

**Wherever Podcasts Are Found
Towards a Podcast Preservation Plan**

by
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“The podcast was kind of an afterthought, because I was just excited about being on the radio.”

— Scott Aukerman, A.V. Club interview, 2010¹

¹ Kyle Ryan, “Scott Aukerman of Comedy Death-Ray,” The A.V. Club, June 22, 2010, <https://www.avclub.com/scott-aukerman-of-comedy-death-ray-1798220559>.

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Abstract

Despite the growing omnipresence of podcasts as a digital medium for creative expression, podcast preservation remains a niche topic in audiovisual archival work. The ease with which a podcast can be produced and shared has introduced broad creative democratization in the space. However, along with this comes the dangers of layperson inexperience with archival principles. With massive distribution platforms increasingly demonstrating their instability and untold millions of podcasts being produced every single day, podcast producers who operate independent of the resources available to large-scale institutions or productions are in particular need of assistance in preserving their own material. This thesis will provide a synthesis of archival techniques and practices towards the creation of a podcast preservation plan which can be used by anyone to archive and safeguard their personal material.

Introduction

The advent of digital media in the 21st century brought with it a multitude of new formats for creative expression. Among them, none better represent the digital revolution than the podcast. First appearing online in the early 2000s, their relative ease of production and distribution has made them a ubiquitous mode of modern creative expression. It seems that anyone with a computer can make a recording of themselves and share it on the internet. The diversity of platforms for sharing podcasts makes it difficult to determine an accurate number of total programs, but independent catalogue The Podcast Index lists 4.5 million podcasts on record as of the end of 2021.² Some are produced by large-scale corporations, others are listener-supported at a moderate scale, and others still are created at no cost by average people with no equipment but their laptops.

Podcasts have an exceptionally low barrier to entry, but with this open-to-anyone status comes the dangers of layperson inexperience. This manifests in a particularly consequential way when it comes to archiving and preservation. The most popular distribution platforms, such as Apple Podcasts and Spotify, give independent producers a false sense of security as to the stability of their material. Podcasts are no less subject to the precarity of corporate intervention than any other audiovisual material which is hosted online.

As a preliminary case study, let us take the recent example of a podcast created by the Institute of Arts and Humanities from the University of North Carolina. The IAH

² "The Podcast Index," Podcastindex.org, December 17, 2021, <https://podcastindex.org/>.

Podcast Series is hosted on the streaming audio platform SoundCloud, on an account operated by the university. In 2018, the university's Senior Associate Dean Chris Clemens was interviewed on an episode of the podcast. The episode had Clemens discuss his perspective as a conservative on a college campus, a controversial topic at the time and only more so in the years since.³ In 2021, after Clemens received a promotion to Provost, the episode vanished without a word from SoundCloud, and the episode's page on the podcast's website was wiped. While the episode was reinstated several months later, this event offers a good example of the precariousness of podcast material online. Here we have a podcast episode which had a speaker discuss a controversial topic, which was then taken offline after the speaker in question received a professional promotion. What if the episode had not been reinstated? Potentially relevant information about a newly important member of the university community could have been entirely lost.

Podcasts are additionally in danger of removal from hosting platforms themselves. Spotify, one of the largest players in the podcast hosting space, has deleted over one hundred episodes of the podcast *The Joe Rogan Experience* while offering no explanation as to why.⁴ Some of these episodes contained objectionable material, such as medical misinformation or bigoted speech, others did not. Regardless of what one thinks about the content itself, it is more than a little chilling that one of the biggest podcast providers in the world can erase content it hosts at any time and with no obligation to explain its actions. Indeed, Spotify's own terms and conditions state that it

³ Clay, M. "Chris Clemens, Senior Associate Dean for Natural Sciences" *The Institute Podcast*. Podcast audio, February 6, 2018. <https://iah.unc.edu/chris-clemens/>

⁴ Steven Asarch, "Spotify Quietly Removed over 40 Episodes of the Joe Rogan Experience Podcast, Report Says," Business Insider (Business Insider, April 13, 2021), <https://www.businessinsider.com/joe-rogan-experience-podcast-episodes-removed-spotify-2021-4>.

“reserves the full right to remove or disable access to any User Content from the Service in its sole discretion”⁵ and that it “may take these actions without notification”⁶ to the creator.

Why, then, do so many creators rely solely on Spotify and services like it to archive their work? For people producing work without institutional or corporate support, for whom the notion of properly preserving their own material may seem daunting or may indeed not even occur, it may seem like the best option to simply let the distribution platforms store their material on their servers. These creators take it for granted that online platforms will be around forever, and that those platforms can safeguard the creators’ material better than they can. When this is the dominant mindset, podcasts can seem disposable. When something is seen as disposable, it is by extension seen as not worth preserving it at all.

The goal of this thesis is to demonstrate the fallacy of this belief. Podcasts are a defining medium of the modern era, no matter who is creating them, and they deserve as much care and attention towards preserving them as anything else. With that in mind, this thesis will offer a feasible and useful preservation plan for inexperienced creators. While podcast preservation is currently an underexplored area compared to other creative mediums, its potential has deep roots in more established principles. A robust podcast preservation plan would synthesize elements of digital audio preservation, social media preservation, and radio archives, as well as pulling in elements from preservation of streaming video. Additionally, many independent podcasters operate within niche communities of like-minded creatives, producing

⁵ “Spotify for Podcasters Platform Terms and Conditions of Use,” Spotify, September 1, 2021, <https://www.spotify.com/us/legal/spotify-for-podcasters-platform-terms/>.

⁶ Spotify (2021).

thematically similar work. For this reason, practices from community archives can also be applicable in this area.

The preservation plan in this thesis is targeted at amateur creators, precisely to counter the assumption that the glut of podcast content online somehow makes those works valueless. Anyone who makes a podcast deserves to have their work preserved, and it is a task that is within their capabilities to accomplish. This plan will not, however, talk down to these people, or oversimplify preservation principles to the point of pointlessness. It will be robust, detailed, and relevant to any independently produced podcast. It will synthesize preservation practices not only from established formats such as radio and social media, but also the work of larger-scale productions and institutions who have the resources to develop more thorough and comprehensive plans. Podcast preservation is in a dangerously unstable place. This thesis is designed to help.

Chapter 1 — Introduction to Podcasts

1.1 A Brief History of the Medium

Before diving directly into preservation issues, it is necessary to establish a base of understanding about podcasts as a medium. Despite their contemporary ubiquity, their history is not general knowledge. When National Public Radio's true crime podcast *Serial* become the fastest podcast to reach five million downloads via iTunes in 2014⁷, the medium was still relatively niche and unknown by the general public.⁸ The history of podcasts stretches back much farther than that. To ascertain a date for the medium's origin, first we must discuss what makes a podcast a podcast.

A podcast is, in simplest terms, an audiovisual (but usually just audio) recording which is made available for subscription and download over the internet. The practice of simply publishing original audio recordings online is as old as file sharing itself, but the first recorded instance of a self-described internet radio show occurred in 1993, with the interview show *Geek of the Week* via the now-defunct Internet Multicasting Service.⁹ Episodes were released in the .au file format, created by open-source audio editing software Audacity. They were typically split into multiple downloadable files due to their at the time unwieldy size; the first episode of *Geek of the Week* was, all told, over 20

⁷ Stuart Dredge, "Serial Podcast Is an iTunes Record Breaker as It Passes 5m Downloads," The Guardian (Guardian News and Media, November 18, 2014), <https://www.theguardian.com/technology/2014/nov/18/serial-podcast-itunes-apple-downloads-streams>.

⁸ Caroline O'Donovan, "This American Life Tries to Turn Its Radio Audience onto Podcasting with Its New Show Serial," Nieman Lab, October 3, 2014, <https://www.niemanlab.org/2014/10/this-american-life-tries-to-turn-its-radio-audience-onto-podcasting-with-its-new-show-serial/>.

⁹ Carl Malamud, "Geek of the Week," IMS: Geek of the Week, accessed December 17, 2021, <https://web.archive.org/web/20090923191948/http://town.hall.org/radio/Geek/>.

megabytes.¹⁰ It is a remarkably similar (if rudimentary) model to how modern podcasts work, with the minor caveat that podcasts no longer require division in order to keep file sizes down, and the major caveat that episodes had to be downloaded manually one-by-one.

The word “podcast” first began to gain traction in the early 2000s. A portmanteau of “iPod” and “broadcast”, it was coined to describe an emerging group of internet radio shows which could be downloaded and subscribed to via an RSS feed. RSS (which originally stood for “Really Simple Syndication”) is essentially a way for a website to share its content such that users can automatically download and aggregate it in their own collected feeds. A user can subscribe to multiple RSS feeds and find content from all of them automatically added to their collections. While it was originally developed for text-based content, early podcasters used the technology to allow listeners to subscribe to their shows and automatically download newly released episodes without having to manually check individual websites. This set podcasts apart from ordinary radio broadcasts, even internet ones, which traditionally aired live on a set schedule and could only be streamed, not saved.

The work most widely recognized as the first podcast came from former radio host Christopher Lydon in 2003. A former radio host, Lydon was distressed by the media response in the runup to the invasion of Iraq, with major outlets leading the public to be, in his view, “unbelievably uninformed.”¹¹ Inspired by text-based online creative outlets like blogs, he theorized that an internet radio show which made use of

¹⁰ Carl Malamud. “Dr. Erik Huiizer” *Geek of the Week*. Podcast Audio, March 31, 1993. https://web.archive.org/web/20080906192135/http://town.hall.org/radio/Geek/040793_geek_ITR.html

¹¹ Charley Locke, “The First Podcast: An Oral History,” *Wired* (Conde Nast, September 1, 2017), <https://www.wired.com/story/oral-history-first-podcast/>.

RSS feeds could allow more independent and unconstrained perspectives to be delivered directly to listeners. Lydon's innovation was the introduction of syndication to internet audio, taking from the long history of syndicated radio programs. RSS feeds allowed individual episodes of a show to not only be directly delivered to listeners, but also logically organized as part of a show by their RSS aggregator software. Software developers Dave Winer and Adam Curry built a special RSS feed for Lydon which could transmit audio files.¹² This was the birth of podcasting as it is understood today: an audio recording styled after a radio talk show, distributed online and automatically downloaded via RSS feeds by listeners.

So then, where does the "iPod" part of "podcast" come in? Adam Curry, aforementioned for his work in building Christopher Lydon's audio RSS feed, went on to develop a piece of software called iPodder in 2005, which allowed users to transfer podcasts from RSS feeds directly onto their iPods.¹³ The iPod, Apple's revolutionary portable mp3 player, had been on the market for around four years by that time, and it while it had the technical capability to play back podcasts which used the mp3 codec, it lacked official support for the medium. Curry saw the potential of the device for storing and playing other kinds of mp3 content, and iPodder made it easy for users to do just that. While the term had been suggested following Lydon's work, the first show to brand itself using the word "podcast" was Curry's own *The Daily Source Code*, which he began producing specifically to demonstrate iPodder's capabilities.¹⁴

¹² Bob Doyle, "The First Podcast," *The Tilt*, March 15, 2021, <https://www.thetilt.com/content/commentary/the-first-podcast>.

¹³ Annalee Newitz, "Adam Curry Wants to Make You an Ipod Radio Star," *Wired* (Conde Nast, March 1, 2005), <https://www.wired.com/2005/03/curry/>.

¹⁴ Newitz (2005).

It did not take long for Apple to see the value in Curry's work. In June of 2005, the company added official support for podcasts to their iTunes store, including a podcast directory and a way to subscribe to podcasts and transfer them to iPods within the iTunes software.¹⁵ Apple CEO Steve Jobs described it in no uncertain terms as "taking Podcasting mainstream."¹⁶ This would turn out to be a highly accurate assessment. The inclusion of podcasts within the most popular mp3 download software for use with the most popular mp3 player led to the first major boom in podcast creation. Apple reported its first one million podcast subscriptions within two days of their inclusion in the iTunes store.¹⁷ From this point on, podcasting was off to the races.

1.2 Typical Distribution Models

The days of podcasts being self-distributed on personal websites are, for the most part, long gone. With Apple's adoption of a podcast directory, it very quickly became the dominant mode of distribution for creators. In 2021, there are over one billion active Apple devices in the world¹⁸, and each one of them comes with Apple's default podcast app pre-installed. This unparalleled base of potential listeners has made Apple Podcasts the most popular podcast directory since its inception. A close runner-up, though, is

¹⁵ "Apple Takes Podcasting Mainstream," *Apple.com*, June 28, 2005, <https://www.apple.com/newsroom/2005/06/28Apple-Takes-Podcasting-Mainstream/>.

¹⁶ Apple.com (2005).

¹⁷ "iTunes Podcast Subscriptions Top One Million in First Two Days," *Apple.com*, June 30, 2005, <https://www.apple.com/newsroom/2005/06/30iTunes-Podcast-Subscriptions-Top-One-Million-in-First-Two-Days/>.

¹⁸ Jacob Kastrenakes, "Apple Says There Are Now over 1 Billion Active iPhones," *The Verge* (The Verge, January 27, 2021), <https://www.theverge.com/2021/1/27/22253162/iphone-users-total-number-billion-apple-tim-cook-q1-2021>.

music streaming platform Spotify, which claimed to have over 381 million listeners as of the end of 2021.¹⁹ Spotify, which splits its users between those who pay for a premium subscription and those who do not, introduced podcasts as a free addition to its content library in 2015.

There are a multitude of other distribution options available for podcasters besides these two most popular options. Since most podcatcher apps (independent or otherwise) are capable of crawling numerous podcast databases, as well as giving users the option to input RSS



Figure 1. Interface of podcatcher app Overcast for macOS, showing list of subscriptions (left) and playback interface (right). (Esther Rosenfield)

feeds manually, some podcasters opt to avoid the larger corporate names in the space and publish on their own.

“Free” is an operative word when it comes to podcasts. At the medium’s outset, a time when purchasing digital content online had only recently been legitimized, the fact that podcasts were available entirely for free (albeit often supported by advertisements) was one of their defining features. For the most part, this is still true, though there have been a number of recent innovations in transitioning podcasts to various paid models. In 2021, Apple introduced a tiered subscription model for its creators, giving them a few different options: either let all of their content remain free,

¹⁹ “About Spotify,” *Spotify*, 2021, <https://newsroom.spotify.com/company-info/>.

adopt a “freemium” model in which their basic content is free but listeners have the option to pay a monthly fee for access to bonus content, or move to an entirely paid model which locks all of their content behind a monthly paywall.²⁰ That same year, Spotify also introduced a paid podcast feature, with their model allowing creators to either lock individual episodes or their entire show behind a monthly paywall.²¹ While it is too early to tell if this type of podcast monetization will take off among independent producers, there are other popular avenues some creators are taking.

One of the most successful avenues for those still wishing to avoid Apple and Spotify is Patreon, a site which facilitates direct-to-creator subscriptions for a variety of creative endeavors. One of the most popular ways for podcasters to monetize using Patreon is similar to Apple’s “freemium” model, with the podcast publishing regular episodes for free and producing additional content which is only available to paying subscribers. One of Patreon’s biggest success stories is the political comedy podcast *Chapo Trap House*, which as of the end of 2021 was earning over \$160,000 a month from over 37,000 individual patrons.²² *Chapo Trap House* employs the “freemium” model, with one free RSS feed which publishes their normal weekly show, and a separate RSS feed which is made available to patrons who pledge five dollars or more per month. This separate feed publishes a second full-length weekly show as well as various other bits

²⁰ “Apple Podcasts Subscriptions and channels are now available worldwide,” Apple, June 15, 2021, <https://www.apple.com/newsroom/2021/06/apple-podcasts-subscriptions-and-channels-are-now-available-worldwide/>.

²¹ “Introducing paid subscriptions, made simple for you and your listeners,” Spotify, April 27, 2021, <https://podcasters.spotify.com/blog/paidsubscriptions>.

²² “Chapo Trap House Is Creating Chapo Trap House Podcast,” Patreon (Chapo Trap House), accessed December 20, 2021, <https://www.patreon.com/chapotraphouse>.

of bonus content. *Chapo Trap House* uses just that single five-dollar subscription tier (along with a tongue-in-cheek “tax-free” tier option for thirty cents less).²³

Other shows iterate on this model by introducing more tiers with various benefits. A common option is offering one tier which allows access to a version of the normal podcast with its advertisements removed. Patreon’s most successful podcast, *True Crime Obsessed*, has a five-dollar tier for access to bonus episodes, a seven-dollar tier for access to even more bonus episodes, and a ten-dollar tier for access to all bonus content as well as their free episodes with the advertisements removed.²⁴

Then there are large-scale podcast networks, often backed by corporations. A prominent example is Stitcher, which operates a professional studio where its shows are recorded and edited, as well as a proprietary app where they can be listened to, along with a premium subscription model which gives access to both paywalled shows and any episode of any program which is more than six months old. Stitcher’s reported revenue in 2019 was over \$73 million.²⁵ Of course, the average podcaster cannot simply add their show to Stitcher’s library. Stitcher produces their own content entirely in-house, making them inaccessible to the majority of podcasters despite the size of their operation.

For the most part, however, podcasts are distributed freely. This was the case at the medium’s outset, and it is only slightly less the case today. Podcasts were built on a foundation of free and unrestricted availability. While this certainly contributes to

²³ Patreon (2021).

²⁴ “True Crime Obsessed Is Creating Podcasts of the Non-Garbage Variety,” Patreon, accessed December 20, 2021, <https://www.patreon.com/TrueCrimeObsessed>.

²⁵ Todd Spangler, “SiriusXM Nears Deal to Buy Stitcher Podcast Network,” Variety (Variety, July 7, 2020), <https://variety.com/2020/digital/news/siriusxm-to-acquire-stitcher-1234699545/>.

archival challenges, it also means that they truly represent the archival principles of openness and accessibility. Podcasts may one day be a primarily paid medium, but for now they are still an expression of an older internet culture which committed to sharing and interchanging work freely.

1.3 Technical Information

While *Geek of the Week's* .au file format is a thing of the past, today's podcasting landscape is relatively standardized when it comes to audio codecs. Spotify forces creators to upload their podcasts as .mp3 files. The relatively low file sizes and high audio quality afforded by mp3 make it a common choice even for shows which distribute on platforms without codec enforcement. However, mp3 is a lossy codec, so audio information will be lost through compression. For this reason, Apple Podcasts is less strict than Spotify, encouraging creators to use lossless containers such as .WAV and .FLAC, or a higher-quality lossy codec such as .AAC for files meant to be streamed rather than downloaded.²⁶

Audio compression introduces tricky archival questions. While a typical listener may not be able to tell the difference between compressed and uncompressed audio simply by listening to it — indeed, Apple's executive in charge of their music streaming service said in 2021 that he did not think the vast majority of people would be able to do so²⁷ — the mechanics of digital compression still provoke conundrums. Regardless of

²⁶ "Audio Requirements," Apple Podcasts for Creators, accessed January 17, 2022, <https://podcasters.apple.com/support/893-audio-requirements>.

²⁷ Micah Singleton, "Apple's Eddy Cue Believes the Future of Music Isn't Lossless - It's Spatial Audio," *Billboard*, June 8, 2021, <https://www.billboard.com/pro/apple-music-eddy-cue-spatial-audio-lossless-future-of-music/>.

the method of file compression used, the nature of the process means that a number of that file's bits will no longer be present. Even if the major substance of a file is preserved through the process, should an incomplete version of a file be considered worth of preservation? After all, no one would accept that a painting which had its margins trimmed to fit a frame as original and unaltered. Later chapters of this thesis will address this issue and make appropriate recommendations to podcasters.

This is where it should be noted that while the focus of this thesis is entirely on audio podcasts, and while it takes for granted that podcasting is an audio medium, there is a history of video podcasts as well. Video podcasts were never produced at a comparable scale to their audio counterparts for a variety of reasons. Video production and editing equipment is more expensive and requires more computing power, video file sizes were (for the 2000s in particular) prohibitively large for a medium based on automatic downloading, and (most importantly) video content gained a much stronger foothold on sites like YouTube which were designed exclusively around hosting and distributing it. As such, while video podcasts are no doubt a part of the history of the medium, it is fair to characterize modern podcasting as an audio-exclusive enterprise. A spare few video podcasts do still exist, but these are usually little more than videos of recording sessions for audio podcasts, published on sites like YouTube rather than pushed directly to podcatchers. They are supplemental rather than a different podcast unto themselves.

Chapter 2 — Notes from Non-Podcast Preservation

2.1 Radio Archiving

As discussed in the previous chapter, the obvious precedential medium to podcasting is radio broadcasting. Podcasts take part of their name from the medium, and in form it is clearly their closest relative. Like podcasts, radio broadcasts are an audio medium, often taking the form of discrete series released episodically. The natural first step in researching background and history for podcast preservation would be to look at how radio broadcasts are and were archived.

The Library of Congress was given authority to collect and preserve radio broadcasts as part of the American Television and Radio Archives Act in 1976.²⁸ This was, however, far from the beginning of an organized effort. Even decades later, the preservation of radio and television consisted of “scattered initiatives by professional archivists.”²⁹

Despite the long history of radio as a medium, information about how it has been archived in the past is opaque to some degree. Modern radio archives such as the American Archive of Public Broadcasting preserve primarily through digitization, with little description made available of how source elements are preserved if indeed they are at all. The Library of Congress’ website radiopreservation.org lists a variety of media formats in the Library’s collection, such as over 100 audiocassettes (with over 90 of them analog), twenty-two lacquer discs, and a variety of other formats.³⁰ Information

²⁸ American Television and Radio Archives Act, U.S. Code (1976).

²⁹ Alan Gevison, “A Brief History of the AAPB,” 2022, <https://americanarchive.org/about-the-american-archive/history>.

³⁰ “RPTF/ARSC Sound Collections Database,” RPTF/ARSC Sound Collections Database, 2022, <https://database.radiopreservation.org/>.

on how these items were created from original broadcasts, or how radio programs were archived throughout the medium's history, is much more scarce.

A more significant issue is how the realities of radio archiving compare to podcasts. Unlike radio broadcasts for most of the medium's history, podcasts are inherently born-digital objects. Preservation in physical containers such as cassettes, CDs, or certainly vinyl or lacquer records would be wasteful. Early radio preservation has little relation to podcast preservation, and modern radio preservation is arguably too similar to draw meaningful knowledge from its practices. Radio preservation may seem like an obvious starting point for background research on podcast preservation, but in actuality it offers little useful information.

2.2 Social Media Preservation, Web Archiving, and Personal Digital Archives

While podcasts as a medium are distinct from what is typically described as social media, there is crossover between how the two forms can be treated in an archival context. In *Rogue Archives: Digital Cultural Memory and Media Fandoms*, Abigail de Kosnik discusses the notion of a "rogue archive" and defines it as "constant (24/7) availability; zero barriers to entry for all who can connect to the Internet; content that can be streamed or downloaded in full, with no required payment, and no regard for copyright restrictions (some rogue archivists digitize only what is already in the public domain); and content that has never been, and would likely never be, contained in a traditional memory institution."³¹ This concept bears striking similarities to podcasts,

³¹ Abigail De Kosnik, *Rogue Archives: Digital Cultural Memory and Media Users* (Cambridge, MA: The MIT Press, 2016).

particularly in its relationship with the internet and free content. De Kosnik's conception of a "rogue archivist", then, is someone for whom archiving of digital material is an independent and personal activity, separate from what may be considered professional preservation work. A rogue archivist may not feel comfortable calling themselves an archivist at all, given their lack of proper training. This closely lines up with the image of an independent podcast archivist at whom this thesis is targeted: A motivated, creative individual with a large body of personal work but a lack of knowledge regarding how best to preserve it.

De Kosnik also brings up an important point specific to these rogue internet archivists: they must "labor endlessly" to maintain their archives, because when their work stops, the archive stagnates and dies. Institutional archives do not have this problem, as they do not rely on the labor of a single irreplaceable individual. Podcast archivists cannot simply hand their material over to an institution when they are no longer able to maintain it, as large-scale podcast archives simply do not exist. Their only option is to pass along their archive to another individual, creating a chain of persons who will each struggle against the same lack of resources as whoever came before them. While rogue archivists can certainly do appreciable work, podcasters will always run up against the issue of lacking support and resources.

Social media archiving is obviously a practice even younger than the concept of social media itself. It can come in the form of large-scale institutional efforts, such as the Library of Congress' famously aborted attempt to archive every Twitter post³², or in the form of individual efforts to save their personal social media material. Indeed, it is

³² Matt Raymond, "How Tweet It Is!: Library Acquires Entire Twitter Archive," How Tweet It Is!: Library Acquires Entire Twitter Archive | Library of Congress Blog, April 14, 2010, <https://blogs.loc.gov/loc/2010/04/how-tweet-it-is-library-acquires-entire-twitter-archive/>.

difficult to exist in the modern world without amassing a large collection of social media posts, pictures, and messages. The websites these materials exist on can be as fleeting as anything online, making it ultimately up to a user to preserve these collections. In *The Complete Guide to Personal Digital Archiving*, Brianna H. Marshall discusses the fact that many sites have built-in mechanics for saving downloadable collections of a user's posts.³³ Facebook and Twitter both have options for users to download pre-fabricated archives of their posts and private messages. However, these options can be finicky. Twitter, for example, stores only the most recent direct messages between users on its servers, meaning that conversations occurring more than a few months or years ago are not captured through their built-in archiving process. Problematically, the sprawl of any one person's social media footprint makes the prospect of manually saving all of the information they post on just a single website indescribably daunting. The best available options are the one provided by the sites themselves, and they are far from ideal.

One of the most pressing issues surrounding archiving on the internet is how deeply embedded tech corporations are in nearly every facet of the process. It is difficult to engage with digital archiving without running up against corporate giants like Google and Amazon in some respect, if for no other reason than using storage space on their servers. Marshall notes the irony that the ability of these technologies to constantly sync the newest version of a document to the cloud, while creating the benefit of a secure and universally accessible backup, means that archivists must sometimes contend with material that comes exclusively as a "final version" with no previous revisions or edits. Similar to how a podcast archive is constantly growing, these cloud

³³ Brianna Marshall, *The Complete Guide to Personal Digital Archiving* (London: Facet Publishing, 2018).

documents are inherently *living* documents, and their creators may see little reason to save incomplete versions of them as they are being created.³⁴

2.3 Digital Audio Archival Practices

While existing research and instructional material specific to the preservation of podcasts is minimal, there is a wealth of available information on general practices for the archiving and preservation of digital audio. The International Association of Sound and Audiovisual Archives (hereafter referred to by the abbreviation IASA) published the second edition of its *Guidelines on the Production and Preservation of Digital Audio Objects* in 2009. This guide is an authoritative source on best practices for archivists working with digital audio. What follows here is a summary of the most pertinent information the guide has to offer for podcasters.

One of IASA's most significant recommendations concerns file naming conventions for digital audio files. They make a careful distinction between a file's unique identifier (meaning the unique term or name given to a work which can be used to identify it across multiple associated files) and the name of the content itself. The unique identifier should enable identification of a file's content regardless of the kind of file it is. These unique identifiers should follow a consistent set of rules which can be applied across an archive's entire collection. They should also "guarantee unambiguous recognition in the system," or in other words contain enough relevant information that a file's content can be gleaned even by someone not previously familiar with it. These

³⁴ Brianna Marshall, *The Complete Guide to Personal Digital Archiving* (London: Facet Publishing, 2018).

file names should be “intelligent [and] expressive” rather than simply accepting the random titles given to files by the software which generated them.³⁵

IASA states that archived digital audio must exist in a “standard data format,” recommending BWF as an archival standard. It makes clear that audio is only archival if it can be “rendered as audio in the future.” This is a complicated area, as it is difficult if not impossible to predict which file formats will be widely readable in the future and which will not. On the issue of financial concerns in a long-lasting archive, IASA says that budgeting should consider these digital archives to be “of last resort,” meaning they should be considered priority items as compared to other ways of storing the same objects.³⁶

IASA has instructions and guidance on use of data tapes for audio storage, though it is highly unlikely that the average podcaster would make use of such a format. Of greater relevance is their guidance on use of hard disk drives, or HDDs. IASA notes that personal server devices such as RAID arrays are limited by the number of disks which can be used with the device, while individual HDDs are “infinitely scalable by simply adding more drives.”³⁷ The latter would likely be a more accepted option for independent podcasters, not just because of the high-level technical aspects of running a RAID or NAS, but also because IASA’s guidelines that hard drives should be replaced every five years makes for a much more reasonable budgeting timeline.

³⁵ Kevin Bradley, *IASA-TC 04 Guidelines on the Production and Preservation of Digital Audio Objects: Standards, Recommended Practices, and Strategies* (Aarhus, Denmark: International Association of Sound and Audiovisual Archives, Technical Committee, 2009).

³⁶ Bradley (2009).

³⁷ Bradley (2009).

IASA's guidelines also include advice on running small-scale archives, which certainly describes the potential operations of most independent podcasters. They state that while it is possible to build and operate personal preservation systems, that it nevertheless "cannot be achieved without at least a small level of technical knowledge and some recurrent resources, albeit at a low level, to make it sustainable."³⁸ While the former issue of technical knowledge is hopefully solved by this thesis, the latter issue is addressed in the next section.

2.4 Community Archival Practices

The term "community archiving" typically refers to efforts made by marginalized populations to preserve and safeguard their own cultural heritage apart from institutions which typically do not include them. In their blog "Archives & Identities," Mary Stevens, Andrew Flinn, and Elizabeth Shepherd offer this definition for the term: "any collection of material that documents one or many aspects of a community's heritage, collected in, by and for that community and looked after by its members."³⁹ Marshall, on the other hand, described them as "usually organizations that are independent from institutions like universities, historical societies, or state or federal repositories."⁴⁰

Podcasters by no means constitute a marginalized group (though the medium does of course feature a diverse array of creators) but there are communal aspects of the hobby. Creators with similarly themed work may promote one another's shows, or even

³⁸ Bradley (2009).

³⁹ Mary Stevens, Andrew Flinn, and Elizabeth Shepherd, "Archives and Identities - About," Archives & Identities, April 23, 2008, <https://archivesandidentities.wordpress.com/about-2/>.

⁴⁰ Marshall (2018).

join together in affiliated independent “networks” in order to share resources. While these communities are not directly comparable to those covered by the typical usage of the term “community archiving,” there are lessons to be taken from community archival practices which prove relevant to podcast producers.

In *Community Archives, Community Spaces: Heritage, Memory and Identity*, Rebecka Taves Sheffield discusses what she calls a “trifecta of necessary resources” for building a community archive: space, money, and expertise. While physical space is a negligible concern for a podcast archive (it is much simpler to procure space on a server or hard drive than in a gallery or museum) the latter two points are of far greater importance. As far as money is concerned, independent podcasters may come from any financial background or have any manner of careers. Sheffield notes that “relying on community members to ‘chip in’ is risky,” and that fact is no less true in podcast communities. The fact that podcasts are almost always free to download makes them difficult to monetize, and they can be financially insecure projects as a result. Sheffield recommends community archives attempt to formally organize as a charity for the tax benefits which would ensue⁴¹, but it is highly unlikely a podcast community could reasonably make the same case. Independent podcasters tend to instead rely on donations or subscription payments from listeners, particularly through sites like Patreon. Patreon allows creators to set milestone subscription goals, meaning podcasters could encourage listeners to subscribe by displaying the number of subscribers or amount of money needed to maintain the show’s archive. Solving the expertise question is, of course, the goal of this entire thesis.

⁴¹ Jeannette A. Bastian and Andrew Flinn, *Community Archives, Community Spaces: Heritage, Memory and Identity* (London: Facet Publishing, 2020).

Chapter 3 — Major Problems with Podcast Preservation

3.1 Are Podcasters Preserving?

Before diving into the broad issues facing podcast preservation, it is necessary to establish the degree to which podcasters, particularly independent ones, already preserve their work. In 2019, the *Preserve This Podcast* project conducted a survey of podcast producers along a variety of project scales.⁴² Eighty-five percent of those surveyed identified as either freelance or independent podcasters, with only twenty-two percent working for professional networks or institutions.⁴³ This survey contains enormous insight into the preservation behaviors of the average podcaster, and therefore offers an ideal foundation for a discussion of areas of concern in podcast archiving.

When asked to rate on a five-point scale their familiarity with the principles of born-digital archiving, respondents gave themselves an average score of only one-point-seven. However, when asked to rank on the same five-point scale how well they “organize some or all of [their] digital audio files into folders, or practice some sort of file organizing system”⁴⁴, respondents gave themselves an average score of just over four. While the latter point seems encouraging, engaging in file organization without knowledge of basic digital archival principles could lead to trouble for these users.

Of greater concern is the gap in preservation work between independent and institutional producers demonstrated by the survey. Forty-six percent of podcasters

⁴² Schwartz, Molly et al. 2019. *Podcast Preservation Survey Findings*. Preserve This Podcast.

⁴³ Schwartz, et al (2019).

⁴⁴ Schwartz, et al (2019).

working for institutions reported backing up all their files,” including raw tape and draft cuts, in uncompressed formats,” while only thirty-three percent of independent podcasters reported the same.⁴⁵ Twenty-five percent of independents reported backing up only the final cuts of their episodes, in either compressed or uncompressed formats, while only twelve percent of institutional podcasters reported the same.⁴⁶ This demonstrates an obvious disparity in the quality of preservation work being done by those with institutional backing as compared to those without such support. The study additionally concluded that those who made full backups of their material were more likely to have a system to organize their files than people who only backed up final cuts of their episodes.

The conclusions to be drawn from this study are obvious. Independent podcasters are less likely to engage in useful archival practice when it comes to their own podcasts, lacking both the know-how and the support to do so. In other words, most podcasters are not properly preserving their work, if they are doing so at all. The question can now be put forth: What is the reason for this disparity? Where are the gaps in discussion and employment of podcast preservation?

3.2 A Lack of Specific Literature

The most significant problem facing podcast preservation as an emerging field is the general absence of academic work in and around the sub-field. To be clear, there isn't a complete lack of work by any means; Jeremy Wade Morris and Eric Hoyt's book

⁴⁵ Schwartz, et al (2019).

⁴⁶ Schwartz, et al (2019).

Saving New Sounds: Podcast Preservation and Historiography is the most complete work thus far on the issue, and it was only released in 2021. Works in academic journals are no less scarce. Morris and Hoyt along with Samuel Hansen also published an explanation of their preservation project PodcastRE⁴⁷ in the *Journal of Radio & Audio Media* in 2019, though this is a rare example of such work being discussed in academic journals, and the authors of the paper wrote it about their own project.

Outside of academia, multimedia projects like *Preserve This Podcast* attempt to offer creators unique ways of engaging creators regarding archival issues. *Preserve This Podcast* encompasses several expressions of its creators' ideas about podcast preservation, from zines to reading lists to webinar workshops to, yes, a podcast. *Preserve This Podcast* is designed to be approachable for archival laypeople, educating about the issues facing personal digital material and offering simple solutions which align with standard archival practice and principles. While the creators have appeared at professional conferences to present their work, *Preserve This Podcast* nevertheless remains outside the walled garden of academia, and therefore exists as an unfortunate example of the way academia has been thus far mostly disengaged from podcast preservation as a subset of media archiving. This leads to the next issue facing podcasts: the lack of support from archival institutions.

3.3 Absence of Institutional Support

This issue exists in tandem with the dearth of academic work on podcast preservation, and in some cases can be considered the root cause. While *Preserve This*

⁴⁷ Jeremy Wade Morris, Samuel Hansen, and Eric Hoyt, "The PODCASTRE Project: Curating and Preserving Podcasts (and Their Data)," *Journal of Radio & Audio Media* 26, no. 1 (February 2019): pp. 8-20, <https://doi.org/10.1080/19376529.2019.1559550>.

Podcast and PodcastRE were grant-funded, they are among the only such projects which have received large-scale funding for podcast archival work. Even more significantly, neither is itself an actual podcast archive. *Preserve This Podcast* is an educational venture, and PodcastRE is more an index of collected metadata than an archive of media itself. Where are the archives of podcasts themselves? Large institutions such as NPR, which produce a vast number of podcasts with some updated every single day, have the resources and capability to archive their own work, but no incentive to expend those resources on the work of anyone else.

Independent podcast creators who wish to have an external party preserve their work do not have the same options that, for example, film or music creators do. There are no dedicated podcast archives which could help these people store and secure their files. Their only option is to attempt to preserve their own material, and if they lack knowledge about how to properly do so, it could lead to potentially disastrous problems.

3.4 Ease of Production, Inexperience, and Disposability

Podcasts are, by their nature, exceedingly easy to produce and distribute. For years now, the vast majority of computers manufactured and sold have had the only necessary component to create a podcast built right in: a microphone. Mac computers come with a free copy of Apple's audio editing software Garage Band, and not only is Audacity still a popular tool for recording and editing audio all these years after the first podcasts were created, it's also still open-source, making it entirely free to download, use, and even alter to suit any one user's particular functional needs.

Compared to a contemporary medium such as online video, podcasts are drastically simpler to create and require far fewer resources.

With this low barrier to entry, however, comes several issues with regard to preservation. The ease of production has made the sheer number of podcasts available online difficult to fully quantify. While no archive can contain every single work produced in a given medium, a podcast archive with any level of specificity in its acquisition standards would certainly face a daunting body of materials. Even the so-called democratization of film in the 21st century, with work produced on consumer-grade devices receiving widespread recognition, requires more expensive tools and more technical knowledge than it takes to make a podcast. It is one of the only shareable mediums of creative expression which can truly be created by almost anyone, almost anywhere.

This is only part of the problem brought on by production simplicity, however. Any medium that can be produced quickly, cheaply, and with little labor will begin to accrue associations with disposability. Perhaps one reason for the two issues mentioned previously is that podcasts are simply not seen as valuable enough to warrant serious preservation effort, or even consideration or analysis of such work. The more of something there is, the less valuable any individual example of it will seem. With four-and-a-half million podcasts on record, each with untold numbers of episodes, it is clear to see how this problem could be exacerbated.

Aggravating the issue further is that the vast majority of podcasts are independently produced, with no support in production or distribution from major or minor corporate platforms. While it is easy for an archivist to see the value in a podcast hosted by well-known figures and distributed by a notable broadcaster, it is harder to see the same value in a podcast produced by a normal individual and shared through

public channels. It is those public channels, too, that create the final serious issue with podcast preservation.

3.5 Over-reliance on Insecure Platforms

Apple claimed to have more than 500,000 podcasts on its service in 2018⁴⁸, a number that has almost certainly grown in the intervening four years between then and the writing of this thesis. Spotify was said to carry over two million podcasts on its service in spring 2021,⁴⁹ that number ballooning to over three million by the end of the same year.⁵⁰ With both offering robust support for audio hosting and massive userbases, it is easy to see why most independent podcasters would jump at the chance to share their work on one or both platforms.

The problem with using these platforms is in the degree of ownership they take over one's material. As mentioned in the introduction to this thesis, Spotify reserves the right to remove any and all content uploaded to its service if the content is deemed to have violated their terms and conditions of use. Despite being publicly traded, Spotify is able to dictate these terms because, in hosting content on their servers, they can force the creators of that content to cede power over what happens to it.

The same, unfortunately, is likely true of any online hosting platform. These platforms have a right to dictate what content is and is not welcome on their servers. In

⁴⁸ Ricardo Lopez, "Talent Agencies Turn to Popular Podcasts for New IP, Developing Film, TV Projects and More," *Variety* (Variety, February 2, 2018), <https://variety.com/2018/biz/news/podcasts-film-tv-development-1202684555/>.

⁴⁹ Anne Steele, "Apple, Spotify and the New Battle over Who Wins Podcasting," *The Wall Street Journal* (Dow Jones & Company, April 23, 2021), <https://www.wsj.com/articles/apple-spotify-and-the-new-battle-over-who-wins-podcasting-11619170206>.

⁵⁰ "Spotify," *Spotify*, December 16, 2021, <https://newsroom.spotify.com/2021-12-16/show-your-favorite-podcasters-you-love-them-with-spotifys-new-star-ratings-for-podcasts/>.

one recent example, Spotify removed seventy episodes of the podcast *The Joe Rogan Experience* in which the host used a racial slur.⁵¹ While there is no question that the content in this case was objectionable and worthy of removal, this incident demonstrates Spotify's unilateral ability to make choices about whether or not to continue hosting material. Rogan's stature afforded him some say in this particular decision, but creators without his fame and wealth will not be given the same opportunity. Their work will be at the mercy of the corporation they have handed it off to, and they may not even be given the dignity of a full explanation for why their content is deleted.

For all these reasons and more, it is evident that any corporate streaming platform is an incredibly insecure place to store one's podcast files. While they serve a useful function in terms of distribution, any time a podcaster puts their material in the hands of one of these companies, they do so at risk of that content disappearing irretrievably. This could prove disastrous for a podcaster who lacked the know-how to preserve and archive their own material. The need for an accessible and comprehensive podcast preservation plan is clear.

⁵¹ Todd Spangler, "Spotify Removes 70 Episodes of 'Joe Rogan Experience'; Podcast Host Apologizes for Using N-Word," *Variety* (*Variety*, February 6, 2022), <https://variety.com/2022/digital/news/spotify-removes-joe-rogan-episodes-n-word-1235172972/>.

Chapter 4 — Archiving at Larger-Scale Podcast Productions

4.1 Answers from Kevin Bartelt, Producer of *The Flagrant Ones*

While the preservation plan created for this thesis will target independent podcasters, it is worthwhile to consider the efforts of larger-scale operations with significant resources at their disposal. Understanding how podcast productions with both financial and labor assets preserve their work can offer a useful basis of information to adapt for use by independent creators.

However, just because an organization has the ability to do something does not mean that they necessarily will. For example, in their book *Saving New Sounds*, Jeremy Wade Morris and Eric Hoyt discuss their shock when, having been given access to the archives of New York Public Radio, they found that the organization had preserved almost nothing from the early years of the digital era.⁵² The presence of resources for preservation is itself no guarantee that they will be put to use for that purpose.

It is also worth noting that the scales of podcast productions are far from binary, with no-budget independents on one side and high-production value celebrity vehicles on the other. There exists a wide range of podcasts in between at mid-range budget levels, many of them produced through paid listener subscriptions on sites such as Patreon.

One such show is *The Flagrant Ones*, a Patreon-supported production which encompasses a number of discrete podcasts, each featuring a different combination of their three main hosts — comedians Sean Clements, Hayes Davenport, and Carl Tart.

⁵² Morris and Hoyt (2021).

While the eponymous show *The Flagrant Ones* is focused on analysis of NBA basketball, *Hollywood Handbook*, *Hollywood Handbook: Pro Version*, and *Hollywood Masterclass* are absurdist show business satires, and *Carl Calls His Cousin* is a less high-concept chat show. All five of these podcasts are produced and distributed by the same team, though notably the *Hollywood* family of shows originated at the larger corporate podcast network Earwolf before leaving to become independent in 2020.

As of February 10, 2022, *The Flagrant Ones* earned \$41,905 every month through Patreon subscriptions, making them a solid example of a mid-range independent podcast. For this reason, they make a useful case study for archival practices at such organizations, particularly when looking for procedures adaptable to podcasters with less technical knowledge or financial resources. Information about their archival work was gained via correspondence with their producer, Kevin Bartelt. The details relayed in this thesis pertain only to their audio work, although *The Flagrant Ones* also releases video versions of some of their podcasts.

According to Bartelt, *The Flagrant Ones* does maintain an archive of their episodes. Bartelt “uploads a WAV and [mp3] of each episode to the show’s masters folder on Dropbox,”⁵³ keeping the archive currently in cloud storage. Bartelt stated a desire to move the archive to external hard drives eventually, as the increasing number of produced episodes requires continually purchasing more storage from Dropbox, making it ill-suited as a long-term solution. The WAV version of each episode is uncompressed and used for preservation purposes, while the mp3 version is the one used for distribution.

⁵³ Bartelt, Kevin. Letter to Esther Rosenfield. *Re: Preservation Questions*, February 10, 2022.

As far as distribution goes, all of the shows under their umbrella except for *Hollywood Handbook* are shared through Patreon. Subscribers are given access to custom RSS feeds so that they can subscribe to the show through their podcatcher of choice. *Hollywood Handbook* is published through the site Omny, which pushes the episodes to all major podcast distribution platforms (including Apple and Spotify) automatically.

The audio editing process, regardless of the specific software used, creates project files associated with the work being edited. These files do not contain any actual audio content, but they do allow users to save particular editing configurations and view the history of how a particular file was edited. *The Flagrant Ones* is edited in the Avid software Pro Tools, and Bartelt saves each episode's Pro Tools session alongside the episode files in Dropbox.

One common practice in podcast recording, particularly in the Covid era, is for participants to record in separate locations over internet conferencing platforms like Zoom, recording only their own audio on their individual computers. When all of the participants' individual recordings are edited together, they seamlessly create the impression of a unified recording session. This introduces new wrinkles to the archival process. Should a podcaster additionally preserve the individual pre-edit recordings, or should they only preserve finished edits of an episode?

Bartelt does not save the individual audio tracks alongside the finished files in Dropbox, but he does note that "the ProTools session should have a folder with those separate audio files saved."⁵⁴ This serves the function of a backup for Bartelt, making further copying of the files to Dropbox redundant.

⁵⁴ Bartelt (2022).

As with most creative media enterprises, podcasts can have material from recording sessions edited out of episodes for a variety of reasons. This introduces the same questions regarding extraneous material as referenced regarding individual audio files above. Bartelt does not save this material, focusing only on saving the final edit of an episode. However, sometimes edits must be made to an episode post-release, requiring the episode to be pulled and then re-distributed in its new form. In this case, Bartelt deletes the original file for the released episode, but appends the label “v02” to the new file to note that it is an edited version of the original file, rather than the original file itself.

On that note, Bartelt uses the following naming structure for episode files: SHOWCODE-EP#-DATERECORDED-GUEST-VERSION.⁵⁵ “SHOWCODE” refers to the particular podcast the episode belongs to; “HH” is used for *Hollywood Handbook*, for example. “EP#” is the number of the episode, and “DATERECORDED” is the date on which the recording took place. “GUEST” uses the last name of the episode’s guest host if there was one. If there were multiple guests, only the last name of whoever is listed first in the episode’s title is used. The final segment of the file name uses Bartelt’s initials to indicate that the edit was performed by him, and the aforementioned version number. For the 400th episode of *Hollywood Handbook*, which featured Annie Murphy and Mary Hollis Inboden as guests. Bartelt provided the following file name: “HH-400-20210401-Murphy-KBv01”.

Bartelt had this to say about the metadata for each episode: “[I]n my circle metadata typically means the episode title/description (which has been debated because I don’t think that’s technically the correct usage). [...] I don’t store that

⁵⁵ Bartelt (2022).

anywhere.”⁵⁶ Bartelt also did not employ any fixity solutions, such as checksums, to keep track of file integrity.

For a podcast at the scale of *The Flagrant Ones*, these answers are in line with expectations. Without the backing of a major corporation or studio, all decisions and efforts must be made by a single individual with a limited budget. *The Flagrant Ones* is not in a position to purchase bespoke servers or delegate lengthy organizational tasks to specific employees. Their work provides useful operational details for podcasters who have even fewer resources, though there are potential areas of improvement as well.

The largest gap in their archival system is without a doubt the lack of a physical backup. To his credit, Bartelt acknowledged the need for one and stated a plan to move the backups off of Dropbox eventually, correctly noting that the longer the podcasts go on, the more he will need to pay Dropbox for increased storage space. While cloud storage solutions like Dropbox are certainly useful and they serve this podcast’s purposes, they are best used in tandem with a physical backup, each option protecting against any damage or loss the other may incur.

Also of note was Bartelt’s note that he does not save the original versions of episodes which were taken down and re-edited. This relates to one of the most complex questions in any archival discussion: Should a thing be preserved if no one is intended to experience it? One of the most imperative archival principles is that nothing is preserved just to be hidden away. For something to be properly archived, it must be made accessible. Obviously, the episode files in question are, for whatever reason, never meant to be heard again. Therefore, it is understandable and acceptable to not continue

⁵⁶ Bartelt (2022).

to archive them, especially given that Bartelt takes the responsible measure of adding indicators to file names showing that re-editing has taken place. From a purely practical perspective, the only version of an episode worth protecting is the one to which people will ever be allowed to listen.

One of the most important details in Bartelt's responses is that he stores each episode in both WAV and mp3 formats, the latter compressed and the former uncompressed. While only the uncompressed file is ever published, saving an uncompressed version is excellent archival practice. As outlined in Chapter 1.3, digital audio compression makes it such that a file is no longer fully complete. A lossy audio file can be perfectly listenable, with no noticeable compromises made to the accessibility of the content itself, but it is nevertheless an incomplete version of the file in question. If need be, new compressed copies can be made from an uncompressed original. Making compressed copies from an already compressed file will only further degrade the file's quality. It is always best to save an uncompressed original version of a podcast episode.

Bartelt also offers an answer to one of the most unusual questions surrounding podcast preservation: Should project files be saved alongside the episodes themselves? While these files do not contain any actual audio content, they allow podcasters to refer back to decisions made during the editing process. Bartelt notes that he does save editing sessions from ProTools alongside their corresponding episodes. The fact that these files are typically miniscule in size makes them a low-impact element of a podcast archival effort, and therefore they are generally worth archiving with their episodes.

4.2 Answers from Brendan James, Producer of *Blowback*

Blowback is quite different from *The Flagrant Ones* and its podcast universe. It is a history podcast which explores instances of American imperialism during the 20th century. Its first season covered the Iraq War, its second season covered American relations with Cuba, and its third season (forthcoming at the time of this writing) will cover North Korea. The show's producer and co-host, Brendan James, was given the same questions as Kevin Bartelt, and gave some different (if somewhat less specific) answers.

One thing that makes *Blowback* unique from *The Flagrant Ones* is that its first two seasons were not self-distributed. These seasons were published by Stitcher Media, one of the largest podcast companies. Interestingly, though, Stitcher also used the Omny platform to share *Blowback* to "most major podcast platforms, including Apple and Spotify."⁵⁷

James claimed that the archives for *Blowback* were stored in both a physical hard drive and in cloud storage. Though he declined to specify the details of either storage arrangement, the use of both methods at once is notably diligent. However, James also stated that he does not store any files in uncompressed file formats. This is a significant archival blind spot. James also does not have a file naming system in place, choosing instead to simply name files identically to the titles under which they are released. A given example was "S2 Episode 9 - "Cuba Libre"" for the episode with the same name.

⁵⁷ James, Brendan. Letter to Esther Rosenfield. *Re: Thesis Research Questions Request*, March 4, 2022.

James stores individual audio channels when podcast participants are recorded separately alongside completed versions of each episode, as well as any material which has been excised from the final cuts. He declined to specify how all this material is organized. James also stated that every file's associated metadata is wrapped inside the file container itself. Audio editing programs like Audacity and others feature ways to fill out prescribed metadata fields which are stored within the file during the exporting process.

Like Bartelt, James does not use fixity solutions to track file integrity. He also does not use any digital preservation tools or software. The eliding of these two areas is the most significant point of commonality between the two podcasts' approaches.⁵⁸

4.3 Conclusions and Takeaways

James and Bartelt have significantly different approaches to archiving their podcasts, to the extent that each of their blind spots lines up with the other's most secure areas. James stores backups of files in both physical and cloud storage, while Bartelt uses only cloud storage. Bartelt stores compressed and uncompressed versions of each episode, while James stores only compressed versions. James has a bespoke file naming system which James does not, while James wraps metadata within each file while Bartelt does not. A combination of the strengths of each approach would make for a robust preservation plan, even given the mutual lack of an approach for file integrity.

However, the holes in each approach are nevertheless revealing. While both podcasts have higher budgets and higher production value than the average work from

⁵⁸ James (2022).

an independent podcaster, this has not necessarily translated to comprehensive strategies for preservation. This is in no way a criticism of either producer, merely an illustration of the ways in which even skilled and talented professionals may not necessarily have a complete understanding of archival principles, let alone the resources to put those principles into practice.

If this demonstrates anything, it is that the urgent need for podcast preservation education is not the domain of independent producers alone. Even professionals could use some degree of assistance with preserving their bodies of work. While the preservation plan in this thesis remains targeted at independents, it is clear that more work needs to be done at all levels of podcast production to ensure the best possible preservation for any and all creators.

Chapter 5 — Podcast Preservation Plan for Independent Producers

This section of the thesis will contain a full preservation plan for podcasts. While its recommendations are targeted at independent producers, the principles and practices outlined here are applicable by anyone. The plan is split into three sections: short-term recommendations, ongoing recommendations, and long-term recommendations. Short-term recommendations are action items to be prioritized for those just beginning to archive their work. Ongoing recommendations are actions which will repeatedly be performed as new material is added to the repository. Long-term recommendations are things producers should consider for the future health of their archives, but which by no means must be tackled in the immediate future.

5.1 Short-term Recommendations

These short-term recommendations are designed to be applicable to podcasters as they begin the process of preserving their existing work. These tasks can be undertaken with whatever material the podcaster has on hand at the time, regardless of whether or not it fits the standards of longer-term recommendations outlined later on. The most pressing item for any podcaster looking to archive their work for the first time is to organize the extant files. The first step in this process is to create a file naming standard, ensuring uniform labelling and ease of identification. A file name should clearly communicate the following things:

- 1) The name of the podcast series to which the episode belongs
- 2) The number of the episode
- 3) The title, theme, or subject matter of the episode
- 4) A contextual indication of how the file relates to the editing process (e.g. whether it is a final cut or raw audio)

There are other elements that can be added depending on a particular podcast's needs. As noted above, Kevin Bartelt of *The Flagrant Ones* puts the last name of each episode's guest in the file of each final cut, but not every podcast necessarily features weekly guest appearances. In general, a good example of a file name looks something like this:

[PODCASTNAME]_[EPISODE#]_[TITLE/THEME]_[CONTEXT].[EXTENSION]

As an example, consider a fictional film review podcast called *The Film Hour*, whose eighty-sixth episode discussed the film *Dune*. The file for the released version of the final cut of this episode could look like this:

FilmHour_Ep86_Dune_finalcut.mp3

There are significant benefits to this file naming standard. Including the podcast name means that the files can't become lost and decontextualized in a computer search, or when retrieved from corrupted hard drives. Placing the podcast name before the episode number also allows for easy alphabetical sorting, with the episode's title or subject matter offering additional contextualization at a glance. The most important thing a file name can do is offer as much information as possible about the file's content.

This is not to say that file names should be long and elaborate. Concision is a virtue in this regard, and it is more than reasonable to find ways to shrink the character count of one's specific naming standard. In the above example, the podcast's name could have been abbreviated to an acronym, for instance. Individuals may find different ways of communicating information that makes the most sense to them. What matters most is that the information in question is conveyed clearly.

The last section of the file naming format here, labeled [CONTEXT], is the most fluid. Every episode will likely have a number of associated files to preserve, and this section is how to identify the specific piece of that puzzle that a file represents. The context field can fill in details on how a particular file relates to the episode with which it associates. In this example, the context field denotes that the file in question is the final cut of the episode, presumably to be released for public consumption. This field may also be used to denote individual audio tracks, "assembly cuts" which may contain material unfit for release, external metadata fields, or any other piece of the puzzle.

Once the files have been properly named, podcasters can organize them into folders. Each episode of a podcast should have its own folder, containing all of the files pertaining to that episode. These folders can be subsequently organized according to the needs of an individual podcast. For example, a podcast may find it useful to subdivide episode folders into "seasons" of content, if that is how the way in which the episodes were designed for release. The most important aspect is ensuring that properly named files are organized by episode. Once that task is complete, any subsequent organizational techniques are at the discretion of the podcaster.

The next major short-term step is to back up this newly organized data. The best way to accomplish this task is to use both physical hard drive storage and cloud storage, with both backups mirroring one another. Both of these methods have their

strengths and weaknesses. Cloud storage offers ease of use and removes the need for users to look after their own files, but it requires trusting large technology corporations with the safety and privacy of one's data. Physical storage, meanwhile, allows a user to have full control over their material, but objects existing in the physical world are of course prone to physical danger and damage. Using both of these methods at the same time goes a long way to cancelling out those weaknesses, with each form of storage filling in the gaps of the other.

Physical hard drives in the modern day can offer a significant amount of file storage for relatively reasonable amounts of money. The first thing to pay attention to when looking for external hard drive storage is a drive's file system format. Not every file system format is compatible with every computer, with some only fully compatible with Windows computers (such as NTFS) and some only full compatible with Mac computers (such as HFS+). These file storage formats are well-suited to the operating environments for which they are designed, and users who are comfortable with either operating system should not hesitate to use whichever one applies. However, if a user thinks they may ever need to use an external hard drive with both Windows and Mac computers, the format called exFAT will be readable and writeable by both of them. Any hard drive can be formatted to any storage format upon first using it, but once that storage is used, the format cannot be changed without erasing the contents of the drive.

The storage needs for a podcast archive will vary from podcaster to podcaster, depending on how much material they intend to store. Producers with a set amount of data that will not be added to will know how much storage they require. For podcasters who are continuing to produce material, it is recommended to be forward-looking when purchasing a drive, getting enough storage to accommodate long-term additions to the archive.

There are a multitude of cloud storage options at different price points and with their own ups and downs. While Amazon Web Services is perhaps the best-known provider of cloud storage, Google's Google Drive is friendlier to non-professionals, and most people likely already have an account with them. Heavy skepticism of Google's ability to safeguard user's personal material is warranted, as outlined earlier in this thesis. However, taken in combination with healthy personal storage practices using physical media, the downsides of trusting corporations with one's personal data can be mitigated.

5.2 Ongoing Recommendations

For many users, a podcast archive is a living archive, growing and changing as each new episode of a show is created. This means that a podcast archivist must take steps to maintain their work over time. In doing so, they must make considerations about what exactly is worthy of inclusion. While it would be ideal to simply save absolutely everything related to a podcast and its creation, in reality choices must be made due to a lack of various means. The most significant one is space, either in physical or cloud storage, which is often in turn limited by financial concerns. No archivist has unlimited resources, and decisions must always be made about what to include and what to exclude.

As with many aspects of this plan, a degree of flexibility is built in based on the needs of individual podcasters. Not every type of archival object will be necessary for every podcaster to save. However, this plan specifies a number of particular files whose preservation is imposed for every podcaster.

The most important of these files is, of course, the final cuts of each episode. Podcasters should save the file in both compressed and uncompressed formats. The compressed version will typically be what is distributed to listeners, while the uncompressed version is purely saved for archival reasons. It is always necessary to save a version of the episode that is uncompromised by compression, without any bits of data lost. This is the truest and most complete version of an episode, from which derivative versions in other formats can be made. Any audio recording and editing software is capable of exporting a file in either kind of format, as well as making multiple versions of a file. Compressed versions can be noted in a file name's contextual field as "release", "compressed", or anything else which properly denotes it as such. Uncompressed versions can be noted in the same field as "archive", "uncompressed", or other sensible options.

The second element mandated for preservation by this plan is individual pre-edit audio tracks, which can be denoted in file names by the name of the participant whose voice is heard on the track. These files are useful for contextualizing the final cut, as well as enabling the ability to reconstruct that final cut if its file is lost or corrupted.

The final non-optional preservation object is metadata for each episode. Audacity and other programs allow this data to be stored with an exported audio file, which some users are likely to find simpler than working with metadata database programs. Audacity even allows users to customize their metadata fields, adding and removing items based on their relevance, as well as creating metadata templates for reuse across multiple files. Audacity allows this metadata to be embedded in any file format.

The goal of metadata for a digital audio file like a podcast is to lay out information about a file and describe its content without necessitating exploration of that content in its entirety. For independent podcasters, many types of metadata are

excessively technical and less than relevant to maintaining personal archives. The most important kind of metadata for them is *descriptive* metadata, meaning basic information about a file's content which can be used for organization and indexing.

Here are examples of basic descriptive metadata fields which can be used for the final cut of an episode:

- Podcast name
- Episode number
- Episode name
- Recording date
- Runtime
- Editor name
- Release version/ archival version
- Flag for re-edited version of released episode

Individual audio tracks may add fields such as these to the above:

- Participant name
- Recording software used
- Recording hardware used

In addition to these three required archival objects and actions, there will always be other material related to a podcast episode. Podcasters may choose to include all of

this material or none of it, depending on their personal preferences or limitations based on digital storage space.

The first of these objects is project files from recording or editing sessions. While Kevin Bartelt and Brendan James store project files for their respective works, there is an argument to be made that these files are made redundant by the episode files themselves and their embedded metadata. In certain cases, though, these project files can be informative with regard to decisions made in the editing process. For this reason, some podcasters may find it worthwhile to store these files alongside their associated episodes, particularly because they tend to have small sizes and are therefore low-impact on an archive's storage capacity.

Bartelt referenced the occasional need to revoke an episode which had already been released and upload a revised cut in its place. Should the need to do this arise, podcasters can optionally preserve the revoked cut of an episode alongside its revised version. Ultimately, the most important object to preserve is the final cut, and while it can be useful or interesting to save versions of a show which are no longer available to listen to, the main goal of any archive should be towards the goal of access. This fact makes revoked versions of podcasts a low-priority item for preservation.

On a similar note, any material which has been excised from a podcast for any reason is also of a low priority for preservation. Podcasters may find exceptions in which they find it valuable to keep this material around, either in its own discrete audio file or in the form of "assembly cuts" of episodes exported before the editing process takes place. That being said, these objects need not be treated as necessarily worthy of preservation, and there should be no anxiety over the thought of discarding them.

5.3 Long-term Recommendations

The following portion of the preservation plan refers to actions taken by podcasters to maintain their archives over long periods of time, after the most pressing action items have been taken care of and their archive is up and running. These actions will ensure the health of a podcaster's archive for years to come.

The first item here is hard drive replacement. While it is easy to take for granted that hard drives will be trustworthy and reliable for extended periods of time, they are as prone to degradation and deterioration as any other physical storage medium or technological object. Even more significant is the rapid pace of innovation and updating in the technological sphere. Hard drives purchased decades ago may be so outdated and incompatible with modern computers that they are functionally useless. Podcast archivists must, to the best of their ability and financial limitations, keep their technology up to date with contemporaneous advances.

No archivist wants to wake up one day to find that the place where all of their material is stored can no longer be accessed by their computers. With this in mind, it is recommended to update physical hard drives once every five years at the very least. Podcasters may find themselves needing to do so even more frequently according to the demands of their growing storage space.

The second item to address is fixity and file corruption. Neither Bartelt nor James employed fixity solutions for their podcasts, nor did they indicate any intention to do so in the future. Fixity represents a complicated area for an independent podcaster. It requires engagement with technically complicated programs and concepts which may be beyond the scope of computer knowledge for a casual user. Nevertheless, fixity solutions such as checksums are useful for keeping track of the integrity of one's files

and tracking the origin of potential data corruption. Podcasters should consider use of checksums to be an option element of this plan.

The last and most important aspect of this plan's long-term recommendations is for podcasters to not feel the need to follow it to the letter. There is a degree of user freedom built into the plan, in order to accommodate the largest possible array of situations and complications. Every podcaster is different, as is every podcast, and every user of this plan will have different needs to be addressed. Therefore, while a typical media preservation plan is strict in its requirements and necessary actions, this plan makes a point to allow podcasters some leniency in their respective approaches. Archiving one's own material can seem daunting and stress-inducing at the outset. The goal of this plan is to mitigate those feelings and offer guidance which is approachable and understandable even to beginners.

Conclusion

The growth of podcasting as a medium shows no signs of slowing down, with content distribution platforms across the board becoming more and more accommodating and the means to produce podcasts becoming more accessible. As of the writing of this thesis, Spotify has recently begun making moves to bring back video podcasting.⁵⁹ Whether this initiative or others like it ends up being successful, the mere idea of a corporation having such confidence in podcasts that it would attempt to go toe-to-toe with a platform as monopolistic as YouTube is in the online video sharing space is staggering. Podcasts are not just here to stay; their presence in mainstream culture will only get more significant from this moment onwards.

Yet podcast preservation remains in a precarious place. Podcasts stand apart from so many other creative mediums because their preservation work must be undertaken by the creators themselves. There are no institutions, no archives or museums or specialists, who can take a podcaster's body of work and preserve it for them. Podcasters are on their own, and desperately lacking the resources and guidance to properly archive the material on which they have worked so diligently and passionately.

In an ideal world, podcasters would be able to rely on podcast archives when in need of preservation action. These archives could both properly organize and store work on-site, allowing podcasters the comfort of knowing that their work was being taken care of properly by professionals, as well as being stored securely without having

⁵⁹ Jon Porter, "Spotify Opens up Video Podcasting to Everyone in the US and Select Markets," The Verge (The Verge, April 21, 2022), <https://www.theverge.com/2022/4/21/23035242/spotify-video-podcasts-launch-countries>.

to trust faceless tech corporations. Musicians and filmmakers have the ability to access similar facilities and organizations. Podcasters, however, must operate alone.

Large-scale operations like this would require significant amounts of money, effort, and time to implement. Even if more professional archivists were willing to work extensively in this space, more resources need to go to podcast preservation projects, and urgently so. The problems of podcast preservation will only grow more complex and drastic as the medium continues to expand. Archival action and energy must consequently begin to ramp up, and sooner rather than later.

For the moment, hopefully, this thesis will help to fill a void for the countless independent podcast producers who have, for lack of resources or knowledge, not to this point been able to archive their own work. The future for these people and their podcasts may appear worryingly uncertain, but with a sincere and concerted educational effort, podcasts can be saved and preserved for a variety of listeners for decades to come.

Appendices

Appendix 1 — Full Responses from Kevin Bartelt, Producer for *The Flagrant Ones*

1) Do you currently maintain any kind of archive for your podcast?

Yes. For our audio content, I upload a WAV and MP3 of each episode to the show's masters folder on Dropbox. The ProTools sessions also live in a separate folder on Dropbox. Eventually I'll probably move those to external hard drives because it takes up a lot of space on DB, and I don't want to upgrade my subscription every year.

For the video content, I move all of them from my desktop to external hard drive after a few months (typically when I'm running out of storage). It would take a long time to upload to Dropbox and also would take up a lot of space as well.

2) Which platforms do you use to distribute your podcast? This could include Spotify/Apple, Soundcloud, or private servers linked to an RSS feed.

For Hollywood Handbook, I upload episodes to the publishing site Omny, which distributes the show across all major platforms. For the Patreon content, I upload it to both Patreon's website and Acast, which is connected to our Patreon to give us some additional functionality. Because the Pro Version is a co-license with Stitcher Premium and Patreon, I also upload the Pro Version to Omny, which uploads it specifically to Stitcher Premium.

3) How does your operation store episode files? Do you utilize cloud storage, local storage, or a mix of both?

I upload all masters to a Dropbox folder. All video content stays on my desktop for a few months then moves to a hard drive. I'll probably move it all to a HD eventually. Riskier because if it breaks or something happens, I most likely can't replace it. But the upload/storage process on Dropbox has its own issues.

4) What file formats do you use for storing these files? Is it a different format than is used for the released episodes?

I store a WAV and MP3 for audio and only publish the MP3. I edit videos on Final Cut Pro and export them as 1080 MOV files.

5) Do you store multiple versions of a given file for different purposes? For example: uncompressed files for preservation, compressed files for distribution, intermediate files for editing, etc.

My ProTools session should have the raw audio saved in a folder. But 99% of the time, once an episode is published I don't need the raw files.

6) Do you save project files used in the editing process?

Yes after the episode is published I move the ProTools session to a Dropbox folder to have saved.

7) If your podcast involves individual audio channels from different participants being edited together, do you store those individual files in addition to the completed podcast episodes?

The ProTools session should have a folder with those separate audio files saved. You can select "copy" when importing the audio, so it saves that individual audio to the ProTools session/folder as well. That way I'm not too nervous about deleting my "Upload Audio Here" folders I sent to guests/hosts after the episode was released.

8) If your podcast has had recorded material edited out of finished/released episodes, do you save the excised material or a version of the completed episode with the excised material included?

I don't save it. If there are edits requested for older episodes that have already been published, typically what I'll do is delete the original file after making the edits on the new one. I'll label the new one "v02" at the end of the file so I know something was edited. Then I'll delete the original so it doesn't accidentally get uploaded/sent somewhere.

9) How are episodes organized? Do you use a particular file naming system?

SHOWCODE-EP#-DATERECORDED-GUEST-VERSION

ie HH-400-20210401-Murphy-KBv01

10) Do you store associated metadata either wrapped with files or separately?

I might be thinking of the wrong thing, but in my circle metadata typically means the episode title/ description (which has been debated because I don't think that's technically the correct usage). If that's what you're referring to, I don't store that anywhere. Lemme know if you mean something else though, sorry!

11) Do you use any fixity solutions, such as checksums, to keep track of file integrity?

I don't believe so! Just meticulous labelling.

12) Do you use any digital preservation tools or software?

I also don't believe so. I edit on ProTools and upload to Dropbox. That's about it.

13) The Flagrant Ones is in a unique position, having so many individual shows as part of a single project. Does this have any unique effect on how you archive and organize the material which you haven't already mentioned?

I use a labelling template I learned from Earwolf where each shows folder always includes the sub-folders MASTERS, PROTOOLS, THEMES, SHARED AUDIO (hosts/ guests audio), and EDITS. Each show on the Patreon has a folder with those folders inside it.

14) Would you prefer if any of the answers to these questions were not published or referenced in my thesis?

You have my permission to publish all of these in your thesis. Best of luck!

Appendix 2 — Full Responses from Brendan James, Producer of *Blowback*

> 1) Do you currently maintain any kind of archive for your podcast?

Yes, I store the episodes in several places, primarily a physical hard drive and a cloud.

> 2) Which platforms do you use to distribute your podcast? This could include Spotify / Apple, Soundcloud, or private servers linked to an RSS feed.

Season one and two were published by Stitcher, which publishes its content on the CMS called Omny. That source RSS sends our show to most major podcasts platforms, including Apple and Spotify. Not Soundcloud.

> 3) How does your operation store episode files? Do you utilize cloud storage, local storage, or a mix of both?

Mix.

> 4) What file formats do you use for storing these files? Is it a different format than is used for the released episodes?

The released episodes for season 1 and 2 were in 192kbps. The archived copies are in that format/rate.

> 5) Do you store multiple versions of a given file for different purposes? For example: uncompressed files for preservation, compressed files for distribution, intermediate files for editing, etc.

I do not currently store uncompressed versions of episodes, that may change in the future.

> 6) Do you save project files used in the editing process?

Yes.

> 7) If your podcast involves individual audio channels from different participants being edited together, do you store those individual files in addition to the completed podcast episodes?

Yes.

> 8) If your podcast has had recorded material edited out of finished/released episodes, do you save the excised material or a version of the completed episode with the excised material included?

Yes.

> 9) How are episodes organized? Do you use a particular file naming system?

We tend to archive the episodes with their released titles, e.g. S2 Episode 9 - "Cuba Libra"

> 10) Do you store associated metadata either wrapped with files or separately?

Wrapped.

> 11) Do you use any fixity solutions, such as checksums, to keep track of file integrity?

Not currently.

> 12) Do you use any digital preservation tools or software?

Not currently.

> 13) Would you prefer if any of the answers to these questions were not published or referenced in my thesis?

Nope.

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