FCJ-087 The Politics of Podcasting

Jonathan Sterne, Jeremy Morris, Michael Brendan Baker and Ariana Moscote Freire,
Department of Art History & Communication Studies, McGill University.

2 At the end of 2005, *the New Oxford American Dictionary (NOAD)* selected 'podcast' as its word of the year. Evidently, enough people were making podcasts, listening to them, or at least uttering the word podcast in everyday contexts to warrant the accolade. Despite occasioning a media sensation, the actual extent of podcasting is still unknown. According to a PEW Internet and American Life survey (Rainie and Madden, 2005) – still the most substantive publication about podcasting trends – approximately 6 million of the 22 million U.S. adults who own a portable audio player have downloaded a podcast. Richard Berry's (2006) review of research in the area places the figure of podcast listeners in a similar range – between 6 million and 8 million currently, with the numbers projected to rise dramatically by
2010. However, the available surveys don't include anyone under the age

of 18, nor do they account for listeners who enjoy podcasts on devices other than their MP3 players, so the listenership may be underestimated.[1] As a Nielsen Research report (2006) on the trend makes clear, the available statistics also neglect the significant number of public and private broadcasters, movies studios, financial services firms, travel agencies and universities that are delivering their "traditional" content via podcasts (some excitedly, some begrudgingly). The exact number of podcasts and their listeners may be difficult to quantify, but podcasts are now a prevalent part of the new media landscape (Nielsen, 2006). 2005 was enough of a breakthrough year for podcasting that the *NOAD* felt the word was more worthy of attention than runners-up like 'bird-flu', 'trans-fat' or 'sudoku' (oup.com, 2005).

3 The *NOAD's* definition for the neologism was simple: 'a digital recording of a radio broadcast or similar programme made available on the internet for downloading to a personal audio player' (McKean, 2005); but podcasting is a considerably more vexed term. A colloquial hybrid of "broadcasting" and Apple's trademarked 'iPod',it contains a reference to a well-known and heavily branded product, while simultaneously conjuring notions of personal freedom and escape from the vice-grip of commercial broadcasting. For cyber-mavens, hobbyists, and not-for-profit organisations, podcasts embody a new, more democratic kind of expression. For media companies and other corporations, they represent a new way to connect to niche audiences and another potential revenue stream. For Apple, whose iPod music player is at the center of the very term, the trend has been both a PR boon and a legal hot point. In fact, the company spent the fall of 2006 embarking on a project to gain legal and proprietary control of the term, sending threatening letters to start up firms like Podcast Ready and software publishers such as myPodder for using the term podcast and other "pod" derivatives in their product names (Van Buskirk and Michaels, 2006).[2] Apple's pointedly commercial attempt to control the term podcast – sadly standard practice in the corporate world – is but one of many negotiations and contestations that mark podcasting's early history. However, it opens up larger issues regarding podcasting's relationship with existing broadcasting models and links to corporate institutions.

4 This essay approaches the political questions surrounding podcasting by interrogating the history of the term. Podcasting is usually presented in the press as a marriage of Apple's iPod and RDF Site Summary (usually known as Really Simple Syndication or RSS). RSS allows audiences to subscribe to a website – through RSS "feeds" subscribers are automatically notified every time a site, such as a blog or podcast, is updated. Some RSS-enabled software will automatically download new content for subscribers, while other software will simply alert subscribers that new content is available. RSS is a powerful means of organising seriality online because it relieves subscribers of the requirement to look for new content every time they go online; the content comes to them instead.[3] The iPod/RSS connection is important and captivating for two reasons: portable MP3 players allow listeners to take audio content that originates on the internet with them, away from the computer, which makes it more like listening to a broadcast, or, to borrow a mobile-media cliché, it makes online audio files available 'anytime, anywhere'. The RSS dimension creates an expectation of seriality which shapes both production and consumption practice: podcasts are supposed to repeat over time, so listeners subscribe to "shows" and podcasters make "shows". The confluence of the tools allows for stylistic and experiential similarities to radio, but with some important twists, since podcasting is not regulated like radio and podcasts are considerably easier

and cheaper to make and distribute than radio broadcasts. As colloquial explanation, the iPod/RSS connection offers a quick fix; as cultural analysis, it leaves a lot to be desired. It treats everything about the practice as pregiven, from the branded name, to the connections of technologies, to the political and cultural implications.

5 Our essay historicises the term "podcast" and offers some new contexts for understanding the history of the term, the practices it designates and its relation to broadcasting.[4] The paper proceeds in four sections. We first analyse the origins and emergence of the word podcasting among the press and the digerati. We dispute the standard argument that podcasting's main innovation is a marriage of RSS and Apple's iPod by presenting podcasting as a practice that arose from a network of actors, technologies and behaviours. In the second section, we discuss how podcasting works and why we need to look beyond distribution to understand its historical emergence. In the third section of the essay, we connect podcasting with the development of affordable and easy-to-use consumer audio production software and hardware, technologies that are necessary (though not sufficient) preconditions for podcasting to offer greater access for audiences and producers than traditional models of broadcasting. We conclude by examining the implicit contrast between "podcasting" and "broadcasting" in order to trouble the commonsensical definition of broadcasting and thereby reopen some basic questions about who is entitled to communicate and by which techniques. While podcasting is neither a complete break from broadcasting nor part of any kind of revolution, it is the realisation of an alternate cultural model of broadcasting. The practice of podcasting thus offers us an opportunity to rethink the connections between broadcasting and other kinds of media practices and to re-examine the political and cultural questions broadcasting presents.

Origins of the Term

6 Despite Apple's fervent desire to control all things pod, the term podcast was primarily the product of a disorganised exchange carried out amongst technology journalists and online computer enthusiasts in the early 2000s. In an article dated 12 February 2004, *Guardian* technology writer Ben Hammersley rhetorically asked what the emerging practice of amateur online radio should be named: 'Audioblogging? Podcasting? GuerillaMedia?'. Hammersley offered no answer to his query and never again referred to these terms, but in this moment he unwittingly coined a name for the practice of circulating and listening to serialized audio online. The issues Hammersley raised became central to the emerging discourse surrounding podcasting when the topic of amateur online radio returned to journalistic spotlights in the fall of 2004. Specifically, writers focused on podcasting's supposed techno-democratic orientation because of its ease-of-use and open source foundation, its implicit anti-corporate inflection, and emphatic declarations of podcasting as the "future of radio". But it was the indiscriminate adoption of the term podcasting by UK-based online technical journal *The Inquirer* in an August 2004 interview with former MTV host and self-anointed tech-guru Adam Curry (Mohney, 2004) which informally initiated the explosion of the word podcast in the popular press. Sparked by the broad circulation of this interview and Curry's own efforts to publicise podcasting on his personal homepage, intense online discussion of the practice ensued and the first generation of podcasts subsequently emerged under the banner of Hammersley's term. What began as one journalist's off-hand comment became the standard name for the RSS 2.0 delivery of MP3 files for playback on computers and mobile devices.

7 From the beginning, some observers were suspicious of the term's corporate inflections. In a move that could be understood as an effort to detach the podcasting phenomenon from its most widely known playback device, Apple's iPod, Doc Searls (2004), senior editor of *Linux Journal*, attempted to redefine the term as an acronym for 'Personal Option Digital-casting'.[5] It was a small gesture and one that was never emphasised in ensuing mainstream discussions of the podcasting phenomenon, but as a leading figure in the tech community and someone frequently called upon by mainstream media to play the part of "expert" in technology news, Searls' un-branding of the term resonated across the internet. Searls' greater contribution to podcasting discourse, however, was his emphasis upon framing the term within a new-versus-old dichotomy of broadcasting, explicitly linking the technology's supposed revolutionary qualities to its internet-based distribution and the convenience facilitated by RSS enclosure. The medium-specific nature of the discussion perhaps explains why there is rarely any widespread consideration of the fundamental

difference between the content of podcasts and more traditional forms such as radio documentary. In other words, the development of the term 'podcasting' followed the pattern set out in Richard Barbrook and Andy Cameron's essay 'The Californian Ideology,' (1995) where new information technologies are uncritically championed as embodying a Jeffersonian democratic ideal.

8 Searls viewed the vital importance of the new technology as its ability to shift the "casting"-model away from a time-bound experience to one that allows listeners to choose what they want to hear, when and how they want to hear it. This argument became a central component of most journalistic coverage of the podcasting explosion and extended into a metaphorical relationship with the timeshifting enabled by digital video recorders, which combine older television timeshifting capabilities of Video Cassette Recorders with the advantages of hard disc storage and random access (a resemblance Searls first identified) and other hard drive-based technologies that facilitate an on-demand model of media consumption (see for e.g. Carpenter, 2004; Howe, 2004). Searls thus suggested a break between podcasting and earlier forms of online syndication, such as web-accessible radio archives and audio-video delivery via on-demand streaming clients and container formats such as RealMedia. Podcasting was a portable technology, while the earlier forms of online syndication kept audio in the computer. Searls' argument treated earlier models of online syndication as passé and collapsed them into other old forms of electronic distribution. This despite the fact that commentators had hailed these older forms as revolutionary alternatives to corporate media in their time (Lovink, 2004).

9 Within a week of Searls' widely circulated commentary on podcasting, the number of "How to Podcast" articles in online technology journals grew exponentially.[6] A piece in *Wired News* appearing 08 October 2004 addressed the podcasting phenomenon within the most conventionally journalistic context since the original *Guardian* article and focused at some length on the aspects of automation and accessibility that made podcasting easy (Terdiman, 2004). Importantly, the piece also detailed Curry's belief that podcasting was perfectly suited for commercial exploitation. Coincidentally or not, it was at this point in the young life of podcasting that the mainstream press began taking note of the technology.

10 The first North American newspaper articles about podcasting began appearing in the wake of the *Wired News* piece. Often accompanied by How-To or Tips manuals, these articles once again positioned podcasting as the "new radio" and focused on the marriage of RSS delivery and iPod devices. Susan Carpenter (2004) of the *Los Angeles Times* authored an article that was syndicated around the world and cemented, not only Hammersley's original term, but those aspects of podcasting that became central to journalistic discourse detailing the practice. She addressed the techno-democratic and accessible nature of podcasting and foregrounded an anti-corporate position that was perhaps implicit, but often absent, in online discussions of the practice. The once emphatic declarations of podcasting as the "future of radio" were re-cast in light of both Searls' TiVO metaphor and Curry's appeal to commercialisation, and the discussion instead focused on the unique relationship between producer and consumer that podcasting facilitated. Other major U.S. and Canadian newspapers covered the podcasting phenomenon in the closing weeks of October 2004 (most significantly, *The New York Times*) and a special seminar on podcasting at BloggerCon2 (06 November 2004, Stanford University) – an annual conference that brings together bloggers and other interested parties – re-confirmed the tech community's commitment to the name.

11 Matthew Fordahl's (2005) piece for the Associated Press, 'Radio Shows Ride Different Digital Wave', placed special emphasis upon both the low-production costs that allow amateurs to enter the podcasting field, and the interest of mainstream broadcasters in this new potential source of revenue. *Wired* Magazine, meanwhile, ran a feature story on the topic in March 2005 and re-positioned Curry as the central figure in podcasting (Newitz, 2005). Curry's continuing commitment to developing the commercial potential of the practice underscored tensions evident within podcasting discourse regarding its role in global media. Many writers discussed the phenomenon in terms of a new frontier-ism – again, podcasting as the "new radio". Simultaneously, there was the opinion that podcasting was less the expansion of the existing broadcast universe than an opening for the possible discovery of new audiences, voices, and talents far removed from conventional radio. The frontier position failed to recognise that it described less the practice of

podcasting than the still-emerging satellite radio systems (such as Sirius and XM) that have positioned themselves as direct competitors of terrestrial AM/FM radio. In this way, the debate concerning the industrial prospects of podcasting echoed the discourses surrounding the rise of FM radio in the late-1960s.

12 Public discourse throughout 2005 almost universally embraced the term podcasting and focused on the specific practices and technologies that aided in its evolution and diffusion. Like early articles on the subject (see for e.g. Carpenter, 2004; Farivar, 2004; Mohney, 2004; Terdiman, 2004), discussions of podcasting continued to reinforce the importance of the iPod and RSS. Surprisingly Apple, whose music device occupies a central position in the history of both the term and practice of podcasting, only formally adopted the term podcasting (to classify particular types of content in the iTunes Music Store) in the spring of 2005 when it incorporated an RSS 2.0 aggregation service into its iTunes software interface. Though Apple's involvement came relatively late in the game, the fact that the name of one of their most popular products lay at the root of the term the press had been bandying about for the last year meant that Apple benefited from a significant amount of peripheral publicity without being directly involved in podcasting's beginnings. By formalising their desire to be a player in podcasting's future development, Apple served notice that podcasting was no longer simply an underground hobby. Industry analysts and podcasters alike took note of this corporate interest, which only intensified as Apple mounted its legal challenges to control the use of the term in the marketplace.

What Is Podcasting, Anyway?

13 While the *NOAD* offers a standard, distribution-channel-based definition of podcasting, *Wikipedia* offers a somewhat more inclusive definition: 'a digital media file, or a series of such files, that is distributed over the internet using syndication feeds for playback on portable media players and personal computers. Like "radio", the term can refer either to the content itself or to the method by which it is syndicated; the latter is also termed *podcasting*. The host or author of a podcast is often called a *podcaster*.' (Wikipedia.org, 2007).[7] Taken together, the definitions connect podcasting with a range of other practices. Podcasting is linked to radio since it sounds like an audio broadcast (though video podcasts are increasingly common). Podcasting is also a close relative of blogging because of its cultural associations with amateurism and its serialisation through RSS, as opposed to radio, which is generally understood as a medium dominated by professionals.

14 In order to better understand what podcasting *is*, it may help to understand how it's done. There are five basic steps involved in creating and disseminating a podcast and several of these steps can be automated using software to simplify the process.[8]

15 A. The podcast must be made and uploaded:

16 1. The podcaster (an individual or a company, it doesn't matter) creates

an audio file (e.g. voice recording; musical performance); whether the production of the audio occurs in the analog or digital realm is unimportant provided the result is digitised using audio software.

17 2. The podcaster prepares the audio file in a compressed digital audio

format suitable for low-bandwidth web distribution (e.g. formats such as MP3; M4A; WMV) and uploads the file to a web server. The content of the podcast is now created.

18 B. The podcast has to be rendered "findable" online (these parts of the process are now usually automated):

19 3. The podcaster writes a file using established RSS mark-up tags

containing information about the audio file including the location of the file on the web server.

20 4. The podcaster publishes the file to a static web address, allowing

users to bookmark the directory of links including any updates and revisions made by the podcaster. This directory file can be amended to include information about additional audio files and thus serves as a growing directory of links, or RSS feed, to a collection of audio files.

C. The podcast has to be downloaded and listened to.

5. By using an RSS aggregator (in the form of software such as iTunes or

Mozilla Firefox, or web-based services such as Live.com or Bloglines), users receive updates regarding the content of RSS feed "subscriptions" and can choose to automatically download new files for playback on personal computers or mobile devices.

The most striking thing about the process is the simplicity of distribution. There are a wide variety of entities that can make podcasts, there are a wide range of kinds of podcasts and there are many ways to listen to podcasts. But all these diverse users and content forms employ the same basic distribution technology to achieve their goals. This is perhaps why the iPod/RSS definition holds so much sway.

Although this paper is not a listener study, it is worth considering the range of ways we might take in a podcast. We could burn podcasts to CDs and listen to them in the car; we could download them to a hard drive and listen directly from a personal computer, or we could transfer them to a portable device. We could listen or watch alone or with others. We could listen to every show produced by a single podcaster, or only one. We could listen shortly after a podcast is released or much later. Each of these choices would shape the reception and experience of the podcast. They would also impact the amount and kind of information we receive, since associated text, images and other metadata may be lost or appear differently depending on the end playback device (e.g. CD, MP3 player, etc.). This flexibility is not particularly revolutionary or new, since most of these options would be available for terrestrial broadcasts as well – though the opportunity for listeners to timeshift is particularly important for podcasting, so much so that many mainstream radio broadcasters now make some shows available as podcasts so that audiences can listen at different times and locations. Distribution is thus the key dimension that holds together this diverse range of listening practices.

Just as there are a wide variety of possible ways to listen, there are a range of program types that might be grouped under the umbrella of podcasting and podcasts: archived versions of regular radio programs, advertisements, educational programs, radio-style programs that nevertheless employ different conventions and production values than mainstream radio (perhaps closer to community or pirate radio). Again, because of this variety, in one sense, the distribution channel can seem to define the "medium". To echo the Wikipedia definition, a podcast at its most basic is indeed an audio or audiovisual file that can be downloaded and then read/listened to/watched in a number of ways at the time of one's choosing. However, this definition does not bring us closer to what *matters* about podcasts and podcasting.

If Apple does not own the term podcasting, and if the term itself is something of an accidental success, a product of journalistic convenience more than debate or calculation, we should also question its referent. In an article on blogging, danah boyd (2006) raises issues that have implications for debates over the definition of podcasting. Blogging, she argues, creates a distinction between reader and writer (or listener and producer) in ways that other forms of computer-mediated communication, such as instant messaging, do not:

The practice of blogging involves producing digital content with the intention of sharing it asynchronously with a conceptualized audience. It [is] an *n-to-*? practice where some discrete numbers of bloggers share with a[n] unknown number of readers. An *n-to* model is not unique to blogging; the practices underlying radio, television and print publication also take this form.

According to boyd, a blog is like paper; they are both distribution channels at heart. Yet this fact alone does not define the content that may pass through those channels.

Richard Berry, one of the few academics to have written on podcasting, describes it as new medium, a converged medium that brings together the web, audio content and portable media devices (2006:144). Podcasting is an 'empowered' (144) version of radio broadcasting, aided by the internet, which enables both audiences and producers. In addition to features like timeshifting and portability, podcasting empowers listeners because it uses MP3 technology, a semi-open standard

– a marked difference from the proprietary streaming technologies (e.g. RealAudio) found on much internet radio. Podcasting is also empowering for podcasters: as a kind of 'grassroots radio' that 'draws on the world of weblogs' (152), it is a democratised form with few established conventions. For Berry, this makes podcasting a 'disruptive technology' (152); it is free, open, automated via RSS, and radio-like, and thus, a direct assault on the radio industry. Although we argue later that this utopian view of podcasting is slightly problematic, especially considering the range of technologies and practices that qualifies as podcasting, Berry and boyd both point to the value of reframing podcasting as a practice.

30 Following boyd's lead, we might conceive of podcasts as simultaneously distributing and representing expression – in a manner different than, but perhaps analogous to blogs. Like blogs, podcasts set up distinctions between producer and audience in an *n-to-*? relationship that also occurs in traditional broadcasting but that is asynchronous. Podcasts also allow for the viability of a certain amateur aesthetic that is not available in commercial broadcasting (and here we note important links with online streaming video services like YouTube that emerged shortly after the podcast boom). Podcasting opens up opportunities for audiences to hear new kinds of content, or old kinds of content in new ways. It also offers opportunities for people who could not easily broadcast to distribute their content online on what at least initially appears as a level playing field.

31 But podcasting is not, strictly speaking, a new medium or a new format. Rather, it is a group of connected technologies, practices and institutions. It therefore raises some of the same questions that we normally associate with the emergence of new media. It offers us an occasion to reconsider those elements of mediality and practices in the "neighbourhood" of podcasting and not consider it as a thing-in-itself. We need to consider podcasting's historical emergence in relation to other media technologies, institutions and practices, and to move beyond the discourse of iPods, blogging and RSS.

Some Origins of the Practice

32 The accepted history of how podcasting began is relatively straightforward. Three key figures share the credit for conceiving of the integrated programming and software environments which enables podcasting: Dave Winer, a prominent blogger and software application developer; Christopher Lydon, a long time Boston-based media personality; and Adam Curry, ex-MTV host and amateur computer geek (Doyle, 2005).[9] Winer is credited for the development of RSS and, in 2001, he proposed an additional specification for RSS feeds that allowed "enclosures" of non-text content (i.e. sound files, images) to be "fed" to a subscriber. To demonstrate the technology, Winer successfully enclosed a Grateful Dead song in a post to his blog on 11 January 2001 and it was at Winer's insistence and prodding that Lydon decided to use RSS technology to share some interviews he had recorded online (Lydon had recently been fired from a radio station job and needed a distribution outlet) (Doyle, 2005). If Winer provided the technical capabilities and Lydon provided the content, some say it was Curry who saw the potential in the format. Supposedly, it was while listening to Lydon's interviews that Curry developed the idea for iPodder, a piece of software that could transfer audio downloads to iPods and make podcasts portable. In October 2003, these three technologists joined hundreds of others at Harvard Law's Berkman Center for BloggerCon1 (Doyle, 2005). Audio blogging, the practice that would come to be known as podcasting, was at the top of the agenda.

33 The 2003 conference offers an easy origin point for the podcasting phenomenon because all three "podfathers" were in the same place at the same time. That year also saw booming sales of Apple's iPod music devices (Bullis, 2005; Howe, 2004; Lewis, 2005) with sufficient storage space to hold more than just songs. However, there are other developments and lines of descent that also deserve consideration as podcasting precedents.

34 For example, a form of podcasting actually arose in the late nineties as Nullsoft, the software company that made the Winamp media player, experimented with SHOUTcast, a program that allowed for the recording and broadcasting of MP3 audio streams (Frankel, 1999: 82). With SHOUTcast, users could create their own virtual radio stations from audio they recorded or from their MP3 collections. Using the SHOUTcast software, SHOUTcasters published their streams to a server, where it was available to listeners looking for amateur (and sometimes professional) radio on the internet. SHOUTcast is still available for download today and is used by independent and

mass media producers, though it is basically a streaming-only technology and it lacks some of the functionality we now associate with podcasting (e.g. RSS alerts, syncing to portable devices). Additionally, the audience size for SHOUTcasts – at least for early versions of the software – was much more limited than the potential audience for podcasts. The intense resources SHOUTcasting demanded of computers at the time meant that broadcasts could only accommodate 20-30 listeners (Frankel, 1999: 83). Still, SHOUTcast was an important technology for helping users broadcast their opinions and their music libraries. Perhaps more importantly, it gave users a glimpse of the potential of connecting with other people interested in producing and consuming alternative/amateur media.

35 In August 2000, i2GO was another company exploring podcasting-like services. Although i2GO's main product was the eGo portable digital music player – described at one gadget review site as the 'Cadillac' of MP3 players – the company also developed a web site called MyAudio2Go.com (Menta, 2000). Users of the service could download audio news feeds from the internet and transfer them to their portable players (Menta, 2000).[10] In language that anticipates podcasting discourse, an i2Go spokesperson stressed how the service would 'allow the digital recording of content off the internet for replay at a "convenient time"' (Sean Wood qtd. in Fridman, 1999). Despite making prominent deals with content producers like ABC News, i2GO ran out of capital during the dotcom crash so the service never truly expanded (Credeur, 2001). Apple introduced the iPod shortly thereafter and began to dominate the portable music player market. Ahead of its time and a victim of history, i2GO's foray into practices that we would now call podcasting is rarely mentioned by journalists and remains little more than a footnote. Yet i2GO's attempts to auto-sync digital audio content for hardware playback foreshadowed the formula that helped podcasting take off a few short years later.

36 Also overlooked in many discussions of podcasting's origins are the hardware devices and software packages for recording podcasts. For instance, the emergence of portable digital audio recording devices in the late 1990s is a crucial beginning for the podcasting movement. Amateur technologists responsible for many of the first podcasts had little knowledge of advanced recording principles. They also had scarce means to record with high tech studio equipment. The advent of affordable portable digital recorders allowed audio enthusiasts to record and transfer files directly to their computer or website, making the sharing of user-generated audio content easy and immediate. With the right equipment and software, and a desire to generate content, making your own "radio" show available to a (potentially) wide audience was both conceivable and attainable.

37 The rise of accessible digital recording devices would mean little were it not for equally important developments in digital audio recording and editing software. Capturing audio is one thing; having the tools to edit, manipulate and eventually re-package that audio requires a different set of technologies. Although podcasters can create basic podcasts with little or no editing – in fact, some of the earliest podcasters simply recorded audio content on the fly and transferred it to their computers and the web – those looking to produce more complex podcasts with multi-track mixes, edits and special effects, turned to dedicated audio editing and recording software to achieve this goal. Professional level computer-based audio programs (e.g. ProTools or Cubase) have been available since the late eighties and early nineties and are the industry standard in recording studios. Retailing for thousands of dollars, the programs were hardly within reach of amateur audio producers initially. But as processor speeds and hard disc space on consumer machines increased throughout the 1990s, software recording solutions became more practical, affordable, and intuitive for interested computer users.[11] Top of the line software suites still command top dollar, but software companies now routinely make basic versions of their programs for producers and musicians with less-inflated budgets. Available for both Macintosh and PC users, these easier-to-buy and easier-to-use programs provided computer hobbyists and amateur musicians the ability to create professional sounding audio content from the comfort of their computer (Théberge, 1997: 231-235). Independent musicians and producers were experimenting with different ways of recording/producing and computer users with an interest in music were toying with new ways to create sound. By the late nineties, music stores and computer companies alike were adjusting to a new culture of (and market for) amateur digital audio production. Stores began to dedicate retail space and sales staff towards assisting interested buyers in setting up home

studios and the number of computer-based audio programs flourished. At the turn of the millennium, it was conceivable to have a decent and functional home studio for little more than $1000 (excluding the cost of a computer).

38 Although professional audio recording/editing programs were becoming increasingly user-friendly (in both cost and design), it was with the launch of Audacity (2002) and Apple's iLife suite (January, 2003) that audio production software became a standard tool on personal computers. Audacity, a free open source audio editor, gave anyone looking to record or manipulate audio data a powerful and free program with which to do so. iLife, on the other hand, was part of an overall image makeover for Apple (Apple.com, 2004). Building on the successful launch of the iPod in 2001, Apple's strategy was to position their products not as computers or MP3 players but as 'digital lifestyle' devices (Apple.com, 2004). Bundled with most new Macintosh computers as of 2003, one of iLife's key digital lifestyle innovations was a program called GarageBand, an easy-to-use and slickly designed recording/editing platform. Compared to higher end audio production software, GarageBand removed some options and control in favour of a streamlined and simple recording interface. Both Audacity and GarageBand presented users with a flexible platform to combine audio data from multiple sources, edit it, and output it as an MP3 (or some other compressed, transportable) file. In 2003 and 2004, as early adopters of podcasting were experimenting with the practice, they were using programs like these to create and edit the content of their shows. Authors of How-To articles often cite Audacity and GarageBand as useful software for making podcasts (e.g. Newitz, 2005), yet their popularity, and the widespread interest in amateur sound production they encouraged, is seldom linked to the explosion of podcasting.

39 Podcasting as we know it was possible in part because of a decade long trend in developments in computer audio hardware and software. In addition to the actual recording gear and editing software, we shouldn't underestimate the diffusion of broadband connections over the same period in the rise of podcasting. Depending on their length and content, podcasts can range anywhere from a few megabytes to a few hundred. For users uploading and downloading these files on a regular basis, broadband connections are certainly assets. The distribution innovations of Winer, Lydon and Curry mentioned above came right at a time when computers were powerful enough, digital audio software cheap and simple enough, and broadband widely enough diffused, that something like a podcasting phenomenon could happen.

40 Indeed, it was several months after the launch of GarageBand and Audacity that Curry offered readers of his blog a software script to let users move internet-based MP3 files into iTunes and onto iPods. By 2004, an aggregator site that linked to podcasts all over the internet, called PodcastAlley.com, emerged and it wasn't long before others picked up on the trend. Curry launched PodShow.com in late 2004, a web destination designed to facilitate the publishing of podcasts and to introduce audiences to the concept of podcasting (not to mention introducing media companies to a new potential audience). On June 28, 2005, Apple redesigned the iTunes Music Store to include a massive podcast directory (Apple.com, 2005). Users could now search the iTunes database for podcasts by genre, category, and topic. The redesigned interface also simplified the process of subscribing to podcast feeds. iTunes' large market share and sizeable marketing budget furthered podcasting's transition into a mainstream media activity. Apple continued to capitalise on the trend with the release of GarageBand version 3 in their iLife '06 package (January, 2006). Among other program features, the new edition included a "podcasting template" and other elements to facilitate podcast recording. For podcasters, GarageBand simplified the process of podcasting even further by including tools specifically designed for podcast production (e.g. vocal tracks with EQ settings for radio-type voices, jingles, musical stings, etc.) and by offering export options for uploading podcasts directly to websites. Meanwhile, as the podcasting trend took hold, audio software and hardware companies began to see podcasting as a potentially important segment of their market: microphones, mixers and a series of other consumer-priced audio tools were marketed (or in some cases, re-marketed) as 'perfect for podcasting'.[12]

41 The ability to create podcasts, in other words, depends not only on devices to listen to them (MP3 players), or technologies to help consumers find them (RSS) but also on a host of software and hardware innovations, many of which began long before RSS or even iPods. The proliferation of relatively affordable and easy-to-use audio recording and editing software and hardware,

increased broadband uptake, and an amplified appetite for producing and consuming amateur audio content all contributed to an environment ripe for the practice of podcasting. Rather than a driving force, portable digital players (even the iPod) were simply one condition of possibility. While the early podcasting press painted a convenient picture of how iPods sparked an explosion that propelled podcasting from underground hobby to latest fad, this closer look at the network of technologies, people and practices tied to podcasting shows a somewhat messier sketch. Although Apple's iPod benefited from instant publicity as soon as Hammersley coined the term podcast, the computer company's role was more one of mainstreaming than pioneering. Try as Apple might to legally limit the usage of the term, the practice of podcasting has clearly spread further than the company and its stylish music devices. Apple may own the iPod but it can hardly be considered the owner of podcasting.

Podcasting vs. Broadcasting

42 For all the populist and DIY associations attributed to podcasting and its constituent technologies, it is perhaps a bit too much to suggest, as Berry does, that podcasting is a 'disruptive technology' capable of reorganising the way radio and other media outlets operate. So far, major media companies have adjusted to the introduction of podcasts with ease. For instance, with the exception of a large number of CBC podcasts, the Canadian Top 20 podcasts for October 14 2007 on the iTunes Music Store was heavily dominated by figures from corporate media; the featured podcasts are similarly all classic big-media organisations from ABC to the *Wall Street Journal*. Independent podcasters share space with these public and private media corporations looking to use podcasts as a profitable form of content delivery.[13] Beyond its predictably 'Californian ideology', the podcasting-as-liberation argument also carries a little bit of corporate counter-culturalism with it, partaking of the knowing wink that one set of corporate products (a computer, an iPod) might set us free from all the others (both Klein (2000) and Frank (1998) have thoroughly critiqued these ideas).

43 Of course, podcasting does offer a much wider range of audio content than broadcast radio does, especially when one moves beyond Top 10 lists and sorts through the vast and sometimes weird range of material available in the podcasting universe. It is this diversity that gives podcasting its cultural cache. There is also something about broadcasting as a cultural form, with its labyrinthine regulatory apparatus, its massive institutions, and its heavily professionalised practices that invites this kind of David versus Goliath thinking, which renders podcasting as a term that seems full of potential and possibility even when the landscape of podcasting is dominated by its own star system, the major media players have all made inroads into the practice and some podcasts are even supported by (or themselves consist of) advertising.

44 To understand the cultural cache that podcasting gets from its opposition to broadcasting, we have to understand a bit about the history of the term broadcasting and the rhetoric that surrounds it. Put simply, the definition of broadcasting we now have – as something corporate or state controlled, with a few elite producers and many consumers, is itself an historical contingency. The straw figure of broadcasting that podcasting is "cast" against, what we might call the "we-have-the-equipment-you-don't" model of broadcasting was the result of an extensive PR campaign and years of work by mainstream broadcasters. This is important because if we come to understand podcasting as a kind of broadcasting – and not as something opposed to broadcasting – we are afforded a very different political vision of the communication landscape.

45 Broadcasting has historically had a broader definition that corporate or state attempts to professionalise the term might suggest. But today, for most people, broadcasting signals mainstream media practice: it is a one-to-many operation, enshrined in a government-controlled or for-profit system, where access to the production side is relatively limited, but access to the audience side is relatively cheap and open. To be a broadcaster means to have a certain amount of power and access to dissemination that is not available to everyone in a nation, and it usually means that one is in compliance with a massive body of regulations designed to give rational order to the practice and, in democratic societies anyway, maintain some rudimentary level of choice over what one watches or listens to.

46 This model of broadcasting, as state-supported or for-profit, with restricted access and wide dissemination, seems almost natural. Indeed, a parade of media theorists have suggested as much. In his contribution to a 1994 collection entitled *Radio Rethink*, Friedrich Kittler writes that:

47 > Media that have reached their levels of saturation are hard to write about. They disappear at the juncture of high technology and triviality. They reach your ear from neighbouring yards as only the nightingale once did [....] The normal scenario however (to quote the engineers) is that transmission is constant although, or just because, it is wireless. Due especially to being the first electronic medium to program day and night, radio has become a Platonic substantiality that causes it to vanish irresistibly as a technological medium. (Kittler, 1994: 75)

48 Kittler's point was that the form of radio appeared to be settled, given and something easy to take for granted. Perhaps in 1994 it was, but looking forward and backward, broadcasting has a more vexed history as a term.

49 The 'Platonic substantiality' idea of broadcasting certainly works as a useful straw-figure for advocates of podcasting, who celebrate the freedom of access for both producers and listeners, and who will happily point out the greater flexibility and range of podcasts available to listeners. Where radio seems to require some logistics of scarcity (after all, the electromagnetic spectrum is a finite resource), podcasting does away with scarcity entirely – even if access to its tools are still much easier for those with access to large institutions or first-world incomes. Yet if we look beyond the immediate past, 70-80 years back and further, we see a wide range of competing definitions of broadcasting. If we recall some of these alternative definitions, then podcasting appears less as an alternative to broadcasting as such, than as an alternative cultural model of broadcasting, as a wedge with which we might pry open the jaws of common sense that have clamped down on our understandings of radio and television for the better part of the 20th century.

50 Many corporations and institutions worked in concert and in parallel to solidify a definition of broadcasting as something to be controlled by large institutions in concert with government regulators. In the U.S.A., that model took a corporate and for-profit form, whereas in Britain and some of its former colonies (such as Canada and Australia) a more paternalistic state model took hold (Douglas, 1987; Hilmes, 1997; McChesney, 1993; Raboy, 1990; Smulyan, 1994). Since podcasting is often counterpoised to the limitations of corporate radio (Canadian podcasters do not, for instance, tend to single out the publicly-funded CBC as that which they are resisting), especially American style corporate radio, we will follow the efforts of one particular corporation to define broadcasting in the early part of the 20th century: RCA. While it is a rhetorical convenience, it also gives some focus to our argument. The choice of RCA is also not accidental, since it perhaps worked harder than any other American corporation to define broadcasting in the first half of the 20th century.

51 According to the *Oxford English Dictionary (OED)*, the term "broadcast" has a long history, as a general metaphor for dissemination, first for scattered seeds thrown in all directions (rather than planted in a line), then *like* scattered seeds (the two examples given are of 'broadcast accusations' and 'a host of spies [...] scattered across the land'), and only in 1922 does the *OED* take note of the application of the term broadcast to radio (or rather, to 'wireless'; *OED*, s.v. "broadcast"). In point of fact, the earlier notion of broadcast, basically lifting the agricultural metaphor of scattered seeds, was already applied to sonic media in the 19th century. An 1888 address on the gramophone by Emile Berliner suggests that the Pope could 'send broadcast' his blessing by recording it, mass producing the records and distributing it via mail to countries all over the world (Berliner, 1888). An 1899 history of wireless telegraphy suggests that 'many cases of impromptu communion arise where, as Professor Lodge says, it might be advantageous to "shout" the message, spreading it broadcast to receivers in all directions' (Fahie, 1899). In both cases, broadcast in its adjectival form is a fairly tight agricultural metaphor. Yet it is also worth noting that Berliner's use of the term broadcast is actually quite close to what podcasters do: they record something and disseminate it widely. They can skip the industrial production process needed for gramophone discs since computers reproduce files with great ease, and of course RSS is faster than the mail. But the practice of recording and disseminating, in an *n-to* formation is relatively consistent across the two centuries.

52 The agricultural metaphor is also an excellent normative definition of broadcasting: wide dissemination of content through mechanical or electronic media. John Durham Peters writes that dissemination is the form of communication most friendly to 'the weirdly diverse practices we signifying animals engage in and to our bumbling attempts to meet others with some fairness and

kindness' (1999: 62). The problem with RCA's definition, as we will see, is that it renders broadcasting as dissemination without the possibility of 'weird diversity'. Here is a graphical representation of the process from 1922 (Sterne, 2003: 226):

53 Note the emphasis on equipment – in the picture you can find wattages, vacuum tubes, broadcast transmitters, control rooms, microphones and speakers. Broadcasting is high technology, and perhaps high fashion as well. This picture epitomises RCA's attempt to define broadcasting as professional, laden by technology, based on a network that makes use of the electromagnetic spectrum, and one where the "sender" and "receiver" are not only separate in time and space but essentially different classes of people. A few people make broadcasts; many others listen. Or at least, that's how RCA wanted us to see it.

54 One particular employee of RCA was especially obsessed with the definition of broadcasting. George Clark spent his entire adult life (starting in 1902) collecting material related to radio. From 1908 to 1919 he worked for the U.S. navy, and thereafter went to work for Marconi Wireless Telegraph, which was renamed the Radio Corporation of American in the 1920s to assuage fears of foreign ownership. Clark started out working in sales but moved on to the legal department. He collected materials for a "radioana museum" that never materialised, but the Smithsonian's National Museum of American History in Washington, D.C still holds his collection.

55 Clark was a true believer in RCA's definition of broadcasting. After a 1934 speech by RCA president David Sarnoff, Clark wrote that broadcasting should be defined as 'The operation of a station, for the people, on a regular schedule, and with these people well equipped in their homes to turn on a switch and move a dial and then receive – and if this be our definition, then KDKA was the first' (1934). Clark contrasted his definition with a more open ended construct of broadcasting as 'an army of amateurs, who, on the air, in the laboratory, and in the old family garret, proceeded to contribute what they could to the art' (1934). In other words, broadcasting wasn't real until RCA started to do it. Clark's decades-long argument with Lee DeForest (inventor of the vacuum tube) further evidences this position. DeForest championed the transmission model of broadcasting, whereas Clark insisted that broadcasting was defined by its industrial formation: 'De Forest the "father of broadcasting?" He certainly is not. I told him so, at a personal talk in Washington in 1939, and we nearly came to blows' (Clark, 1939). Apart from the macho man posturing, Clark worked his whole career for, and in a sense his collection is dedicated to, the idea of broadcasting as centrally-provided and corporately controlled. Clark's story is only a small anecdote in a much larger history, but it is a nice synecdoche for the process.[14]

56 The historians cited above – Susan Douglas, Michele Hilmes, Marc Raboy, Robert McChesney, Susan Smulyan and a number of others – have documented the process by which RCA's definition of broadcasting came to hegemony. While there is some debate over specifics, a very truncated version of the story goes something like this: In the early days of radio, amateurs and the military dominated the airwaves. Corporations didn't see broadcasting as a profitable activity in itself but rather put content out over the air to help sell radios. In 1922, AT&T discovered that it could sell airtime to advertisers and radio became a profitable enterprise. At the same time, nation-states began to take an interest in radio as a means of building a common national culture. Combined with the popularisation of radio sets that could only receive (and not transmit) and a massive PR campaign by companies like RCA, the for-profit model of broadcasting took hold in the United States, while the BBC and CBC were founded in Britain and Canada. By the mid 1930s, broadcasting had moved from a polymorphous practice undertaken by amateurs and professionals alike to a practice heavily regulated by states, who ensured a rarity of access to airwaves, and at least in the U.S., dominated by a for-profit model that saw audiences as something to be cultivated in order to sell them to advertisers (Meehan, 1990).

57 It is worth noting that the rich history of alternative broadcasting – from ham radio (which *was* a kind of radio until the 1930s) to independent community stations and whole networks – generally define themselves against corporate broadcasting (Riismandel, 2001; Fiske, 2001; Newman, 2004). Even such august institutions as the CBC were at various times in their history legitimated in terms of their ability to contribute to the creation a distinctively Canadian identity and Canadian content to counter the onslaught of American radio signals that did not politely stop when they reached the Canadian border. Rhetoric around podcasting sounds a lot like the rhetoric one finds alongside community radio projects or even in policy documents about the need for national cultures. The

difference is that podcasting isn't licensed, it doesn't require any formal training (even the most radical community station usually requires aspiring broadcasters to go through some kind of minimal training program) and it is not centrally scheduled; perhaps this is why it seems so easy to juxtapose podcasting against broadcasting.

58 Despite the existence of alternative models and at times active resistance to commercialisation on the part of audiences and broadcasters alike, RCA (and in this respect, the early BBC and CBC weren't substantially different) won out in both policy and everyday parlance with a "we have the equipment and the license and you don't" model of broadcasting. In this model, broadcasting was a one-to-many endeavour, but the "one" was either a state-mandated organisation or a corporation seeking an audience. This is the model of broadcasting with which we live today.

59 If podcasting is named for a corporate product, it is only reasonable to give the dominant model of broadcasting a name more fitting to its history. Perhaps the for-profit, corporate controlled, limited-access, mass-audience-hunting model of broadcasting should be called "RCAcasting". Sure, it's an ugly term. But so is "podcasting". To be fair, RCAcasting could also be called BBCasting or CBCcasting or USSRcasting, since they all worked on the same principle: few producers, many consumers, and most crucially limited access to the means of transmission. Berliner was a utopian socialist Jew, so we ought to save him the indignity of calling his model of recording Popecasting – but only because his model of broadcast was essentially open to all comers who could afford to make and press a record. It was, relatively speaking, more accessible. It also serves as a nice historical precursor of the kind of accessible broadcasting we might hope for with what is currently called podcasting. It is not too much to hope for broadcasting that is open to all — so long as they have access to the right gear — and broadcasts that are equally available to all regardless of who made them.

Conclusion: Podcasting is Broadcasting

60 The popularisation of podcasting as a practice ought to turn our attention back out to questions regarding who has the right to communicate, to what extent and by what means. The iPod/RSS story of podcasting, so pervasive in press accounts, connects nicely with the technoutopian currents of the business world, but offers little insight into the potential cultural significance of the practice. Indeed, the term podcasting itself seems more a product of the citational practices of bloggers — and mainstream news outlets' tendencies to take their terms and debates as preconstructed (see Bourdieu 1998) — than any meaningful reflection on the nature or significance of the practice. If podcasting is like blogging, it is not only because it uses RSS technology or allows for the possibility of an amateur aesthetic, but because it opens up cultural production to a whole group of people who might otherwise have great difficulty being heard. This audio culture is fuelled by a producer culture that has developed around the emergence of (relatively) cheap audio production hardware and software, and it encompasses both professionals and amateurs alike.

61 Greater access is the rallying cry of podcasting, but the point of our historical detour is to suggest that if the problem is the corporate control of broadcasting, then we should be talking about a new vision of broadcasting as a whole. If we free the term broadcasting from its corporate connotations and remember its longer history, then podcasting is not simply an outgrowth of blogger culture, but rather part of a much longer history of dissemination. Podcasting is not an alternative to broadcasting, but a realisation of broadcasting that ought to exist alongside and compete with other models. If broadcasting were a more generally available term, then perhaps we could begin to speak of our own broadcasts without sounding grandiose or pretentious. The point is not endless celebrations of individuality in computer culture. It is not enough to add 'My Broadcasts' to 'My Documents', 'My Music' and 'My Photos.' Rather, we would like to see broadcasting reopened as a political and cultural question. In some small way, and in spite of its preposterously branded name, podcasting might contribute to that project. At its best, it has certainly already contributed to the weird diversity of audio out there in the world.

Authors' Biographies

Jonathan Sterne is an associate professor in the Department of Art History and Communication Studies at McGill University. He is the author of *The Audible Past: Cultural Origins of Sound*

Reproduction (Duke University Press, 2003). His next book is tentatively titled *MP3: The Meaning of a Format*, and he is editing a reader in Sound Studies. Visit his website at https://sterneworks.org.

Jeremy Morris is a PhD candidate in the Department of Art History and Communication Studies at McGill. His research interests include the current state of the popular music industry, the marketing of cultural goods and technologies of music production and consumption. In addition to his academic work, Jeremy also records, engineers, and hosts podcasts. To contact him, go to www.jeremywademorris.com

Michael Brendan Baker is a PhD candidate in the Department of Art History and Communication Studies at McGill University and a part-time faculty member at Concordia University's Mel Hoppenheim School of Cinema. He is a past recipient of the Gerald Pratley Award and an executive member of the Film Studies Association of Canada.

Ariana Moscote Freire recently completed her M.A. studies in communication at McGill University. Her work will appear in a forthcoming special issue of *The Radio Journal: International Studies in Broadcast and Audio Media* on "Contemporary Radio in North America".

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Notes

[1] A Forrester research report casts some doubt on these inflated numbers, claiming only 1% of online households regularly download and listen to podcasts. The report also acknowledges the difficulties of obtaining accurate measurements on the fledgling media form (e.g., downloads vs. subscriptions etc.). See Li (2006a and 2006b) for more details.

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[2] After realising that the vernacular nature of the term podcast essentially rendered it beyond trademarking, Apple set its sights slightly lower and formally expressed its interests in the term "ipodcast" in an application filed with the United States Patent and Trademark Office (USPTO) (AppleInc. 2005). While the application defined the term at great length and attempted to acknowledge every possible application ipodcast could possibly encompass, it was precisely the widespread use of the term podcast and the broad range of practices to which it applied that foiled Apple's (and others') efforts to successfully trademark and control its use. The ipodcast trademark application was eventually successful after Apple responded to a series of oppositions and challenges from the USPTO requiring the company to delimit the scope of their definition of the term before considering the file (USPTO trademark application nos. 78706746 & 78706741, 2007).

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[3] RSS documents are prepared with Extensible Markup Language (XML), a text format designed for electronic publishing and not dissimilar from the Hypertext Markup Language (HTML) that constitutes much of the content published on the web.

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[4] Thus, our paper is not intended as a holistic account of podcasting, nor as a study of podcasters, listeners or industries.

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[5] It is Searls who famously cites his own Google search for the term podcasting on 28 September 2004 – at the time it produced 24 results – before suggesting that within a year 'it will pull up hundreds of thousands, perhaps even millions' of results. On 01 February 2007, the same informal search returns over 123 million results.

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[6] An early and representative example of these articles can be found at Endgadget.com, https://www.engadget.com/2004/10/05/engadget-podcast-001-10-05-2004-how-to-podcasting-get/ (Accessed 03 February 2007).

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[7] The Wikipedia entry for podcast has been the source of some dispute itself (See note 9). However, the debate surrounds the contribution of the individual actors involved in podcasting's emergence; there is little dispute we know of that questions the wiki's definition of the term.

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[8] Video podcasts are now being prepared, posted and indexed in much the same way as audio podcasts.

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[9] It should be noted that the precise chronology, contribution and merits of Winer, Lydon and Curry's roles in the development of podcasting remains in some dispute. In December 2005 it was revealed that Curry had been anonymously editing the Wikipedia entry for podcasting in such a way that Winer's role was reduced and other key contributors (including programmer Kevin Marks, who wrote the script effectively linking RSS with iTunes) were deleted entirely. At the time of writing, Wikipedia entries for various terms and concepts relating to podcasting are no longer editable by unregistered users and the controversy itself is documented – see "Podcast", https://en.wikipedia.org/wiki/Podcast (Accessed 26 June 2007).

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[10] Being a web-based service, users of any other digital player (e.g. the Diamond Rio) could also download files from MyAudio2Go.com but the service bolstered i2GO's attempts to position the eGo player as a device specifically designed for use in cars and other consumer vehicles. For more, see Fridman (1999).

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[11] The launch of Cubase (1989) and its virtual studio tools (1996), ProTools (1991), Cool Edit (1997), ACID Pro (1998), Nuendo (2000), Reason (2000), Ableton Live (2001), and Audacity (2002) all signaled a recognition of the market potential of audio software.

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[12] For examples of hardware and software that brands itself as "perfect for podcasting" see, e.g., the HHB FlashMic (https://www.hhb.co.uk/flashmic/), the Samson C01U Studio Condenser Microphone (https://www.samsontech.com/products/productpage.cfm?prodID=1810), the Behringer Podcastudio (https://www.behringer.com/podcastudio-firewire/index.cfm?lang=eng), and other studio-in-a-box solutions (https://www.m-audio.com/products/en_us/PodcastFactory-main.html).

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[13] *The New York Times,* for example, once offered exclusive podcasts and other multimedia as part of the TimesSelect online paid subscription service. The Ricky Gervais Podcast, one of the most consistently popular podcasts, hosted by Guardian Media Group, had such a successful 1st series of (free) podcasts that the second "season" was only available for a fee ($1.95 per episode).

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[14] Series 134 and 135 of Clark's papers at the Smithsonian National Museum of American History are heavily populated with attempts to define broadcasting and to link it to the particular from which it took at RCA.

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