Episodic Memory</i>	1276
2. <i>Autobiographical Memory</i>	1277
D. <i>Age-Related Declines in Autobiographical and Episodic Memory</i>	1278
E. <i>Why Contextual Memory Declines (The Theories)</i>	1281
1. <i>Recollection versus Familiarity</i>	1281
2. <i>Fuzzy-Trace Theory</i>	1282
3. <i>Neuroimaging and Neuroanatomy</i>	1282
IV. COGNITIVE AGING APPLIED TO LACHES & COPYRIGHT LAW	1284
A. <i>An Aging Nation and Why Aging Matters in Copyright</i>	1284

* Editor-in-Chief, *Nevada Law Journal*, Volume 21; J.D., University of Nevada, Las Vegas, 2021; Ph.D. (cognitive psychology), Pennsylvania State University, 2018; M.S., Pennsylvania State University, 2015; B.A., Rutgers University-Camden, 2013. I am indebted to the entire Nevada Law Journal team, with particular appreciation for the careful edits made on this student note by Hannah Nelson, Greg Cloward, Alexis Taitel, Elizabeth Davenport, and Katrina Weil. I benefited from the support and feedback from Professor Marketa Trimble, Dr. Jennifer Robbennolt, and Professor Jean Sternlight. Finally, and certainly not least, I dedicate this Note to my dearest friend and wife, Dr. Kaitlin McCormick-Huhn, who remains my first sounding board and greatest supporter.

<i>B. The Aging Artist(s), Their Copyright(s), and the Aging Brain ..</i>	1285
<i>C. A Return to Led Zeppelin</i>	1287
V. PROPOSAL	1290
<i>A. Judicial Intervention</i>	1291
<i>B. Congressional Intervention.....</i>	1293
CONCLUSION	1296

INTRODUCTION

During the Kennedy Center 2012 Honors ceremony,¹ comedian Jack Black paid tribute to one of that year’s recipients—Led Zeppelin—with its three surviving members in attendance: Robert Plant, Jimmy Page, and John Paul Jones.² In his introductory remarks, Black called Led Zeppelin the “greatest rock and roll band of all time.”³ Then, moments later, Ann and Nancy Williams of the rock band Heart, performed an electrifying tribute performance to which even President Barack Obama appeared to rock out.⁴ The song that the two women performed was none other than Led Zeppelin’s iconic song, “Stairway to Heaven.”⁵

Led Zeppelin has been creating and performing music for decades, ever since its formation in 1968 and its debut in the United States with its first concert the same year.⁶ During the band’s United States debut, it opened for another

¹ The Kennedy Center Honors are lifetime achievement awards that “recogniz[e] the lifelong accomplishments and extraordinary talents of [the United States’] most-prestigious artists.” *Kennedy Center Honors Highlights 2019*, THE KENNEDY CENTER, <https://www.kennedy-center.org/whats-on/honors/> [<https://perma.cc/95WV-J2B3>]. Several (out of a list of many) notable honorees include Carole King, Lionel Richie, Cicely Tyson, Cher, Lily Tomlin, Meryl Streep, and Bruce Springsteen. *Id.*

² David Wismer, *Heart’s Ann Wilson Kills Led Zeppelin’s ‘Stairway To Heaven’ At Kennedy Center Honors*, FORBES (Dec. 27, 2012, 1:37 PM), <https://www.forbes.com/sites/davidwismer/2012/12/27/hearts-ann-wilson-kills-led-zeppelins-stairway-to-heaven-at-kennedy-center-awards-see-it-here/#21377bc36c66> [<https://perma.cc/8SEB-PKB2>].

³ The Kennedy Center Honors, *Led Zeppelin Tribute—Jack Black—2012 Kennedy Center Honors*, YOUTUBE (Dec. 12, 2013), https://www.youtube.com/watch?v=JcsCWRoQ_jQ [<https://perma.cc/5MKQ-9PRR>].

⁴ See Don Jack, *Heart—Stairway to Heaven (Live at Kennedy Center Honors)*, YOUTUBE (June 15, 2014), <https://www.youtube.com/watch?v=LFxOaDeJmXk> [<https://perma.cc/9CXT-Q3FX>].

⁵ Wismer, *supra* note 2. “‘Stairway to Heaven’ is a psychedelic rock masterpiece with iconic guitar parts, including an acoustic guitar intro that incorporates a descending chromatic minor chord progression in A minor.” Grayson O’Saile, “*Spirit*” *Quest: The Daunting ‘Stairway’ for Plaintiff in the Led Zeppelin Copyright Litigation*, WAKE FOREST L. REV.: CURRENT ISSUES BLOG (Mar. 15, 2020), <http://wakeforestlawreview.com/2020/03/spirit-quest-the-daunting-stairway-for-plaintiff-in-the-led-zeppelin-copyright-litigation/> [<https://perma.cc/PB6L-W6UY>].

⁶ Plaintiff’s Amended Complaint at 7, *Skidmore v. Led Zeppelin*, 2016 U.S. Dist. LEXIS 51006 (C.D. Cal. 2016) (No. 2:14-cv-03089) [hereinafter Plaintiff’s Amended Complaint].

er band named Spirit. Led Zeppelin wrote its famous “Stairway to Heaven” in early 1970⁷ and released it to the public in 1971.⁸

In 2014, more than four decades after Led Zeppelin’s hit “Stairway to Heaven” was released on its first album, the members of Led Zeppelin became the defendants in a lawsuit brought by the trustee representing the estate of Randy Wolfe.⁹ Wolfe was the guitarist and one of the founding members of Spirit, the band for which Led Zeppelin opened in 1968.¹⁰ The suit alleged that “Led Zeppelin’s Jimmy Page and Robert Plant [stole] the opening guitar riff of ‘Stairway [to Heaven]’ from Spirit’s 1968 instrumental track ‘Taurus.’”¹¹ One would think that such an attempt by the trustee to bring a claim of infringement after decades of inaction should yield to the doctrine of laches—an equitable defense that defendants may raise when a plaintiff has waited too long to bring a claim.¹² Led Zeppelin has performed “Stairway to Heaven” countless times since its release. However, a recent decision by the United States Supreme Court defanged the laches defense in copyright infringement actions, clearing the way for this lawsuit.¹³

At the time the lawsuit was filed, more than forty-three years had passed since Led Zeppelin originally released “Stairway to Heaven.” In 2014, Led Zeppelin’s main band members (and the named defendants in the suit) were all in their sixties or seventies: (1) founding member, lead guitarist James “Jimmy” Patrick Page was seventy years old; (2) singer Robert Anthony Plant was sixty-five years old; and (3) bassist John Paul Jones was sixty years old.¹⁴ Undoubtedly, the natural passage of time from 1970 to 2014 had long since clouded the exact and veridical memories of the events surrounding the creation of “Stairway to Heaven.” Over and beyond the passage of time, there is also the additional effect of cognitive aging, which is the main consideration of this Note.

This Note will argue that when the Supreme Court greatly limited laches in the context of copyright infringement in its recent decision in *Petrella v. Metro-Goldwyn-Mayer, Inc.*—almost rendering laches obsolete unless there is an *extraordinary* circumstance—the Court entirely disregarded decades of cognitive psychology research surrounding cognitive aging. In its ruling, the Court inad-

⁷ See *Stairway to Heaven by Led Zeppelin*, SONGFACTS, <https://www.songfacts.com/facts/led-zeppelin/stairway-to-heaven> [<https://perma.cc/EYZ5-S65P>].

⁸ Plaintiff’s Amended Complaint, *supra* note 6, at 2.

⁹ Amy X. Wang & Jon Blistein, *All You Need to Know About Led Zeppelin’s ‘Stairway to Heaven’ Case*, ROLLING STONE (Sept. 24, 2019, 6:04 PM), <https://www.rollingstone.com/music/music-news/led-zeppelin-stairway-to-heaven-appeal-retrial-889336/> [<https://perma.cc/DQ5C-SH5S>].

¹⁰ Plaintiff’s Amended Complaint, *supra* note 6, at 2.

¹¹ Wang & Blistein, *supra* note 9.

¹² See *infra* Section II.A.

¹³ See *infra* Part II.

¹⁴ The ages of the band members, at the time of this writing, were calculated using publicly available information on the internet, such as Google searches and consulting websites like Wikipedia.

vertently created a heightened risk of evidentiary prejudice when aging defendants are brought to court for alleged copyright infringement occurring decades prior. Specifically, this Note will argue that musicians, many of whom have remained active late into their careers—such as Led Zeppelin’s Jimmy Page—are disproportionately impacted by the Supreme Court’s near elimination of the laches defense, due to natural declines in cognitive functioning and memory processes. The types of memory most impacted—episodic memory, associative (or source) memory, and autobiographical memories—underpin critical questions related to the creation of a musical work: *Who* first came up with *this* riff?; *When* or *in what order* did we *first* hear that tune?; Did *we* write that piece *before* or *after* we first heard that other band (*which* band)?

This Note will argue that the cognitive aging literature strongly supports the need for laches as a viable defense in copyright infringement suits where the infringing activity happened decades prior and the defendant’s memories are impacted by the natural cognitive aging process. From the outset, I note that “cognitive aging,” as used throughout this Note, is a natural part of human development and is not indicative of any underlying illness, like dementia or Alzheimer’s Disease.¹⁵ Cognitive aging, as described further below, unfolds over the course of the lifespan, with some arguing that certain cognitive processes begin to decline in our twenties and thirties, continuing until death, with more noticeable declines as one reaches seventy years of age.¹⁶ However, I note that much of the past literature described throughout this Note conventionally refers to “older adults” as those individuals over sixty-five years of age.¹⁷

Part I will provide a brief overview of the federal scheme of copyright protection, as provided under the Copyright Act of 1976. Specifically, Part I will lay out the elements necessary to bring a copyright infringement claim, as well as the evidence—specifically the circumstantial evidence—used to support such a claim. The Note will rely throughout on the *Led Zeppelin* case introduced above for illustrative purposes. However, readers should be cautioned from the outset that it is not my intention to provide a complete and thorough legal commentary on the play-by-play of Led Zeppelin’s specific case. Rather, the characters involved, some of the questions asked, and the procedures followed at the initial trial provide the ideal backdrop for a real-life situation

¹⁵ See Caroline N. Harada et al., *Normal Cognitive Aging*, 29 CLINICS IN GERIATRIC MED. 737, 737–38 (2013) (“Although dementia and mild cognitive impairment are both common, even those who do not experience these conditions may experience subtle cognitive changes associated with aging.”).

¹⁶ See Nicole D. Anderson & Fergus I.M. Craik, *50 Years of Cognitive Aging Theory*, 72, J. GERONTOLOGY: PSYCH. SCI. 1, 1 (2017); Daniel L. Murman, *The Impact of Age on Cognition*, 36 SEMINARS IN HEARING 111, 113 (2015); Timothy A. Salthouse, *When Does Age-Related Cognitive Decline Begin?*, 30 NEUROBIOLOGY OF AGING 507, 508 (2009).

¹⁷ See Donna J. LaVoie & Kethera Fogler, *Associative Memory Deficits: Implications for the Elderly Eyewitness*, in THE ELDERLY EYEWITNESS IN COURT 206 n.1 (Michael P. Toglia et al., eds. 2014) (reporting that “the American Psychological Association (1998) suggested that 65 years and older be used to define older adults”).

where cognitive aging experienced by a defendant can greatly hinder the ability of the defendant to mount a convincing defense or provide relevant testimony.

Part II will provide a brief history of laches, specifically its origins and its inconsistent support by various federal circuits. The Note will focus primarily on laches in the context of copyright infringement claims. Part II will then transition the discussion of laches to include the Supreme Court's recent decision in *Petrella*, which dramatically changed the landscape and viability of the laches defense within the copyright regime.

Part III of this Note will provide a review of relevant cognitive psychology research and how such psychological findings shed light on the negative consequences of the *Petrella* decision. First, Part III will provide a cursory overview of the field of cognitive psychology and its broad contributions to the law and legal practice. Next, Part III will embark on an in-depth discussion of cognitive aging research, with a specific emphasis on a substantial body of literature detailing the effects of aging on human memory.

Part IV will apply the psychological findings discussed in Part III to a hypothetical scenario involving two fictional bands. Part IV will also apply the psychological findings to the facts presented in Led Zeppelin's case, with particular emphasis on the testimony delivered by Led Zeppelin's founding member, Jimmy Page. However, I strongly emphasize that any discussion of psychological findings as they relate to the individuals mentioned in this Note should not be construed as a clinical diagnosis or medical determination about the psychological, mental, or physical state of the person mentioned.¹⁸

Finally, Part V will make several recommendations for how to remedy the *Petrella*-created disadvantage against older adult musicians, who, despite their waning years, show no signs of stopping in their careers. Specifically, this Note will propose two solutions. Under the first solution, this Note will offer an approach that should be adopted by federal district and appellate courts and/or the Supreme Court to better define (and expand) the holding in *Petrella*. Second, this Note will propose amendments that Congress should make to the Copyright Act.

I. COPYRIGHT LAW

Copyright protection is available under the Copyright Act of 1976 (the Copyright Act's most recent revision) for "original works of authorship fixed in any tangible medium of expression."¹⁹ The 1976 Act provides authors a bundle of rights under Section 106—depending on the type of work for which protec-

¹⁸ The author is a trained experimental cognitive psychologist. However, he is not a trained or licensed clinical psychologist qualified to diagnose cognitive impairment. The real-life events and people mentioned throughout the Note merely provide a backdrop for the intellectual exercise.

¹⁹ Copyright Act of 1976, 17 U.S.C. § 102; 1 WILLIAM F. PATRY, PATRY ON COPYRIGHT § 1:71 (2020).

tion is sought—including the right to reproduce; prepare derivative works; distribute copies to the public; perform works publicly; display work publicly; and, in the case of sound recordings, perform the work publicly through digital audio transmission.²⁰

One who violates the author’s exclusive rights under Section 106 of the Copyright Act of 1976 is an infringer,²¹ against whom the copyright owner can seek injunctions, impounding or destruction of infringing materials, and damages and profits.²² A plaintiff must establish two elements in a copyright infringement claim. The plaintiff must demonstrate “(1) ownership of a valid copyright, and (2) copying of constituent elements of the work that are original.”²³ A plaintiff can demonstrate the copying element by showing that the infringing work and the infringed work “are substantially similar in their protected elements” and by demonstrating “that the infringing party had access to the copyrighted work.”²⁴

Access can be demonstrated in a variety of ways, and fulfilling the element “is not onerous.”²⁵ Access can be shown by providing evidence that “the copyrighted work was ‘sent directly to the defendant . . . or a close associate of the defendant.’”²⁶ For example, in *Cholvin v. B. & F. Music Co.*, the court found that access was shown where the “plaintiffs distributed 2000 copies of sheet music and sold more than 200,000 records, and [the] song was broadcast nationwide for years.”²⁷ Said another way, “proof of access requires ‘an opportunity to view or to copy plaintiff’s work.’”²⁸ It must be “a reasonable possibility, not merely a bare possibility.”²⁹ In the absence of direct evidence, circumstantial evidence can also establish access.³⁰ In one such approach, the plaintiff can demonstrate that the defendant had access to the plaintiff’s work through an intermediary (i.e., “a chain of events linking the [works]”).³¹ Addi-

²⁰ Copyright Act of 1976 § 106.

²¹ Copyright Act of 1976 § 501.

²² Copyright Act of 1976 §§ 502–04. At the court’s discretion, plaintiffs can also seek costs and attorney’s fees. *See* Copyright Act of 1976 § 505.

²³ *Rice v. Fox Broad. Co.*, 330 F.3d 1170, 1174 (9th Cir. 2003) (quoting *Feist Publ’ns, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 361 (1991)) (providing the elements for a claim of infringement).

²⁴ *Id.* (quoting *Metcalf v. Bochco*, 29 F.3d 1069, 1072 (9th Cir. 2002)).

²⁵ *Design Basics, LLC v. Lexington Homes, Inc.*, 858 F.3d 1093, 1099–1100 (7th Cir. 2017).

²⁶ *Id.* at 1100 (quoting *Selle v. Gibb*, 741 F.2d 896, 901 (7th Cir. 1984)).

²⁷ *Id.* (citing *Cholvin v. B. & F. Music Co.*, 253 F.2d 102, 103–04 (7th Cir. 1958)).

²⁸ *Loomis v. Cornish*, 836 F.3d 991, 995 (9th Cir. 2016) (citing *Sid and Marty Krofft Television Prods., Inc., v. McDonald’s Corp.*, 562 F.2d 1157, 1172 (9th Cir. 1977), *superseded on other grounds by statute*, 17 U.S.C. § 504(b)).

²⁹ *Id.*

³⁰ *Id.*

³¹ *Id.*

tionally, access can also be found when the infringed work has been “so widely disseminated that the defendant can be presumed to have seen or heard it.”³²

Given the importance of access, it quickly becomes clear that the testimony from a witness regarding a song’s creation, or a band’s activities, are of critical importance. A witness can speak to the origins and writing of the song, the creative process and contributions of different bandmates, or what business dealings may have been guiding factors at the time. For example, there might be “witnesses who might prove the existence of understandings about a license to reproduce the copyrighted work, or who might show that the plaintiff’s work was in fact derived from *older* copyrighted materials that the defendant has licensed.”³³

Additionally, an alleged infringer can use “independent creation” as a defense against copyright infringement. In such an approach, a defendant must “prove that his or her work, although substantially similar (or even identical) to the plaintiff’s work was created without copying from that work.”³⁴

A plaintiff must bring a civil action alleging copyright infringement within the statute of limitations prescribed by Congress. Specifically, “[n]o civil action shall be maintained under the provision of [the Copyright Right Act of 1976] unless it is commenced within three years after the claim accrued.”³⁵ The claim “accrues on the date that a reasonable investigation would have put the rights holder on notice that potentially infringing conduct has occurred.”³⁶

As Justice Breyer aptly observes in the dissent in *Petrella*, “[t]he 3-year limitations period . . . may seem brief, but it is not.”³⁷ The statute of limitations is “a rolling limitations period.”³⁸ Courts have provided that “each act of infringement is regarded as a separate act which restarts the limitations period but for the limited purpose of permitting the recovery of damages for acts that occur within the limitations period.”³⁹ This approach has been labeled the “separate accrual” rule.⁴⁰ Justice Breyer highlighted the effect of this rule: “If a defendant reproduces or sells an infringing work on continuing basis, a plaintiff can sue every 3 years until the copyright term expires—which may be up to 70 years after the author’s death.”⁴¹ Thus, when considering the statute of limitations, one must count three years starting from *each, separate* infringing act. In

³² *Design Basics, LLC v. Lexington Homes, Inc.*, 858 F.3d 1093,1100 (7th Cir. 2017) (citing *Cholvin*, 253 F.2d at 103–04).

³³ *Petrella v. Metro-Goldwyn-Mayer, Inc.*, 572 U.S. 663, 689 (2014) (Breyer, J., dissenting).

³⁴ 2 WILLIAM F. PATRY, *PATRY ON COPYRIGHT* § 3:30 (2020).

³⁵ Copyright Act of 1976 § 507(b).

³⁶ *Rimini St. Inc. v. Oracle Intl. Corp.*, No. 2:14-cv-01699-LRH-DJA, 2020 WL 5531493, at *18 (D. Nev. Sept. 14, 2020).

³⁷ *Petrella*, 572 U.S. at 689 (Breyer, J., dissenting).

³⁸ *Id.*

³⁹ See 6 WILLIAM F. PATRY, *PATRY ON COPYRIGHT* § 20:23 (2020) [hereinafter 6 PATRY ON COPYRIGHT] (discussing ongoing infringements and the separate accrual rule).

⁴⁰ *Id.*

⁴¹ *Petrella v. Metro-Goldwyn-Mayer, Inc.*, 572 U.S. 663, 689 (2014) (Breyer, J., dissenting).

essence, such an approach unfortunately might create a scenario in which a witness testifying on the stand in an infringement case might have to recall events that occurred decades prior.

Taken together, Part I begins to highlight both the critical role that memory plays in copyright infringement claims, as well as the challenges imposed on memory via the separate accrual rule. Specifically, as discussed above, a defendant's ability to speak to a song's independent creation or a lack of access to another musical work, requires the defendant to recall, *with accuracy*, past events. However, the way in which the statute of limitations is structured—essentially, with the possibility that claims can arise again at any time over decades—can raise concerns regarding the accuracy of the memories. Unfortunately, years (if not decades) may have passed between the date of recall and the actual creation of the memory. As is explained further below, memory veracity can face natural deficits with age, particularly within the memory types critical to the kind of testimony required in a copyright infringement claim.⁴² Unfortunately, such natural deficits put aging artists at a critical disadvantage in defending themselves against copyright infringement claims. Such inequity should be resolved by invoking laches. However, as discussed next in Part II, the use of laches in copyright has been greatly limited by the Supreme Court.

II. DOCTRINE OF LACHES

A. *Laches 101 and its Application to Copyright Law*

The Ninth Circuit has defined laches as being “an equitable time limitation on a party’s right to bring suit.”⁴³ It is based on the old maxim “equity aids the vigilant, not those who sleep on their rights.”⁴⁴ Misty Kathryn Nall, in her review on laches in copyright infringement claims, provides a concise and straightforward characterization of laches: “[l]aches does not result from a mere lapse of time, but from the fact that during that lapse of time, changed circumstances inequitably work to disadvantage or prejudice another party.”⁴⁵ Two forms of prejudice have been recognized, warranting the use of laches: “evidentiary and expectations-based.”⁴⁶ Of critical importance to this Note is the concept of *evidentiary*-based prejudice, understood to “include such things as lost,

⁴² See *infra* Section III.D.

⁴³ Misty Kathryn Nall, *(In)Equity in Copyright Law: The Availability of Laches to Bar Copyright Infringement Claims*, 35 N. KY. L. REV. 325, 326 (2008) (quoting *Boone v. Mech. Specialties Co.*, 609 F.2d 956, 958 (9th Cir. 1979)).

⁴⁴ *Id.* (quoting *Stone v. Williams*, 873 F.2d 620, 623 (2d Cir. 1979)).

⁴⁵ *Id.* at 327 (citing *Herman Miller, Inc. v. Palazzetti Imps. & Exps., Inc.*, 270 F.3d 298, 320 (6th Cir. 2001)).

⁴⁶ See *Evergreen Safety Council v. RSA Network Inc.*, 697 F.3d 1221, 1227 (9th Cir. 2012) (citing *Danjaq LLC v. Sony Corp.*, 263 F.3d 942, 955 (9th Cir. 2001)).

stale, or degraded evidence, or witnesses whose memories have faded, or who have died.”⁴⁷

The use of laches in the copyright context has not been without its legal challenges and various limitations. A long-standing general rule within American jurisprudence has been “that ‘when a plaintiff brings a federal statutory claim seeking legal relief, laches cannot bar that claim, at least where the statute contains an express limitations period within which the action is timely.’”⁴⁸ However, prior to the Supreme Court’s ruling in *Petrella*, discussed in depth below, disagreements abounded as to whether laches was a viable defense in the realm of copyright, as the Copyright Act is one such statute with an express limitations period.⁴⁹ The debate as to the laches defense arises in case law as early as 1916, when Judge Learned Hand argued that laches was permissible:

It must be obvious to every one familiar with equitable principles that it is inequitable for the owner of a copyright, with full notice of an intended infringement, to stand inactive while the proposed infringer spends large sums of money in its exploitation, and to intervene only when his speculation has proved a success. Delay under such circumstances allows the owner to speculate without risk with the other’s money; he cannot possibly lose, and he may win.⁵⁰

Until recently, the disagreement as to the validity of the laches defense continued and resulted in a lack of consensus among the various federal circuits.⁵¹

Until the Supreme Court’s *Petrella* decision, there was a circuit split as to whether laches could bar both legal and equitable claims.⁵² In short, the Ninth Circuit permitted laches to be used both in the context of legal claims and equitable claims, a holding that stood in strong contrast to that of the Fourth Circuit, which held that laches could not be used for either type of claim if brought within the statute of limitations period set by Congress.⁵³ Additionally, the Sixth Circuit sought a middle ground, holding that “laches could be argued regardless of whether the suit was at law or in equity and was equally available in both.”⁵⁴ However, the Sixth Circuit’s approach was not nearly as broad as the Ninth Circuit’s interpretation, as it held that laches was permissible in “unusual

⁴⁷ *Id.* (quoting *Danjaq*, 263 F.3d at 955). In *Evergreen Safety Council*, the court held that evidentiary delay was created after a ten-year delay. *Id.* A key player in the negotiations had since died. *See id.* Other critical employees involved in the negotiations “had relocated or forgotten about components of the case (namely, important details concerning the development of the draft manual).” *Id.* Business records had been destroyed. *Id.*

⁴⁸ 3 MELVILLE B. NIMMER & DAVID NIMMER, *NIMMER ON COPYRIGHT* § 12.06 (2020) [hereinafter 3 *NIMMER ON COPYRIGHT*] (quoting *Ivani Contracting Corp. v. City of New York*, 103 F.3d 257, 259 (2d Cir. 1997)).

⁴⁹ *Id.*

⁵⁰ *Id.*

⁵¹ *Id.*

⁵² Nall, *supra* note 43, at 339.

⁵³ *Id.* at 334, 338 (citing *Lyons P’ship, L.P. v. Morris Costumes, Inc.*, 243 F.3d 789, 797 (4th Cir. 2001); *Danjaq LLC v. Sony Corp.*, 263 F.3d 942, 951 (9th Cir. 2001)).

⁵⁴ *Id.* at 335–36. (citing *Chirco v. Crosswinds Cmty, Inc.*, 474 F.3d 227, 236 (6th Cir. 2007)).

circumstances” and “that a delay within the statute of limitations period is reasonable absent compelling reasons.”⁵⁵

Ultimately, the Supreme Court weighed in on the disagreement in *Petrella v. Metro-Goldwyn-Mayer, Inc.*⁵⁶

B. Supreme Court Greatly Limits Laches in the Copyright Context

In *Petrella*, the Court greatly curtailed the use of laches, imposing strict limitations on its use in the context of copyright cases. *Petrella* involved Metro-Goldwyn-Mayer, Inc.’s (“MGM”) extremely successful 1980 movie *Raging Bull*, which tells the story of famed boxer Jake LaMotta.⁵⁷ However, years before MGM told this story, LaMotta himself joined forces with Frank Petrella to tell audiences and fans the story of his career.⁵⁸ The collaboration between LaMotta and Petrella resulted in “two screenplays, one registered in 1963, the other in 1973, and a book, registered in 1970.”⁵⁹ The *Petrella* case involved only the 1963 screenplay.⁶⁰ The screenplay’s copyright registration listed Petrella as the sole author.⁶¹ The copyright rights were assigned and later acquired by United Artists Corporation and Metro-Goldwyn-Mayer, Inc. (collectively, “MGM”).⁶²

However, upon Frank Petrella’s death in 1981, the renewal right to the screenplay reverted to Paula Petrella, his heir.⁶³ Importantly, Paula Petrella now had the right to “renew the copyrights unburdened by any assignment previously made by the author.”⁶⁴

As the following timeline unfolds, keep in mind the length of time that is elapsing. First, in 1991, Paula Petrella renewed the 1963 screenplay copyright.⁶⁵ Then, in 1998, Petrella first contacted MGM warning it that any derivative work, including its film *Raging Bull*, constituted copyright infringement.⁶⁶ Several years would pass before Petrella brought a civil suit against MGM.⁶⁷ Finally, in 2009, Petrella brought a copyright infringement lawsuit against MGM, claiming “that MGM violated and continued to violate her copyright in

⁵⁵ *Id.* at 336 (citing *Chirco*, 474 F.3d at 233–34 (6th Cir. 2007)).

⁵⁶ *Petrella v. Metro-Goldwyn-Mayer, Inc.*, 572 U.S. 663, 663 (2014).

⁵⁷ *Id.* at 673. Upon its release, the film was met with great success. The film’s starring actor, Robert De Niro, “won a Best Actor Academy Award for his portrayal of LaMotta.” *Id.* At the time of the decision, the film had continued to be marketed by MGM and had since been converted into DVD and Blu-ray formats. *Id.*

⁵⁸ *Id.*

⁵⁹ *Id.*

⁶⁰ *Id.*

⁶¹ *Id.*

⁶² *Id.*

⁶³ *Id.* at 673–74.

⁶⁴ *Id.* at 673.

⁶⁵ *Id.* at 674.

⁶⁶ *Id.*

⁶⁷ *Id.*

the 1963 screenplay by using, producing, and distributing *Raging Bull*, a work she described as derivative of the 1963 screenplay.”⁶⁸

MGM contended that Petrella’s eighteen-year delay in commencing a suit “was unreasonable and prejudicial.”⁶⁹ The district court sided with MGM, reasoning that laches barred the suit.⁷⁰ Of special interest to the current Note, the district court also pointed to “evidentiary prejudice” that MGM would face, particularly because “Frank Petrella had died and LaMotta, then aged 88, appeared to have sustained a loss of memory.”⁷¹ The district court further observed that the boxer “ha[d] suffered myriad blows to his head as a fighter years ago[] and [n]o longer recognize[d] Petrella], even though he ha[d] known her for forty years.”⁷² The Ninth Circuit affirmed.⁷³

However, the Supreme Court overturned the Ninth Circuit.⁷⁴ Justice Ginsburg, writing for the majority, argued that the statute of limitations embedded within the copyright laws already accounted for the plaintiff’s delay, such that “a successful plaintiff can gain retrospective relief only three years back from the time of the suit.”⁷⁵ Additionally, the Court highlighted that laches originated in the courts of equity.⁷⁶ Laches was typically only applied in situations where “the Legislature has provided no fixed time limitation.”⁷⁷ That is, the Court “[has] never applied laches to bar in their entirety claims for discrete wrongs occurring within a federally prescribed limitations period.”⁷⁸

Thus, the Court held that laches could not “be invoked to preclude adjudication of a claim for damages brought within the three-year window. As to equitable relief, in *extraordinary circumstances*, laches may bar at the very threshold the particular relief requested by the plaintiff.”⁷⁹ What exactly constitutes extraordinary circumstances? The Court briefly offered two illustrations. In one example, the extraordinary circumstance involved the physical destruction of an entire literary work,⁸⁰ and in the other example, families would be

⁶⁸ *Id.*

⁶⁹ *Id.* at 675.

⁷⁰ *Id.*

⁷¹ *Id.* (quoting App. to Pet. For Cert., *Petrella v. Metro-Goldwyn-Mayer, Inc.*, 572 U.S. 663, 663 (2014) (No. 12-1315)).

⁷² *Id.*

⁷³ *Id.* at 675.

⁷⁴ *Id.* at 688.

⁷⁵ *Id.* at 666, 677.

⁷⁶ *Id.* at 678.

⁷⁷ *Id.*

⁷⁸ *Id.* at 680.

⁷⁹ *Id.* at 667–68 (emphasis added). Said another way, later in the opinion, Justice Ginsburg provides “[i]n *extraordinary circumstances*, however, the consequences of a delay in commencing suit may be of sufficient magnitude to warrant, at the very outset of the litigation, curtailment of the relief equitably awardable.” *Id.* at 685 (emphasis added).

⁸⁰ *Id.* at 686 (citing *New Era Publ’ns Int’l v. Henry Holt & Co.*, 873 F.2d 576, 584–585 (2d Cir. 1989)).

expelled from their homes should destruction of the work go forward.⁸¹ Lower federal courts were provided scant guidance beyond these two brief examples.⁸²

The Court addressed—and ultimately dismissed—MGM’s concerns regarding how inaction over time has the potential for the loss of necessary evidence “needed or useful to defend against liability.”⁸³ The Court suggested that Congress surely must have been aware of such a concern and that such a concern equally bears upon both plaintiff and defendant.⁸⁴ One commentator has commented elsewhere that the concern does not actually bear upon both the plaintiff and defendant equally.⁸⁵ For instance, when demonstrating substantial similarity in an infringement claim, the musical works are *fixed* in *tangible media*.⁸⁶ Such pieces of evidence do not suffer equally from the passage of time.⁸⁷ Whereas, the defendant’s memory regarding access or the creation of a song may not be fixed in a tangible medium.⁸⁸ Rather, it may only be fixed in the witness’s memory (i.e., the witness’s brain).⁸⁹ This Note extends arguments made by others in the following way: those memories, critical to the defendant’s case, are subject to complex aging processes, diluting the strength and accuracy of those memories. I discuss this further in Part III.

The dissenting justices—Justice Breyer, joined by Chief Justice Roberts and Justice Kennedy—were not convinced by the majority’s reasoning, and Justice Breyer presented several hypothetical situations which underscored the ways in which the majority’s decision would lead to undesirable consequences.⁹⁰ Beyond its hypotheticals, the dissenting opinion further provided additional real-life cases where such a delay in plaintiff’s actions brought about “delay-

⁸¹ *Id.* at 685–86 (citing *Chirco v. Crosswinds Cmtys., Inc.*, 474 F.3d 227 (6th Cir. 2007)).

⁸² One observer summarized the illustrations resulting in the need for “sufficient harm [to] occur to the physical embodiments of the copyrighted expression at issue.” Daniel Sheerin, Note, “*You Never Got Me Down, Delay*”: *Petrella v. Metro-Goldwyn-Mayer, Inc. and the Availability of Laches in Copyright Infringement Claims Brought Within the Statute of Limitations*, 24 *FORDHAM INTELL. PROP. MEDIA & ENT. L.J.* 851, 904 (2015). In *Petrella*, the majority states that the relief sought would not result in the “total destruction” of the work. *Petrella*, 572 U.S. at 686.

⁸³ *Id.* at 683.

⁸⁴ *Id.* at 683–84.

⁸⁵ See, e.g., Joseph A. Greene, Note, *Skidmore v. Led Zeppelin: Extraordinary Circumstances and the Perpetual Statute of Limitations in Copyright Infringement*, 69 *ME. L. REV.* 307, 325 (2017).

⁸⁶ *Id.* at 312.

⁸⁷ *Id.* at 314 (“Whether it is fixed on paper . . . or on a phonorecord . . . , a musical work does not change over time and is defined at the moment it is written or created.”).

⁸⁸ *Id.* at 325.

⁸⁹ *Id.* (“Because a musical work is fixed at the time it is written—unlike the memory of a witness—the substantial similarity determination has not been detrimentally affected due to the lapse of time. The only evidence affected by delay is evidence critical to a defendant’s case, thus defendants are unfairly prejudiced by the passage of time.”).

⁹⁰ *Petrella v. Metro-Goldwyn-Mayer, Inc.*, 572 U.S. 663, 688–89 (2014) (Breyer, J., dissenting).

related inequity.”⁹¹ Such examples cited in the dissent included several instances where memory had faded, such as one case in which the plaintiff waited seventeen years before bringing a claim regarding “Joy to the World.”⁹² In another example, a “claim regarding the song ‘It’s a Man’s World,’ [was] brought 40 years after first accrual, where the plaintiff’s memory had faded and a key piece of evidence was destroyed by fire.”⁹³ Justice Breyer was quick to discuss the concept of “fading memories.”⁹⁴

Much of this Note is devoted to expounding the concept of “fading memories” and to applying scientific evidence explaining how and why memories fade, particularly in older adults. Specifically, in instances of claims seeking equitable relief, this Note argues that the extraordinary circumstances alluded to by Justice Ginsburg in *Petrella* should include those evidentiary prejudices created by the cognitive aging processes (specifically, older adult memory deficits) described below. Additionally, this Note argues that Justice Ginsburg inappropriately equated the evidentiary prejudices experienced by the plaintiff and defendant. In doing so, the majority opinion fails to sufficiently consider how the aging process could give rise to age-related evidentiary prejudice, greatly hindering an aging artist’s defense against a copyright infringement suit.

III. AGING ROCK BANDS AND COGNITIVE AGING

A. *Led Zeppelin as a Case Study on Aging, Memory, and Copyright Infringement*

Let us return to the Led Zeppelin copyright infringement case introduced above. It is important from the outset to establish some early facts. First, in 1966, Randy Wolfe wrote the song “Taurus.”⁹⁵ Spirit released its first album “in late 1967 or early 1968,”⁹⁶ which included the song “Taurus.”⁹⁷ In 1968, around the same time of Spirit’s “Taurus” release, Led Zeppelin was formed⁹⁸ by its founding members: “Jimmy Page, Robert Plant, John Paul Jones, and John Bonham.”⁹⁹ Throughout the late 1960s and the early 1970s, the bands Spirit and Led Zeppelin crossed paths on various occasions.¹⁰⁰ It is undeniable that the bands were aware of each other. During one of its early tours, Led

⁹¹ *Id.* at 690.

⁹² *See id.*

⁹³ *See id.* at 690–91.

⁹⁴ *See id.*

⁹⁵ *Skidmore v. Led Zeppelin*, 905 F.3d 1116, 1121–22 (9th Cir. 2018) *vacated, reh’g en banc granted*, 925 F.3d 999, 2019 U.S. App. LEXIS 17271 (9th Cir. Cal., June 1, 2019).

⁹⁶ *Id.* at 1122.

⁹⁷ *Id.*

⁹⁸ *Id.*

⁹⁹ *Id.*

¹⁰⁰ *Id.*

Zeppelin went as far as performing a cover of “Fresh Garbage,” another song by Spirit.¹⁰¹ Both bands also performed on the same dates for a concert and several musical festivals.¹⁰² However, no concrete proof existed that either band listened to the other during any of these performances.¹⁰³ Additionally, testimony at trial revealed that the two bands conversed and “one Spirit band member testified that Spirit had played ‘Taurus’ the night both bands performed in Denver.”¹⁰⁴ Other evidence demonstrated that Robert Plant had attended a Spirit concert in 1970.¹⁰⁵ Another Led Zeppelin member, Jimmy Page, also testified and stated that he was the owner of the album *Spirit*, which contained “Taurus,” “but he was unable to clarify when he obtained that copy.”¹⁰⁶

The iconic Led Zeppelin song “Stairway to Heaven,” written by Page and Plant, was released on Led Zeppelin’s fourth album in 1971, approximately *forty-nine years ago* and roughly five years after Wolfe first wrote “Taurus.”¹⁰⁷ The intellectual property rights in the “Taurus” song are currently held by the Randy Craig Wolfe Trust, for which Michael Skidmore is the trustee.¹⁰⁸ Skidmore brought a claim of copyright infringement against Led Zeppelin, specifically that “Stairway to Heaven” infringed “Taurus,” immediately upon the Supreme Court’s ruling in *Petrella* “that laches [was] not a defense where copyright infringement [was] ongoing.”¹⁰⁹ Note that this claim was brought *forty-three years after* Led Zeppelin released “Stairway to Heaven” in 1971.

It is important to pause and take stock of the implications of the various dates mentioned above. First, notice how close in time everything unfolded, such as the writing and release of “Taurus,” the writing and release of “Stairway to Heaven,” and the overlapping performances and various interactions between Spirit and Led Zeppelin. To pinpoint the origins of the guitar riff in “Stairway to Heaven” requires the ability to disentangle all of these dates and correctly locate in time specific details related to a memory event. It requires more from the witness than merely recalling gist (or broad and general) representations.

This Note addresses the immediate concern of how age can influence the witnesses who need to testify in cases like *Led Zeppelin*’s. How can a court expect witnesses to still have their full, complete, and accurate memory forty-three years after “Stairway to Heaven” was first realized? The expectation that a man like Jimmy Page, a decades-long artist, is not disadvantaged in a case

¹⁰¹ *Id.*

¹⁰² *Id.*

¹⁰³ *Id.*

¹⁰⁴ *Id.*

¹⁰⁵ *Id.*

¹⁰⁶ *Id.*

¹⁰⁷ *Id.*

¹⁰⁸ *Id.*

¹⁰⁹ *Id.*

like the one described above defies everything psychologists have learned and documented about cognitive aging.¹¹⁰

B. Considering Copyright Infringement in the Shadow of Psychology and Aging

Psychology, defined simply, is “the science of mind and behavior.”¹¹¹ Psychological research is interested in advancing knowledge related to “how individuals think, feel, and make decisions.”¹¹² Psychologists, across various sub-fields, have applied and extended their research to also evaluate how psychology can shed light on the law (and legal practice). For example, social psychologists have evaluated jury decision-making, negotiations, discrimination, morality, and punishment, to name a few.¹¹³ Some work, though limited, has also evaluated property law and contract law.¹¹⁴ In tandem, legal scholars have also produced work fusing psychological science with legal practice and doctrinal legal topics, such as torts, family law, and the lawyering process, more broadly.¹¹⁵

The core of this Note is concerned with cognitive psychology, the branch of psychology most interested in mental processes. Cognitive psychology is concerned with cognition, or “the internal interpretation or transformation of stored information.”¹¹⁶ “Cognition occurs when you derive implications or associations from an observation, fact, or event.”¹¹⁷ Cognitive psychologists study a broad range of topics including, but not limited to, the following: perception, emotion, memory, attention, executive processes, decision-making, motor cognition, problem solving, reasoning, and language.¹¹⁸

Much of published psychology research has tended to focus its attention on college-aged students.¹¹⁹ Two scholars noted that “[s]tudent samples are extremely common in psychological and cross-cultural studies due to the facility of recruitment, lower cost of administration, and assumed lower response bi-

¹¹⁰ For a discussion of the application of cognitive aging findings to Jimmy Page’s testimony, see Section IV.C.

¹¹¹ *Psychology*, MERRIAM-WEBSTER DICTIONARY, <https://www.merriam-webster.com/dictionary/psychology> [<https://perma.cc/8GLA-84MC>].

¹¹² Pam Mueller & Janice Nadler, *Social Psychology and the Law*, in 1 OXFORD HANDBOOK OF L. & ECON. 124 (Francesco Parisi ed., 2017).

¹¹³ *Id.* at 125.

¹¹⁴ *Id.* at 145–48.

¹¹⁵ See generally, e.g., JEAN R. STERNLIGHT & JENNIFER K. ROBBENOLT, *PSYCHOLOGY FOR LAWYERS* (2012) (providing a comprehensive review of psychological findings and the applications of those findings to the practice and learning of law).

¹¹⁶ EDWARD E. SMITH & STEPHEN M. KOSSLYN, *COGNITIVE PSYCHOLOGY: MIND AND BRAIN* 3 (2007).

¹¹⁷ *Id.*

¹¹⁸ *Id.* at 2–3.

¹¹⁹ See, e.g., Robert A. Peterson & Dwight R. Merunka, *Convenience Samples of College Students and Research Reproducibility*, 67 J. BUS. RSCH. 1035, 1035 (2014).

as.”¹²⁰ However, one departure from this norm has been research focused on older adults. Much of this Note’s discussion of cognitive psychology research centers on findings that have focused solely on older adult samples or studies where a sample of older adults have been compared with college-aged adults. Specifically, much of the reviewed literature below focuses on an area within cognitive psychology referred to as cognitive aging. Age-related decline in cognitive abilities has been found in numerous cognitive domains, including memory, attention, language, and visuo-spatial functioning.¹²¹

This Note emphasizes the findings specific to the cognitive aging literature and contends that the ways by which the aging brain interferes with one’s cognitive abilities—such as memory—will directly influence a copyright infringement defendant’s ability to mount an accurate and veridical defense. The Note focuses primarily on the defendant’s perspective, however the concerns related to aging may also apply to witnesses other than the defendant that are also involved in the litigation.

C. *Episodic and Autobiographical Memories*

From the outset, it is necessary to establish that psychologists have catalogued various types of memory under the larger cognitive umbrella of memory.¹²² For example, cognitive psychologists have distinguished between long-term memory, short-term memory, and working memory, such that each of these respective memory types serve different cognitive functions and have distinct cognitive characteristics.¹²³ Additionally, not all types of memory age equally.¹²⁴ Before we can delve into how memory changes with age, we must first explore in greater detail the types of memory relevant to this Note. Specifically, the next section discusses memories that are either *episodic* or *autobiographical* in nature.

1. *Episodic Memory*

Episodic memory is concerned with “allow[ing] you to access specific memories located at a particular point in time.”¹²⁵ Episodic memory has been

¹²⁰ Paul H. P. Hanel & Katia C. Vione, *Do Student Samples Provide an Accurate Estimate of the General Public?*, 11 PLOS ONE 1, 1 (2016).

¹²¹ For an extensive review and survey of the field of cognitive aging, see generally DENISE C. PARK & NORBERT SCHWARZ, *COGNITIVE AGING: A PRIMER* (1st ed., 2000).

¹²² See generally SMITH & KOSSLYN, *supra* note 116, at 193, 239.

¹²³ *Id.* A review of all the different memory types is well outside the focus of this Note.

¹²⁴ See Wesley D. Spencer & Naftali Raz, *Differential Effects of Aging on Memory for Content and Context: A Meta-Analysis*, 10 PSYCH. & AGING 527, 527 (1995) (“Age-related differences in memory are ubiquitous, and, as a rule, old age is associated with reduction in performance. The magnitude of these differences, however, varies across the types of memory.” (internal citation omitted)).

¹²⁵ ALAN BADDELEY ET AL., *MEMORY* 137 (2d ed., 2015).

referred to as “mental time travel.”¹²⁶ Episodic memory permits the recollection of the *what*, the *where*, and the *when* of specific events and details in time.¹²⁷ To better understand what episodic memory is, we can distinguish it from another type of memory referred to as semantic memory.¹²⁸ Semantic memory is a form of memory that is focused on our “knowledge of the world” (i.e., factual information).¹²⁹

A common practice among research psychologists who study episodic memory is to separate “item memory” from “associative memory.”¹³⁰ Item memory is broadly construed as one’s memory of single, separate units or pieces of information.¹³¹ In experiments testing item memory, participants might be asked during a test phase following the study of visual stimuli, “Do you remember seeing this face?” or “Was this word presented at encoding?”¹³² In such questions, the focus of the probe question is on *single* and *distinct* features.¹³³ Item memory’s focus on singular features or objects contrasts sharply with associative memory, where the inquiry is targeting the *combinations* of or the *relationship* between multiple units of information.¹³⁴ Additionally, associative memory could be related to other indicia of contextual information or source information.¹³⁵ Examples of an associative memory probe include the following prompts: “Were these objects studied together previously?” or “Was this word presented with this color background at study?”¹³⁶

2. Autobiographical Memory

Another type of memory—that “almost certainly depends on the episodic and semantic memory systems” discussed above—is autobiographical memory.¹³⁷ Autobiographical memory consists of “the memories that we hold regarding *ourselves* and *our* interactions with the world around us.”¹³⁸ That is, such memories are “a collection of information as well as memories particular

¹²⁶ *Id.*

¹²⁷ *Id.*

¹²⁸ *Id.*

¹²⁹ *Id.*

¹³⁰ See Alan Castel & Fergus I.M. Craik, *The Effects of Aging and Divided Attention on Memory for Item and Associative Information*, 18 *PSYCH. & AGING* 873, 873 (2003).

¹³¹ See Nancy A. Dennis & John M. McCormick-Huhn, *Item and Associative Memory Decline in Healthy Aging*, in *STEVENS’ HANDBOOK OF EXPERIMENTAL PSYCHOLOGY AND COGNITIVE NEUROSCIENCE* 323, 323 (John T. Wixted ed., 4th ed. 2018).

¹³² See Susan R. Old & Moshe Naveh-Benjamin, *Differential Effects of Age on Item and Associative Measures of Memory: A Meta-Analysis*, 23 *PSYCH. & AGING* 104, 106, 116 (2008).

¹³³ See *id.*

¹³⁴ See *id.* at 104, 116.

¹³⁵ See *id.* at 107, 116–18.

¹³⁶ See *id.*

¹³⁷ BADDELEY ET AL., *supra* note 125, at 299.

¹³⁸ *Id.* (emphasis added).

to an individual, which the individual has accumulated since his or her birth and which allow him or her to construct a feeling of identity and continuity.”¹³⁹

Autobiographical memories have been largely divided into two main categories: *episodic* and *semantic*.¹⁴⁰ Episodic aspects of autobiographical memory are rich in detail and contextual information, whereby a specific event is connected to a particular space and time from the individual’s past.¹⁴¹ For example, one might vividly recall the day of his or her wedding. For such memories, an individual calls forth associations related to “perceptual, emotional, spatial, temporal, and contextual details that lead to a subjective experience of conscious memory.”¹⁴² In contrast, semantic aspects of autobiographical memory consist mostly of general, or generic, information.¹⁴³ Said another way, semantic memories represent one’s memory for factual knowledge.¹⁴⁴ For example, one might recall the names of his or her college roommates.

The distinction between episodic memory and autobiographical is in the perspective of the memory: autobiographical memories are solely related to *our own lives*.¹⁴⁵ For the purpose of this Note, autobiographical memories or episodic memories are *both* referring to the types of information we recollect from a situation in our personal lives, such as *who* we experienced that memory *with* and *where* the event took place. In the shadow of a legal proceeding, such questions (the various combinations of *who*, *what*, *when*, and *where*) will all be put under intense scrutiny during the questioning of a witness.

D. Age-Related Declines in Autobiographical and Episodic Memory

Psychological findings have demonstrated age-related changes in both autobiographical and episodic memory. Each is discussed below in turn.

¹³⁹ Pascale Piolino et al., *Episodic and Semantic Remote Autobiographical Memory in Ageing*, 10 *MEMORY* 239, 239 (2002).

¹⁴⁰ *Id.* at 239–40.

¹⁴¹ *Id.* at 240.

¹⁴² Yong-Chun Bahk & Kee-Hong Choi, *The Relationship Between Autobiographical Memory, Cognition, and Emotion in Older Adults: A Review*, 25 *AGING, NEUROPSYCH., & COGNITION* 874, 874 (2018) (providing a review of aging and autobiographical memory).

¹⁴³ Piolino et al., *supra* note 139, at 240.

¹⁴⁴ Yong-Chun Bahk & Kee-Hong Choi, *supra* note 142, at 874.

¹⁴⁵ BADDELEY, ET AL., *supra* note 125 at 299. Some researchers have noted nuanced distinctions between autobiographical memories and episodic memories. For example, neuropsychologist Asaf Gilboa summarizes the two types of memories as follows:

Episodic memory involves remembering by re-experiencing and being aware of the continuity of the experiencing self across time; autobiographical memory refers to information that directly involves the rememberer but need not entail the same subjective awareness. Autobiographical re-experiencing, the ability to travel back in time and re-experience an event from the past, is only one (important) aspect of autobiographical memory and is thought to be uniquely human by this view.

Asaf Gilboa, *Autobiographical and Episodic Memory—One and the Same? Evidence from Prefrontal Activation in Neuroimaging Studies*, 42 *NEUROPSYCHOLOGIA* 1336, 1336 (2004).

The aging research investigating autobiographical memory has revealed that semantic and episodic autobiographical memories do not exhibit similar signs of decline with increased age.¹⁴⁶ Specifically, findings have demonstrated that as an individual ages, his or her semantic memory, or memory for general knowledge, can remain relatively intact.¹⁴⁷ Older adults have been demonstrated to “excel at the application of broader, time-independent knowledge structures acquired through a lifetime’s experience, knowledge that may give rise to wisdom.”¹⁴⁸

On the other hand, older adults are much more likely to show memory decline in relation to the *episodic dimension* of autobiographical memory.¹⁴⁹ In one such illustration, Brian Levine and colleagues interviewed younger and older adults about five different life periods.¹⁵⁰ Participants’ responses were scored by the researchers, who categorized the participants’ provided information as being either episodic or non-episodic information.¹⁵¹ Specifically, the researchers used the terms *internal* and *external* to distinguish between the kinds of details provided during the interviews.¹⁵² The internal details represented episodic re-experiencing of the memory because they were “specific to [the] time and place” of the event.¹⁵³ Such episodic information was assigned points depending on how rich it was, based on memories of the following: the specificity of the time (e.g., year, season, day, etc.); place (city, building, room, etc.); perception (visual details, body position, etc.); emotion/thoughts (emotional state); and time integration, which measured the “ability to integrate the [recalled memory] into a larger time scale by giving additional temporal contextual information or relating it to other life periods.”¹⁵⁴ The external details were those that were non-episodic, such that the produced memory details were merely factual or were not connected to a specific date and time.¹⁵⁵ The researchers found that young adults performed better at producing more episodic autobiographical details, specifically providing more details related to “happenings, locations, perceptions, and thoughts and feelings specific to the event.”¹⁵⁶

¹⁴⁶ Yong-Chun Bahk & Kee-Hong Choi, *supra* note 142, at 874.

¹⁴⁷ See Fergus I.M. Craik, *Age-related Changes in Human Memory*, in *COGNITIVE AGING: A PRIMER* 75, 84 (Denise Park & Norbert Schwarz, eds., 2000).

¹⁴⁸ Brian Levine et al., *Aging and Autobiographical Memory: Dissociating Episodic from Semantic Retrieval*, 17 *PSYCH. & AGING* 677, 686 (2002).

¹⁴⁹ Yong-Chun Bahk & Kee-Hong Choi, *supra* note 142, at 874.

¹⁵⁰ Brian Levine et al., *supra* note 148, at 678.

¹⁵¹ *Id.*

¹⁵² *Id.* at 679.

¹⁵³ *Id.*

¹⁵⁴ *Id.* at 680.

¹⁵⁵ *Id.* at 679.

¹⁵⁶ *Id.* at 686.

A related line of research explores associative memory deficits.¹⁵⁷ The need for individuals to form and to remember associations is a ubiquitous part of life. For example, in normal conversation and daily living, there is normally a need (or social desire or expectation) to be able to remember face-name associations, whether it be those of family members or colleagues. However, associative memory deficits in older adults have been extensively documented in the cognitive aging literature.¹⁵⁸ Unfortunately, these deficits have real-life consequences for older adults, such as potentially resulting in a failure to remember the connection between a specific pill bottle and a specific dose, further connected to a specific time of day during which the pill should be ingested.

A growing body of studies has documented that older adults have greater age-related deficits for associative memory as compared to their age-related deficits for item memory, such that in some cases, item memory can be relatively intact.¹⁵⁹ Such deficits for associations have been shown in older adults across a multitude of association types, including, *inter alia*, faces and names,¹⁶⁰ word pairs,¹⁶¹ items/faces and locations,¹⁶² spoken sentences and their voice source,¹⁶³ as well as memory for picture pairings.¹⁶⁴

Taken together, evidence across both autobiographical studies and episodic memory studies in older adults underscore age-related declines in the quality of contextual/associative memory (those “internal” and time-dependent memories) as compared to the relatively intact semantic/item memory. The types of memory that are most impacted by age are those memory types most needed to be remembered by defendants and witnesses in court: the connections between *who*, *what*, *when*, and *where*. A person’s episodic and associative memory glue together rich vivid details, resulting in one’s ability to describe *where* a person

¹⁵⁷ See, e.g., Barbara Chalfonte & Marcia Johnson, *Feature Memory and Binding in Young and Older Adults*, 24 *MEMORY & COGNITION* 403, 407 (1996); Moshe Naveh-Benjamin, *Adult Age Differences in Memory Performance: Tests of an Associative Deficit Hypothesis*, 26 *J. EXPERIMENTAL PSYCH.* 1170, 1170 (2000).

¹⁵⁸ For meta-analyses and reviews, see generally Dennis & McCormick-Huhn, *supra* note 131, at 323; Old & Naveh-Benjamin, *supra* note 132, at 104; Spencer & Raz, *supra* note 124, at 527.

¹⁵⁹ See Old & Naveh-Benjamin, *supra* note 132, at 113; Spencer & Raz, *supra* note 124, at 534.

¹⁶⁰ E.g., Moshe Naveh-Benjamin et al., *The Associative Memory Deficit of Older Adults: Further Support Using Face-Name Associations*, 19 *PSYCH. & AGING* 541, 541 (2004); Peter G. Rendell, Alan D. Castel, & Fergus I.M. Craik, *Memory for Proper Names in Old Age: A Disproportionate Impairment?*, 58 *Q.J. EXPERIMENTAL PSYCH.* 54, 57 (2005).

¹⁶¹ E.g., Castel & Craik, *supra* note 130, at 874; Moshe Naveh-Benjamin et al., *Adult Age Differences in Episodic Memory: Further Support for an Associative-Deficit Hypothesis*, 29 *J. EXPERIMENTAL PSYCH.: LEARNING, MEMORY, & COGNITION* 826, 827 (2003).

¹⁶² E.g., Christine Bastin & Martial Van Der Linden, *The Effects of Aging on the Recognition of Different Types of Associations*, 32 *EXPERIMENTAL AGING RES.* 61, 65 (2005); Chalfonte & Johnson, *supra* note 157, at 408.

¹⁶³ E.g., Old & Naveh-Benjamin, *supra* note 132, at 107; Jon S. Simons et al., *Specific- and Partial-Source Memory: Effects of Aging*, 19 *PSYCH. & AGING* 689, 690 (2004).

¹⁶⁴ E.g., Naveh-Benjamin et al., *supra* note 161, at 827.

was on a certain day, *what* they were doing, and with *whom* they were interacting. However, as this section describes, this is the type of memory that is most affected by age.

E. Why Contextual Memory Declines (The Theories)

There are several explanations for why older adults' memory for associations and context declines markedly with age. Here, the Note focuses on explanations grounded in changes in "recollection" and "familiarity" processes, Fuzzy-Trace Theory, and brain deterioration associated with aging.

1. Recollection versus Familiarity

First, it has been suggested that age declines in associative memory are driven by age-related shifts from what is termed "recollection processes" to a reliance on "familiarity processes."¹⁶⁵ Such an explanation is derived from a dual-process framework for memory, where "dual-process" implies two kinds of memory types (or systems), with each having its own characteristics.¹⁶⁶ Cognitive psychologist Andrew Yonelinas and his colleagues provide that "[t]he distinction [between recollection and familiarity] is illustrated by the common experience of recognizing a person as familiar but not being able to recollect *who* the person is or *where* they were previously encountered."¹⁶⁷ "Familiarity" is defined as memory for information that is void of specific details associated with an item's encoding and is based on perceived memory strength, such as in the above illustration, where one recognizes a face at the store, but is unable to pinpoint from where they know that face.¹⁶⁸ Recollection, on the other hand, is when participants recall details about where or when an item was seen and the details associated with that encoding event.¹⁶⁹

Taken together, the item memory discussed above is more akin to familiarity, whereas associative memory is more akin to recollection.¹⁷⁰ Profiles in aging for item versus associative memory largely mirror that of profiles in aging for familiarity versus recollection.¹⁷¹ That is, familiarity remains relatively intact and recollection shows age-related decline.¹⁷² Thus, poor recollection ability may be one underlying cause of poorer associative memory in older adults.

¹⁶⁵ See generally Andrew P. Yonelinas, *The Nature of Recollection and Familiarity: A Review of 30 Years of Research*, 46 J. MEMORY & LANGUAGE 441 (2002) (reviewing the findings and methods for evaluating the concepts of recollection and familiarity).

¹⁶⁶ See *id.* at 442.

¹⁶⁷ *Id.* at 441 (emphasis added).

¹⁶⁸ See *id.* at 443, 446.

¹⁶⁹ See *id.* at 446.

¹⁷⁰ See *id.* at 442.

¹⁷¹ *Id.* at 471.

¹⁷² *Id.*

Below, this Note discusses in greater detail the aging brain and the brain's physical changes associated with age, but at this juncture, it is important to note that the age-related differences in recollection and familiarity processing are largely believed to be directly connected to brain function and deterioration.

2. *Fuzzy-Trace Theory*

Second, another dual-process theory, known as Fuzzy-Trace Theory, has been proposed by psychologists Charles Brainerd and Valerie Reyna and has garnered much attention and research.¹⁷³ In short, their theory posits that memory representations are stored as two distinct representations: *verbatim* and *gist*.¹⁷⁴ “Verbatim traces capture the surface form of events (a Coke bottle on the breakfast table), whereas gist traces capture salient meanings (soft drink in the kitchen).”¹⁷⁵ However, when memory reconstruction relies too heavily on gist, a “false memory” can arise.¹⁷⁶ For example, in the example, instead of remembering there was a Coke, the person might remember falsely that there was a Pepsi.¹⁷⁷ Said another way, “[v]erbatim traces retain the distinctive features of an event, whereas gist traces retain the general meaning but lack perceptual details or information about specific instances of an encoding event.”¹⁷⁸ Several studies have supported the notion that older adult memory, and older adults’ propensity to engage in more false memories than younger adults, is due to a greater reliance on gist processing.¹⁷⁹

3. *Neuroimaging and Neuroanatomy*

Finally, a third and final consideration, which helps to connect the differences in memory performance described thus far, are changes that naturally occur within the aging brain, specifically to the brain matter itself. The advent of neuroimaging technologies, such as MRI and fMRI, have afforded cognitive neuroscientists the ability to perform *in vivo* examinations of brain volume in real-time with living subjects, whereas only as recently as thirty years ago, such

¹⁷³ For an extensive discussion, see generally C.J. Brainerd & V.F. Reyna, *Fuzzy-Trace Theory and False Memory*, 11 CURRENT DIRECTIONS PSYCH. SCI. 164 (2002).

¹⁷⁴ C.J. Brainerd & Valerie F. Reyna, *Fuzzy-Trace Theory, False Memory, and the Law*, 6 POL. INSIGHTS FROM BEHAV. & BRAIN SCI. 79, 80–81 (2019).

¹⁷⁵ *Id.*

¹⁷⁶ *See id.* at 81. False memories occur when people

fail[] to distinguish between perceived information and internally generated information in memory. Sometimes, people not only confuse the real and the imagined, or actual events and their knowledge and beliefs (such as schemas and stereotypes), but they confuse elements from various perceived events (such as television news and a fictional novel).

Marcia K. Johnson & Carol L. Raye, *False Memories and Confabulation*, 2 TRENDS COGNITIVE SCIS. 137, 137 (1998).

¹⁷⁷ Brainerd & Reyna, *supra* note 174, at 81.

¹⁷⁸ Nancy A. Dennis et al., *Age-Related Differences in the Neural Correlates Mediating False Recollection*, 35 NEUROBIOLOGY AGING 395, 396 (2014).

¹⁷⁹ *Id.*

work was only possible *post-mortem*.¹⁸⁰ Overwhelmingly, such investigations into the physical structure of the brain have revealed an array of evidence documenting an association between age and brain shrinking.¹⁸¹ There is now large-scale evidence demonstrating that as an individual ages, the brain undergoes shrinkage in volume.¹⁸² Increased shrinkage of the brain occurs around forty years of age, such that an individual can experience around five percent decline in overall brain volume every decade of their life.¹⁸³ An acceleration of the brain matter decline occurs around age seventy.¹⁸⁴

A substantial body of literature has revealed an age decline in volume in the medial temporal lobe, structural regions within the brain that are well-documented as being associated with memory.¹⁸⁵ Interestingly, recent research has found differential aging of the hippocampus and perirhinal regions of the brain (regions subsumed by the medial temporal lobe), both of which have distinct roles in supporting associative memory and item memory (as well as familiarity and recollection).¹⁸⁶ The hippocampus is a brain region largely associated with item-context associations and recollection.¹⁸⁷ The hippocampus exhibits heavy loss and deterioration with age, thus leading to the associative memory deficits.¹⁸⁸ In contrast, intact item memory in older adults is supported by the perirhinal cortex, which also supports familiarity.¹⁸⁹ In one neuroimaging study, the “rhinal cortex showed familiarity-related activity that was enhanced by aging.”¹⁹⁰

Taken together, there is clear evidence that memory changes as one ages. There are many reasons why this may happen, but the takeaway is clear: an older witness brought to the stand will have to contend with an aging brain and an aging memory system.

¹⁸⁰ See B.J. Casey et al., *Structural and Functional Brain Development and Its Relation to Cognitive Development*, 54 *BIOLOGICAL PSYCH.* 241, 243 (2000).

¹⁸¹ For a review of the “links between the pattern of brain aging and the pattern of cognitive decline and stability,” see generally Naftali Raz & Karen M. Rodrigue, *Differential Aging of the Brain: Patterns, Cognitive Correlates and Modifiers*, 30 *NEUROSCI. BIOBEHAVIORAL R.* 730, 731 (2006).

¹⁸² See Ruth Peters, *Ageing and the Brain*, 82 *POSTGRADUATE MED. J.* 84, 84 (2006).

¹⁸³ *Id.*

¹⁸⁴ *Id.*

¹⁸⁵ See Yonelinas, *supra* note 165, at 472.

¹⁸⁶ See Rachel A. Diana et al., *Imaging Recollection and Familiarity in the Medial Temporal Lobe: A Three-Component Model*, 11 *TRENDS COGNITIVE SCI.*, 379, 385 (2007).

¹⁸⁷ *Id.*

¹⁸⁸ See Raz & Rodrigue, *supra* note 181, at 735.

¹⁸⁹ Diana et al., *supra* note 186, at 379.

¹⁹⁰ Sander M. Daselaar et al., *Effects of Healthy Aging on Hippocampal and Rhinal Memory Functions*, 16 *CEREBRAL CORTEX* 1771, 1778 (2006).

IV. COGNITIVE AGING APPLIED TO LACHES & COPYRIGHT LAW

A. *An Aging Nation and Why Aging Matters in Copyright*

The discussion of age and its implications for our society across all fields, such as health, law, and well-being, could not be timelier. As the Census Bureau aptly characterizes it, the United States is an *aging nation*.¹⁹¹ The population of older adults, those individuals sixty-five and older, is rapidly expanding. Specifically, by the year 2050, the number of older adults is projected to reach an astounding 83.7 million, which is remarkable, given that this number roughly doubles the number of older adults estimated to live in the United States in 2012: 43.1 million.¹⁹² Even if we do not project as far out as 2050, the immediacy of the implications of a growing aging population becomes apparent in the realization that by 2030, not a single Baby Boomer will be under the age of 65.¹⁹³ Said another way, one in five United States residents in 2030 will have reached the retirement age.¹⁹⁴

No one is spared from aging—not even rock stars. Journalist Damon Linker wrote, “[j]ust about every rock legend you can think of is going to die within the next decade or so.”¹⁹⁵ Linker provided a litany of rock artist names and their ages at the time of his article’s publication in August of 2019. Some of the more notable names included the following: Paul McCartney, age 77; Mick Jagger, age 76; Carole King, age 77; Eric Clapton, age 74; Elton John, age 72; Billy Joel, age 70; and Bruce Springsteen, age 69 (a few weeks shy of 70).¹⁹⁶

Why is it important to name all of these aging artists? Because so many of them are still going strong professionally.¹⁹⁷ These artists have continued success and staying power. Many of their songs, first created and released years ago, remain classic hits and in demand with their fans. By continuing to commercially exploit these older musical works, these aging artists potentially run

¹⁹¹ Jennifer M. Ortman et al., *An Aging Nation: The Older Population in the United States*, U.S. Census Bureau (May 2014), <https://www.census.gov/library/publications/2014/demo/p25-1140.html> [https://perma.cc/9HJL-A38R].

¹⁹² *Id.*

¹⁹³ Press Release, United States Census Bureau, Older People Projected to Outnumber Children for First Time in U.S. History (Mar. 13, 2018), <https://www.census.gov/newsroom/press-releases/2018/cb18-41-population-projections.html> [https://perma.cc/YD66-UTUB].

¹⁹⁴ *Id.*

¹⁹⁵ Damon Linker, *The Coming Death of Just About Every Rock Legend*, THE WEEK (Aug. 31, 2019), <https://theweek.com/articles/861750/coming-death-just-about-every-rock-legend> [https://perma.cc/SN4K-VWC3].

¹⁹⁶ *Id.*

¹⁹⁷ At the initial of writing this Note, several musical artists of older age either had residencies or had concert days scheduled for the Las Vegas Strip, including but not limited to: Cher (age 74); Aerosmith (Steven Tyler is 72 years old); Reba, Brooks, & Dunn (ages 65, 65, and 67, respectively); John Fogerty (age 75); Bryan Adams (age 60); and George Strait (age 68). The initial Note drafts were written before COVID-19, which drastically reduced live musical performances everywhere. Presumably, one day in a post-COVID, healthier, safer world, aging artists will resume live performances in places like Las Vegas and elsewhere.

the risk of unknowingly infringing another musician's intellectual property. How many other plaintiffs are out there, like Wolfe's estate in the "Stairway to Heaven" litigation, biding their time "until [they] can estimate whether litigation is worth the candle[?]"¹⁹⁸ Given the *Petrella* holding, years are permitted to pass before artists are hauled into court over songs that were created decades ago.

B. The Aging Artist(s), Their Copyright(s), and the Aging Brain

The questions critical to copyright infringement cases are grounded in episodic memory (specifically associative/source memory) and autobiographical memory. These types of memory speak directly to issues of original authorship and access to another's work. One can easily imagine the types of questions (especially while imagining the introductory riff in "Stairway to Heaven") that could arise when thinking about a song's origins: *Which singer(s) (the who) came up with this specific riff (i.e., singer-riff association)? When and where did that singer create that riff? If there is a competing song, when did the artist first hear that tune? Was it before or after the artist first came up with their song? Or the converse, when did the artist write that piece, before or after they first heard a song from another band?*

These are the types of questions that are within the domain of memory discussed at length above. These types of questions are related to the *who-what-where-when* (and the combination of the aforementioned) details critical to understanding what happened years ago. Unfortunately, as this Note has established, these are also the types of memories most impacted by natural aging processes.

For the purpose of exploring the impact of aging on an aging artist's life, a simple hypothetical provides a workable starting point. Imagine it is the year 2020, and our hypothetical world has two famous bands: *Band A* and *Band B*. Both of these bands have been around for a considerable amount of years. *Band A* and *Band B* both arrived on to the music scene forty years ago, roughly when the average age of each band member was thirty (all band members, in current day, are near the average age of seventy). Two years into their respective careers, in roughly 1982, the two bands decided to go on tour together because some industry-corporate-types saw a great commercial opportunity. Until this point, both bands had never really interacted, and it's not immediately apparent that any of the respective band members are social with the other band members. *Band B* opens for *Band A*. The tour starts in March of 1982.

Both bands are particularly ambitious. While on tour in 1982, *Band B* uses its time away from the stage to write new songs. *Band B* writes and creates its music privately, never in the presence of *Band A*. Many of the songs are written by different band members, either by a solo individual or in collaboration with other band members. Some songs come together painstakingly after much de-

¹⁹⁸ *Petrella v. Metro-Goldwyn-Mayer, Inc.*, 572 U.S. 663, 683 (2014).

liberation. Others come more naturally, spontaneously, and with great ease and speed. At some point in 1982, *Band B* releases the new album that its members have been working on together. By 1983, with the joint tour finally over, both bands move on to new opportunities, going their separate ways. *Band A* and *Band B* go on for the next forty years—writing, recording, touring, on repeat—never again crossing paths.

Then, in 2020, *Band A* unexpectedly sues *Band B* for copyright infringement for a song *Band B* put on its 1982 album. *Band A*'s drummer accuses *Band B* of putting on its 1982 record a song that oddly resembles one of *Band A*'s classics, one that *Band A* conveniently played during the 1982 concert tour. It comes time for the trial. The lead front person from *Band B* is called to the stand and must testify about the events that took place in 1982. Remember from the discussion of the autobiographical memories and episodic memories in Part III, a shift occurs such that older adults have better memories for semantic information, or the factual information from their lives. However, the detailed memory for the more nuanced information about the context—the “happenings, locations, perceptions, and thoughts and feelings specific to the event”—are stronger in younger adults.¹⁹⁹

Let's imagine the types of questions that would need to be addressed in this hypothetical infringement claim. The plaintiff would need to establish answers to questions related to *when* and *where* *Band B* first heard (if it heard) the infringed song, and by *whom*. A myriad of combinations of associations and contextual questions could easily arise in such a hypothetical. But what does the cognitive aging literature predict might happen in such a scenario? What deficits will our seventy-year-old defendant face on the witness stand? One could make the educated guess that our seventy-year-old defendant might get tripped up during his or her testimony.

More importantly to the defendant's defense of independent creation, how would he or she fare in mounting such a defense with weakened memories? Defense counsel would need to inquire about the infringing song and attempt to re-create the context from when the song was created. What events were happening during the creation? Where was the location? In attempting to prove access, the defendant would need to establish a specific temporal timeline.

The various memory models and findings discussed above predict that the aging artist might have a harder time providing the detailed contextual information necessary to determine the exact sequence of *when/where/how* a specific song was created, including the exact memory for *who* was involved. Differences in familiarity and recollection processing would suggest that an aging artist would have a familiarity (less-detailed, less focused memory) for the events that occurred in a specific year, but lack the recollection to recall with specificity the contextual details that happened during the original encoding (or intake) of the memory of the song creation. Fuzzy Trace Theory would predict

¹⁹⁹ Levine et al., *supra* note 148, at 686.

that our seventy-year-old defendant might only have a gist memory trace, such that the older defendant would be prone to committing a false memory.

The types of brain deterioration that occur naturally over time suggest that an aging artist on the stand is not necessarily trying to be coy or willfully dishonest and is not putting on an act to look confused, but rather might have a harder time finding the memory that their younger counterparts may more readily and easily be able to recall.

C. *A Return to Led Zeppelin*

The above hypothetical, though fictional, is largely grounded in reality and inspired by the facts in Led Zeppelin's case. During Jimmy Page's testimony, plaintiff's counsel, Francis Malofiy, attempted to ask questions related to the order of events, or questions that were context-specific, from years prior.

In one exchange, Page clearly became confused about a complex association between several contextual factors, including *whom* he was with and *where*, depending on *when*.

[Mr. Malofiy:] In that interview, when you said you were together with someone in Bron-yr-Aur, would that be referring to Mr. Plant?

[Mr. Page:] Well, I'm not sure whether I'm meaning Bron-yr-Aur or whether I'm meaning Headley Grange there. You know, I've glitched quite clearly.

THE COURT: That wasn't his question. His question is, when you said "with somebody else," would that somebody else [have] been Mr. Plant? If you know.

[Mr. Page:] Umm, but it depends on the location, you see, so I don't—I'm not referring to that. I have to—not—I can't really be clear about that, because it's—it's a glitch as far as, you know, what I'm saying there.²⁰⁰

The "glitch" potentially was related to the types of memory deficits experienced by older adults in episodic and autobiographical memory. Recall, in studies on autobiographical memories, older adults recalled less "internal" details, those details "specific to [the] time and place" of the event.²⁰¹ Those studies' findings provide one potential explanation for why Page became confused by the question from Malofiy related to the association between Mr. Plant and Bron-yr-Aur or Mr. Plant and Headley Grange. The question related to an "internal" detail, the type of detail that older adults have more difficulty in recalling.

Several lines of questioning surrounded Page's ownership of Spirit's first album, the album that contained the song "Taurus." In one instance, Malofiy engaged in a back-and-forth with Page in an attempt to gauge how the album

²⁰⁰ *Jimmy Page's Testimony at Led Zeppelin 'Stairway to Heaven' Trial, Pt. 2*, ROLLING STONE (Aug. 15, 2016, 3:13 PM) [hereinafter *Jimmy Page Testimony Pt. 2*], <https://www.rollingstone.com/music/music-news/jimmy-pages-testimony-at-led-zeppelin-stairway-to-heaven-trial-pt-2-248556/> [<https://perma.cc/3G9L-PHN8>]. The names in the testimony have been edited for clarity.

²⁰¹ See *supra* Section III.D.

landed in Page's personal collection.²⁰² Ultimately, Page was unsure how the album entered into his collection, and he was further unaware as to whether the album was a gift from someone else or if instead he was the one who had personally bought the album.²⁰³ In terms of whether it was a gift or personally acquired by Page, we can reframe this memory as being an association between acquiring the album and a person (i.e., *what* person was connected to a specific action/event). Alternatively, we could reframe it in terms of the *source* of an item (i.e., from *whom* did the item originate?). Whether we reframe this as an association or a source problem, the memory implications are clear: older adults struggle with this kind of memory.

According to Fuzzy-Trace Theory, older adults rely more on gist memory traces instead of verbatim traces, such that they are more likely to recall the generalities of an event, not the specific features.²⁰⁴ Older adult reliance on gist can be problematic in instances, then, where opposing counsel is asking for the specific details related to a specific event. For example, Malofiy asked Page, "Can you—can you give me a typical set list or *the set list* that you used in—December 26, 1968?"²⁰⁵ Here, Malofiy wanted Page to go beyond the general gist that there were songs played, and instead produce the specific songs. Page responded, "I can't—I can't give you like first number, second number, third number, fourth number, no."²⁰⁶ He went on to say, "I can tell you—you want me—I can give a rough approximation of a set, but it doesn't mean to say that it is the full set. It probably means it's a rough approximation of maybe half a dozen numbers."²⁰⁷ From the reading of the transcript, it would appear that what Page is able to offer opposing counsel is only the gist memory trace.

It was also hard for Page to recall the specific number of times that he had heard Spirit's first album.²⁰⁸ Additionally, he admitted that the distance from the memory was proving problematic when opposing counsel asked how frequently he had listened to the second and third albums.²⁰⁹ For example, regarding the number of times he listened to the second album, Page stated, "I don't know. I can't tell. This is so far—a long, long while ago."²¹⁰ Similarly, regarding the third album, Page stated, "Let's say eight times. I really—you know,

²⁰² *Read Jimmy Page's Testimony at Led Zeppelin 'Stairway to Heaven' Trial*, ROLLING STONE (Aug. 15, 2016, 3:13 PM) [hereinafter *Jimmy Page Testimony Pt. 1*], <https://www.rollingstone.com/music/music-news/read-jimmy-pages-testimony-at-led-zeppelin-stairway-to-heaven-trial-252538/> [<https://perma.cc/7VNF-L2F4>].

²⁰³ *Id.*

²⁰⁴ For a summary of the Fuzzy-Trace Theory, review notes 171–77 and accompanying text.

²⁰⁵ *Jimmy Page Testimony Pt. 1*, *supra* note 202 (emphasis added).

²⁰⁶ *Id.*

²⁰⁷ *Id.*

²⁰⁸ *Id.*

²⁰⁹ *Id.*

²¹⁰ *Id.*

I'm speculating. I'm so sorry. I'm so sorry. It's so difficult to remember that far back. I used to listen to a lot of music."²¹¹

In another line of questioning regarding what band Led Zeppelin was opening for on a specific date, Page would be required to draw upon his associative memory to recollect *band-band* associations, or in an even more complex approach, *band-band-date* associations. For example, Page did not appear to remember opening for Spirit during a tour that was co-headlined by Spirit and another band called Vanilla Fudge.²¹² The *specific* concert in question occurred in Denver (creating a *band-band-date-location* association), during which Led Zeppelin covered one of Spirit's songs.²¹³ Page responded to Malofiy, "No, I don't—I—you know, I really don't have any recollection of [Spirit] being on the—on the show. I just remember—from my memory recall, I just know that we were on and we were supporting Vanilla Fudge, but that's it."²¹⁴ Here, Page is experiencing a deficit in associative memory, as he cannot recall the connection between this specific concert and Spirit.

Finally, in a very detailed line of questioning by Peter Anderson, Led Zeppelin's lead counsel, Page recounted the creation of "Stairway to Heaven." In doing so, Page attempted to piece together the details related to the time and location for when and where he first started composing the music for the song:

[Anderson:] When did you start composing music for "Stairway to Heaven"?

[Page:] Well, it's somewhere between May and August of 1970. I actually moved houses during that period, as well, so in between being—touring and whatever. I would say it's between the location of Pangbourne in Berkshire or my home in Sussex, which was Plumpton.

[Anderson:] Okay. And did you work on music for "Stairway to Heaven" at those houses?

[Page:] Well, I was working on various ideas all the time, to be honest with you, if I wasn't on the—if I wasn't on the road. It gave me—it gave me the balance between the sort of loud music on tour and I'd sort of turn the coin and play acoustic guitar when I wasn't on the road, and I would be preparing for the next album that was coming. So, yes, acoustic guitar.

[Anderson:] Okay. Thank you. Which part or parts of "Stairway to Heaven" did you compose first?

[Page:] Well, I—I seem to remember that I had the fanfare first and the idea of that going into a solo, which was pretty radical and no one had done something like that before.²¹⁵

This excerpt underscores the importance of witnesses having to recall complex associations and specific details from events in their lives. However, for someone like Page, he needs to go decades back in an attempt to recall these

²¹¹ *Id.*

²¹² *See id.*

²¹³ *Id.*

²¹⁴ *Id.*

²¹⁵ *Jimmy Page Testimony Pt. 2, supra note 200.*

episodic and autobiographical memories. Unfortunately for Page, such a hard task is only made more difficult by the aging process.

Taken together, it is not hard to imagine that *contextual* questions, or questions about associations, will arise during a copyright infringement trial. If anything, Led Zeppelin's case demonstrates that the situations discussed throughout this Note are not merely a hypothetical. Such questions could be critical to understanding whether a song was created independently or if a timeline reasonably could exist where an alleged infringer could gain access to infringed material. As decades pass between the nexus of those songs and the infringement claim, memories will fade because of aging, unfortunately placing an inequitable burden on the aging artist (i.e., the defendant). It is exactly this kind of inequity that laches has the potential to rectify.

V. PROPOSAL

Federal courts and Congress alike must take steps to protect certain parties that will be adversely affected by the strong limitations placed on the laches defense in copyright infringement suits post-*Petrella*. This Note has identified one such instance in which a group requires judicial intervention and Congressional help. Specifically, this Note has argued that aging musicians—older adults over the age of sixty-five—are greatly disadvantaged when a copyright suit is brought decades after the first alleged infringing act occurred. Such a suit is the result of the interaction between copyright law's statute of limitations and separate-accrual rule.

As discussed extensively throughout Part III, scientific findings from cognitive psychologists that investigated aging have added to a growing body of literature that documents changes in memory as people age, particularly in those individuals older than sixty-five. Specifically, the episodic nature of autobiographical memories—associations between time *and* location *and* context—suffer more from natural aging processes than semantic information, or memory for facts or information void of the context where, or in which, those memories were created.²¹⁶

Throughout this Note, and in greater detail in Part IV, I have referenced the facts from the recent copyright infringement case involving Led Zeppelin's "Stairway to Heaven," to illustrate the impact age can have on aging artist defendants who will need to rely on their associative memories and episodic autobiographical memories—memories susceptible to age-related differences—in copyright infringement suits. Such defendants, like Led Zeppelin's band members and future older musician defendants, need access to memories that are

²¹⁶ Importantly, and encouragingly, not all memory types follow the same profile of aging; that is, certain types of memory show greater age-related decline than others. *See supra* Sections III.B–E (discussing the theories that have been proposed to explain age-related memory changes and the neuroimaging techniques that have revealed age-related changes in brain areas related to memory). Recall, too, that such memory changes are a natural part of *healthy* aging (i.e., not indicative of underlying disease).

critical to proving that they did not have the requisite access to the supposed infringed work and to memories demonstrating independent creation. However, given the current state of the statute of limitations in copyright and its reliance on a separate-accrual rule, plaintiffs can potentially sit on a suit for several decades, if there are multiple occurrences of the same infringing activity, resulting in devastating consequences to the memories first encoded decades prior by the aging defendants.²¹⁷

Below, this Note discusses two potential remedies to solve the collateral inequities and *age-related* evidentiary prejudice involved in the current state of copyright infringement law. First, this Note discusses how the judicial branch can intervene, extending the equitable defense of laches to cases similar to Led Zeppelin's "Stairway to Heaven" suit. Second, the Note proposes that Congress amend the Copyright Act of 1976 in such a way that increases protection to vulnerable groups in copyright infringement cases, specifically older adult defendants in cases in which the first-known infringement occurred decades prior.

A. *Judicial Intervention*

Federal district judges are the first line of defense to protect older adult defendants adversely affected by *Petrella*, as judges are the individuals in the position to interpret the semantics and the use of *extraordinary circumstances* in *Petrella*'s holding.

Which copyright case fact patterns constitute the *extraordinary circumstances* that would warrant laches post-*Petrella*? Recall the majority's language in *Petrella*: "[i]n *extraordinary circumstances* . . . the consequences of a delay in commencing suit may be of sufficient magnitude to warrant, at the very outset of the litigation, curtailment of the relief equitably awardable."²¹⁸

However, as argued throughout this Note, the approach to laches offered in *Petrella* greatly limits the defense from deserving defendants. In response to the majority's restrictive formulation, the *Petrella* dissent more generously provided a myriad of other ways that unjust, extraordinary circumstances could arise, warranting the application of laches.²¹⁹ This Note is sympathetic to the dissent's more expansive view. The types of age-related memory declines described above, that are absolutely critical to a successful copyright infringement defense, should amount to extraordinary circumstances, such that the *age-related* evidentiary prejudice is a consequence of sufficient magnitude. This

²¹⁷ See *Petrella v. Metro-Goldwyn-Mayer, Inc.*, 572 U.S. 663, 682–83 (2014) ("Section 507(b)'s three-year limitations period, however, coupled to the separate-accrual rule . . . allows a copyright owner to defer suit until she can estimate whether litigation is worth the candle.").

²¹⁸ *Id.* at 685 (emphasis added). For the two illustrations presented by Justice Ginsburg, see notes 80–81 and accompanying text.

²¹⁹ Justice Breyer convincingly writes that "[l]ong delays do not automatically prove inequity, but, depending on the circumstances, they raise that possibility." *Petrella*, 572 U.S. at 691 (Breyer, J., dissenting).

Note has provided substantial scientific evidence that moves our understanding beyond the simple, anecdotal understatement that memory fades with time. Instead, this Note has described an aging process, grounded in peer-reviewed scientific research that demonstrates the difficulties faced by defendants over a certain age, as compared to younger defendants. Such a consideration of age's toll on memory demands that laches be available to delay-related inequities created by the age-related loss of evidence.

Thus, federal district courts, when evaluating copyright infringement claims and interpreting *Petrella*, should consider the implications of the findings from the cognitive aging literature on the defendants. In doing so, they should then permit laches in instances in which aging defendants are called to court for actions that originated decades prior.

Additionally, federal district judges should adhere to *Petrella*, while also cautiously testing the limits of its holding. Specifically, does *Petrella* demand an *absolute* bar against laches in cases in which plaintiffs seek legal remedies, such as damages?²²⁰ In an instance of the most extreme and rare *extraordinary circumstances*, can laches be applied even when the plaintiff seeks damages?²²¹ Clearly the dissenting justices believed there should be such an opportunity.²²² Federal district judges should use the findings offered throughout this Note that demonstrate the impact cognitive aging has on much needed testimony, to assist in fairly recognizing that in cases seeking damages, the same age-related evidentiary prejudices lead to inequity warranting laches. Subsequent appeals to such an interpretation would result in the Supreme Court correcting course or clarifying its holding.

Finally, in a similar vein and to complement the arguments above, this Note offers one more consideration for interpreting *extraordinary circumstances*. This Note urges federal courts to consider the context surrounding the aging-artist-defendant prototype used throughout this Note. For many aging artists, like Led Zeppelin, their sixties and beyond are the final curtain call of their careers. It's their last chance to connect (or reconnect) with their fans and benefit from a lifetime investment.²²³ However, as a natural and healthy result of the

²²⁰ Others have already questioned whether “damages may indeed be foreclosed by an appropriately potent laches defense.” 3 NIMMER ON COPYRIGHT, *supra* note 48, § 12.06.

²²¹ Justice Ginsburg potentially left open this possibility in writing, “[t]he circumstances here may or may not (we need not decide) warrant limiting relief at the remedial stage, but they are not sufficiently extraordinary to justify threshold dismissal.” *Petrella*, 572 U.S. at 687 (majority opinion).

²²² *Petrella*, 572 U.S. at 689 (Breyer, J., dissenting) (providing multiple hypotheticals, including the possibility of a key witness with knowledge of a license agreement dying, or a dead witness was key to demonstrating “that the plaintiff’s work was in fact derived from *older* copyrighted materials that the defendant has licensed”).

²²³ Take, for example, the opening paragraphs of this Note, which described the events surrounding Led Zeppelin being awarded the 2012 Kennedy Center Honors, a *lifetime* achievement award. See *Past Honorees*, THE KENNEDY CENTER, [kennedy-center.org/whats-on/honors/](https://perma.cc/6JBR-B6YE) [https://perma.cc/6JBR-B6YE].

aging process, certain memories for the creation and recording of a song may be “fuzzy.”²²⁴ Further, endless intervening acts have the potential to create false memories or to decontextualize specific memories, resulting in older adults forgetting the exact order of events or feeling confident about the veracity of erroneous memories.²²⁵ Failure to grasp the specificity of certain memories rises to the threshold of *extraordinary circumstances*, as it can threaten the image of these artists and their lifetime investment.

In sum, cognitive aging has the ability to inflict an inequitable toll on the ability of an aging artist to mount a convincing, complete, and veridical defense. Judges should consider cognitive aging when interpreting whether to permit the use of laches in situations in which decades have passed since the first-alleged infringing act occurred and inevitably, the aging artist’s memories have begun to experience the toll of cognitive aging processes.

B. *Congressional Intervention*

The proposed judicial intervention above is limited, as both the responsibility and the burden to remedy this issue ultimately falls on Congress to amend the Copyright Act of 1976. Congress, in its most recent revision of the Copyright Act, was silent regarding laches, leaving it to the various circuits to subsequently interpret it.²²⁶ However, Congress should consider several options, each discussed in turn below, aimed at avoiding the age-related evidentiary prejudice described throughout this Note.

First, Congress could prevent older adults from being subjected to litigation over an alleged infringing activity that began decades prior by amending the statute of limitations for civil actions. Currently, “[n]o civil action shall be maintained under the provisions of this title unless it is commenced within three years after the claim accrued.”²²⁷ Recall that this is a “rolling limitations period, which restarts upon each ‘separate accrual’ of a claim.”²²⁸ Congress could bar outright any civil action after three years following the initial in-

²²⁴ The use of *fuzzy* is an homage to the Fuzzy Trace Theory described in Part III. As a brief refresher (this is a Note on memory and forgetting), the Fuzzy Trace Theory posits that older adults rely on “gist” memories, rather than verbatim memory traces, resulting in false memories. See generally Brainerd & Reyna, *supra* note 173.

²²⁵ Michael A. Yassa & Zachariah M. Reagh, *Competitive Trace Theory: A Role for the Hippocampus in Contextual Interference During Retrieval*, 7 FRONTIERS BEHAVIORAL NEUROSCI. 1, 5 (2013) (“Memories are decontextualized over time by competitive interference among these similar but not identical multiple memory traces. This simultaneously leads to consolidation of semantic memory in the neocortex and loss of episodic details.”).

²²⁶ *Petrella*, 572 U.S. at 693–94 (“Nothing in the 1957 Act—or anywhere else in the text of the copyright statute—indicates that Congress also sought to bar the operation of laches. The Copyright Act is silent on the subject.”).

²²⁷ Copyright Act of 1976, 17 U.S.C. § 507(b).

²²⁸ *Petrella*, 572 U.S. at 689 (citation omitted) (“If a defendant reproduces or sells an infringing work on a continuing basis, a plaintiff can sue every 3 years until the copyright term expires.”).

fringement.²²⁹ This would be an extreme response. Alternatively, Congress could simultaneously eliminate the separate-accrual rule and extend the statute of limitations to a longer period, such as seven or ten years. Either approach would prevent the ludicrous situation of an aging musical artist or band, such as Led Zeppelin, from being subjected to litigation almost half a century after releasing a relevant song or album.²³⁰ This approach ensures that there is a tighter nexus between litigation and the creation of the memories, avoiding prejudicial delays decades later because of cognitive aging.

In a second approach, Congress could preserve the separate-accrual rule but modify the available damages based on the length of time that has passed since the initial infringing act. As damages currently stand, a plaintiff may seek either actual damages and additional profits or statutory damages for the three years following the infringing activity.²³¹ Consider for a moment the cash windfall that Skidmore, the plaintiff in Led Zeppelin's case, could have made from a successful claim brought over four decades after the release of "Stairway to Heaven."²³²

Instead, this Note proposes that Congress could make it so that the availability of actual damages and profits is removed after a three-year window, following the initial act of infringement. Alternatively, it could cap the ceiling for these amounts over time, such that a longer delay results in increasingly smaller amounts. In doing so, Congress would help avoid situations, like those similar to the facts of *Skidmore v. Led Zeppelin*, in which a world-renowned musical artist at the final lucrative "curtain call" of their career, is forced into court and must rely on memories distorted by the natural aging process. A downside to this approach is that it does not go nearly far enough in shielding the aging artist entirely from suit, as laches would. However, this approach would mitigate the financial ramifications, and perhaps, the possibility of larger damage awards earlier on would motivate the plaintiff to bring a timely suit.

²²⁹ Initial infringement could be measured using either the discovery rule or the injury rule, though the merits of which of the two should be the prevailing theory is outside the scope of this Note. *See generally* 3 NIMMER ON COPYRIGHT, *supra* note 48, § 12.05 (providing historical background and development of the discovery rule and injury rule).

²³⁰ It is not uncommon for musical acts to re-release an album or song from decades prior. For example, during the initial months of the COVID-19 pandemic, country star Reba McEntire re-released her "timeless song" *What If*, originally released in 1997. *Reba Re-Releases "What If,"* REBA (May 8, 2020), reba.com/news/2020/5/8/reba-re-releases-what-if [<https://perma.cc/8KVW-KG99>].

²³¹ Copyright Act of 1976 § 504(a). Additional statutory damages may be sought in instances of *willful* infringement, thereby increasing the total amount of money awarded. *Id.* § 504(c)(2).

²³² Plaintiff's attorney estimated damages to be worth over \$50 million. *See* Quentin Singer, *Led Zeppelin's 'Stairway to Heaven' Potentially Worth \$55 Million in Damages*, FORBES (Sept. 30, 2019, 8:49 PM), <https://www.forbes.com/sites/quentinsinger/2019/09/30/led-zeppelins-stairway-to-heaven-potentially-worth-55-million-in-damages/#748ecce6dadf3> [<https://perma.cc/5USW-N22N>].

Finally, Congress could tweak the elements required to establish copyright infringement. The modification could either be a blanket change for all civil actions or could be specifically applied to those copyright claims that, because of the separate-accrual rule, result from ongoing infringement over the course of several decades. For the purpose of this proposal, this Note focuses on the latter option. As it currently stands, “[c]opyright infringement is a strict liability tort; as such it does not require intent as an element of the prima facie case.”²³³ This strict liability approach originates from the Supreme Court, which provided in 1931 that “[i]ntention to infringe is not essential under the [Copyright Act of 1909].”²³⁴ The vestige of that ruling is still pervasive in copyright law today. However, this Note argues that Congress should carve out an exception to this guiding principle by infusing the element of intent. Congress should do so by requiring *willfulness* in copyright infringement cases that have been ongoing, or in which the first instance of infringement was decades prior.

Recently, the Ninth Circuit has carefully articulated willfulness in the context of willful copyright infringement: “the plaintiff must show (1) that the defendant *was actually aware* of the infringing activity, or (2) that the defendant’s actions were the result of reckless disregard for, or willful blindness to, the copyright holder’s rights.”²³⁵ It “requires an assessment of a defendant’s state of mind.”²³⁶ Further, a negligence standard does not meet the requirement of *willful*.²³⁷ Congress has the opportunity to codify similar language directly into the Copyright Act in regard to claims brought decades after the initial infringing act occurred. By making a plaintiff who has waited decades to bring a claim establish willfulness, the evidentiary imbalance previously faced by the defendant due to cognitive aging is somewhat offset by the extra burden now placed on the plaintiff. Further, this approach keeps open the possibility that such a claim could succeed if there was truly some form of willful, or malicious intent, by the defendant years ago.

In sum, any of the above proposals could be used by Congress to help remedy the concerns facing older adult defendants in the aftermath of *Petrella*. The cases resulting from Congress’ inaction to date demand new consideration of the Copyright Act of 1976. Continued failure by Congress to address the types of situations described herein must be met by the judicial branch’s consideration of preserving and expanding the laches doctrine in copyright suits.

²³³ 5 PATRY ON COPYRIGHT § 17:167. One copyright scholar, in his review of the role of innocence in copyright law, wrote that “since 1931, a defendant’s mental state has clearly not been relevant under U.S. copyright law to the question of liability for direct copyright infringement. . . . [I]nnocent infringers are just as liable as those who infringe knowingly or recklessly.” R. Anthony Reese, *Innocent Infringement in U.S. Copyright Law: A History*, 30 COLUM J.L. & ARTS 133, 133 (2007).

²³⁴ *Buck v. Jewell-La Salle Realty Co.*, 283 U.S. 191, 198 (1931).

²³⁵ *Erickson Prods., Inc. v. Kast*, 921 F.3d 822, 833 (9th Cir. 2019) (emphasis added).

²³⁶ *Id.*

²³⁷ *Id.*

CONCLUSION

In conclusion, this Note has provided substantial evidence demonstrating that older adults are faced with natural memory deficits that accompany the aging process. Led Zeppelin's ensnarement in a copyright debacle involving "Stairway to Heaven" highlights the inequity faced by aging artists who are accused of infringement that allegedly began occurring decades prior. Two approaches can remedy such inequity. First, federal courts can expand (or reinstitute) the doctrine of laches within the realm of copyright, providing that instances similar to the ones describes in this Note should be treated as extraordinary circumstances. Second, Congress can use its legislative authority to amend the Copyright Act. Taken together, the arguments in this Note broadly underscore the importance of considering age as a factor when making decisions on the bench or when legislating matters related to copyright infringement.