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Beyond a spot on the dial

Para além de um ponto no dial

Más allá de un punto en el dial

Andrew Ó Baoill

Abstract

This study examines the decision-making employed by stations in choosing to employ such alternative distribution mechanisms, identifying the constraints under which stations operate, and the extent to which these choices function as a form of regulatory arbitrage. It analyzes the impacts of such decisions, on access, conformity with station mission, cost, and the nature of the resulting outlet. The paper intersects with broader conversations about how community media practitioners negotiate regulatory, technological, and other constraints, and the impact of such responses.

Keywords: College radio; regulatory arbitrage; community media; neoliberalism; public engagement.

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Resumo
Este estudo examina a tomada de decisão empregada pelas estações na escolha de empregar mecanismos alternativos de distribuição, identificando as restrições sob as quais as estações operam e até que ponto essas escolhas funcionam como uma forma de arbitragem regulatória. Analisam-se os impactos de tais decisões no acesso, conformidade com a missão da estação, custo e a natureza da comunicação resultante. O artigo apresenta interseções com discussões mais amplas sobre como as pessoas que atuam em mídia comunitária lidam com restrições regulatórias, tecnológicas e outras, e o impacto de tais respostas.

Palavras-chave: Rádio universitária; Arbitragem regulatória; Mídia comunitária; Neoliberalismo; Engajamento público.

Resumen
Este estudio examina la toma de decisiones empleada por las estaciones al elegir emplear mecanismos de distribución alternativos, identificando las restricciones bajo las cuales operan las y hasta qué punto estas opciones funcionan como una forma de arbitraje regulatorio. Se analizan los impactos de tales decisiones en el acceso, la conformidad con la misión de la estación, el costo y la naturaleza de los medios resultantes. El paper se articula con conversaciones más amplias sobre cómo los actores de los medios comunitarios negocian las limitaciones regulatorias, tecnológicas y de otros tipos, y el impacto de tales respuestas.

Palabras clave: Radio universitaria; Arbitraje regulatorio; Medios comunitarios; Neoliberalismo; Compromiso público.

Introduction

Non-commercial privately-held radio has expanded significantly globally in recent decades, with many countries licensing such stations for the first time, and other countries increasing the number of outlets operating. One of the challenges for the sector is that as new operators are entering a broadcast landscape that already includes established operators, the quantity of channels available for new entrants (particularly in urban settings) can be significantly constrained. This can also pose challenges for existing stations, as in some situations the shortage of channel availability can give broadcast licenses a

market value that tempts sponsoring organizations – such as the universities that often formally hold the licenses under which student radio stations, in particular, operate – to sell, or otherwise transfer, their broadcast channel, leaving the groups operating those stations without broadcast outlets. The paper involves particular attention to the plight of college, or student, radio in the United States, where recent years have seen significant divestitures of licenses by educational institutions.

This paper will focus on the experiences of college radio communities that have had to respond to the loss of their broadcast channel, and explore the strategies they have employed. This project involves study of existing over-the-air stations, as well as a number of individuals and groups which have leveraged alternative channels for distribution, as either supplements or replacements for such an outlet. Such choices are, in one sense, not new. Stations have used cable channels, or leased airtime from licensed outlets, for decades. The use now, however, of web-based distribution and digital sideband channels, is significant due to the distinctive economics and reach of such outlets, in comparison to regular broadcast solutions.

This study examines the decision-making employed by stations in choosing to employ such alternative distribution mechanisms, identifying the constraints under which stations operate, and the extent to which these choices function as a form of regulatory arbitrage. I employ a political economic framework to analyze the impacts of such decisions, on access, conformity with station mission, cost, and the nature of the resulting outlet. The paper intersects with broader conversations about how community media practitioners negotiate regulatory, technological, and other constraints, and the impact of such responses.

Context

We can identify, broadly, three archetypal models of radio stations affiliated with educational institutions in the United States. First, we have

stations that act as part of the institution's 'extension', or public education, service. Such stations are typically operated by professionals, affiliated with National Public Radio, and offer one or both of talk-based programming (news, current affairs, specialist programming) and classical music (or some other elite-coded genre). They typically have the largest budgets of stations in this sector, supported both by listener donations and government funding (through the Corporation for Public Broadcastings). Second, we have radio as laboratory. Such stations are embedded in educational programmes, providing opportunities for training and development for students studying in journalism, broadcasting, and similar fields. Riismandel (2002) approvingly notes Carmode's (1995) claim that this approach, "training facilities that mimic commercial stations" (Riismandel, 2002, 438), has been the primary model for student radio in the United States. Third, we have the stations of interest to us here – those that operate rather autonomously from the institution (whether or not the license is formally held by the institution) by students and/or community volunteers. Though smaller than the other two sub-sectors noted above, it has a particular salience in the public imagination. This sub-sector – what we might think of as the College or Student Radio sector – has certain similarities to community radio, in its reliance on non-professional staff and its groundedness in a particular community (albeit one that is defined both by location and occupation). It is often associated with content formats that are more free-form than one might find on commercial or public stations, with a focus on independent and emerging music artists, and has been described as "the breeding ground for new talent and the lifeblood of the independent record industry" (Ward, quoted in Sauls, 1995, 15). Rubin (2015) traces the emergence of this sub-sector to dominate the public understanding of what was meant by 'college radio' to the early 1980s. This, notably, coincides generally with the transition in student media, from the politically radical 'underground' media of the 1960s and early 1970s, to the 'alternative' media of the 1970s, which focused more on sub-cultural representation within the broader capitalist system, as analysed by Frank (1997) amongst others. Tremblay, in his study of college radio

in the United States, argues that changes within "the two sectors most affecting college radio: higher education and the commercial radio industry" (2003, p. 170) presage significant changes for the college radio sector, to which we might add the technological developments in digital communication networks. Baker, in examining the online 'Brooklyn College Radio', based at the City University of New York (CUNY), suggests that the looser regulatory constraints online allow a "more flexible" approach than in broadcast stations, subject to FCC licensing. However, Baker also notes that the governing factor is likely to be the "position [of these stations] within a university's institutional structure" (2010, p. 123).

The pressures of neoliberalism which have heralded the rise of the precariat, the retrenchment of state social programmes, and the surrender of ever more social structures to the logic of the market, are increasingly transforming the operation of both the mass media and the university sector (Miller, 2012, Dolber & Ó Baoill, 2018). The global economic crises of the past two decades have had a particularly serious impact on educational institutions, both public and private, in some cases accentuating challenges that were present previously. For public institutions, government funding has been under pressure for some years, falling as a portion of overall revenues. Endowments have taken hits as property and stock values have come under pressure. The third-level education sector is increasingly defined by an erosion in revenues from broad public supports, coupled with a shift to competitive and commercial sources; the elevation of league tables and similar metrics as determinants of future institutional support; and a focus on activities – particularly in research, but increasingly also in teaching – that are directly at the service of external commercial players, as the mission of higher education is increasingly narrowly defined as a tool of economic development.

As universities come under pressure to identify efficiencies and engage in cost-benefit analyses of all aspects of their operations, many are retrenching, retreating from formerly expansive understandings of their commitment to public engagement. These pressures are causing educational institutions to critically assess not just outlays on broadcast operations, but the potential for

generating funds through the sale of broadcast licenses. Concurrently, a perception of changed media usage practices among student audiences, and the emerging potential for distribution of audio content through digital networks, is changing the calculus for institutions which have long held broadcast licenses in order to further broader institutional goals. As such institutions review their operations and assets, some are concluding that their goals can be best met through abandoning broadcast operations (Fauteaux, 2015; Smallwood et al., 2018). An example of this is offered by Susan Harmon of Public Radio Capital (a broker for many license sales) who posits the case of Duquesnes University in Pittsburgh, which sold its license "and want to use the proceeds from the sale to support other academic goals" (McCoy, 2011). Numerous American universities have liquidated their broadcast operations, using brokers to sell to external not-for-profit broadcasters that seek additional dedicated channels for increasingly niche (but lucrative) offerings, typically classical music, sometimes public affairs. There are a small number of 'successful' examples, of station licences previously owned by an educational institution being transferred to its activist base – WFMU in New Jersey is perhaps the most prominent example, which gained 'autonomy' when its licence, previously held by Upsala College, was bought by those operating the WFMU station shortly before that college closed in 1995 (WFMU, n.d.). More common, however, are the examples explored in this paper, where those involved with a station have lost access to the main broadcast channel, and have had to devise alternative strategies for maintaining operations and reaching audiences.

This paper draws on critical work on the political economy of US radio (Anderson, 2013, Dunbar-Hester, 2014, McChesney, 1995, 2000, 2002, Ó Baoill, 2014, Opal, 2004, Pickard, 2011, 2014, Riismandel, 2002) and on critical cultural analyses of the contemporary university sector (Miller, 2012, Dolber & Ó Baoill, 2018). Both of these schools of critique are grounded in a tradition that advocates for maximalist approaches to cultural and democratic participation (Dewey, Williams, 1961, Carey, 2008). This project builds on this perspective to, as other scholars have done (Coyer, 2005, Downing, 2000, Dunbar-Hester, 2014,

Moylan, 2019, Rodríguez, 2000) explore the potential of a model of media production grounded in values of participation, access and representation, as an alternative to commodified models of media consumption. The study consists largely of desk-based analysis, drawing on trade and popular press coverage of this issue over roughly a decade, supplemented by a number of interviews drawn from a related project. Robert McChesney, perhaps the most prominent political economist of US radio, has argued that a form of regulatory capture has resulted in decreased quality of radio content since the mid-1990s, and that the primary task for 'scholars concerned with radio' is to generate a debate "over how best to use the public airwaves" (McChesney, 2001, viii). The goal of the analysis in this paper is to focus on the challenges faced by a particular sub-sector – resulting from the interplay of the political economies of the university sector and the non-commercial broadcasting sector – and to identify the tactical and strategic responses that have been available to, and leveraged, by the groups studied.

A short history of broadcast regulation

Broadcast communication is subject to broader government oversight and regulation in large part because of the nature of the broadcast spectrum. Both the AM and FM standards allow only one transmission on any particular block of spectrum (in any geographic space), and this has been used as a basis for much regulation of broadcast transmission. While the radio spectrum has been treated as a public good, with regulation requiring its use in service of "the public interest, convenience and necessity," the interpretation of this directive in the development of policy has been a site of struggle and contestation. As McChesney and others have shown, the early FRC and FCC favored commercial operations over non-commercial stations, as more likely to be forced by market pressures to reflect the 'public interest,' and also, in the licensing of high-powered 'clear channel' stations privileged larger broadcast operations, again as likely to fulfill a certain vision of acting in the greatest 'public interest'

(McChesney, 2000).

This 1930s-era regulation did not completely shut off the possibility for non-commercial broadcasting, but it did significantly hamper it. Unlike many other countries, there was no centralized revenue stream for non-commercial broadcasting. Those non-commercial stations that did continue on air were largely associated with universities, with many hobbyists and smaller operations unable to continue in operation in the newly regulated environment. While the nation's first listener-supported station, KPFA, went on air in 1947, it was to be several decades later in 1967 before the Public Broadcasting Act established the national public broadcasting networks, and created federal funding streams for non-commercial radio and television. This coincided with a period of significant growth in the number of FM licenses – a platform that is more geographically constrained, by technical factors, than is the AM platform.

Through the 1970s and early 1980s, many new stations went on the air. However, by the late 1980s, the opportunities for new stations began to disappear. The FM band was more crowded, and the preference of the FCC and CPB (Corporation for Public Broadcasting) for larger-power stations meant that smaller stations, which might have fitted into gaps in the dial, were not licensed. An increasing number of individuals and groups took to the airwaves without licenses, in what became known as the micro-radio movement. Just as many point to the importance of individuals like Lorenzo Milam in fostering an earlier generation of community radio stations, so too does micro-radio have its list of individuals whose example and work is seen as central to the building of a sense of movement, such as Stephen Dunifer "who's sort of the Johnny Appleseed of Pirate Radio in the United States, because he made available transmitters by mail order" (Riismandel, Paul. Interview with the author). Micro, or pirate, radio became a tangible expression of the dissatisfaction of many with the media available to them, particularly in the wake of the 1996 Telecommunications Act, which resulted in increased consolidation of the U.S. commercial radio sector (Anderson, 2016; Coopman, 2000; Dunbar-Hester, 2014; Howley, 2000; Opel, 2004; Ruggiero, 2011).

Constantly under threat of raids by the FCC, many operators of unlicensed stations, and others who wanted the opportunity to broadcast legally, pushed for the licensing of lower-power stations by the FCC (Ruggiero, 1999). In 2000 the FCC announced a new licensing scheme for so-called LPFM (low-power FM) stations, which would be limited to non-commercial entities, and would operate at between 10 and 100 watts. Following pressure from the National Association of Broadcasters, Congress passed legislation that placed severe limitations on the FCC plan, leading to what Andy Opel (2004) termed the "evisceration" of the original plan. It was only in 2011 that legislation was implemented to reverse these limitations (Prometheus Radio Project, n.d.).

The relationship between public broadcasting and other non-commercial radio sectors has not always been harmonious, with public radio operators sometimes wary of the potential for competition, or jealous of the frequencies occupied by other operators. This led NPR to join with the commercial radio lobby group, the National Association of Broadcasters (NAB) in opposing proposals for a non-commercial LPFM service in the early 2000s. Previously, in the 1970s, industry pressure had led to the retiring of Class D stations, a low-power non-commercial predecessor of LPFM (Riismandel, 2002, 430).

There has been much coverage and analysis of the consolidation of the commercial radio industry in the United States in the wake of the 1996 Telecommunications Act. There has been less attention paid to developments in the public radio sector that are seen by some as improving the service provided to audiences and strengthening the position of the sector, and by others as reducing opportunities for participation and for local programming. The Healthy Station project of the Corporation for Public Broadcasting, which often results in stations being recommended to drop diverse volunteer-led programming for more standardized fare – particularly content produced by professional staff members and nationally-originated content – which is calculated to attract larger stable audiences, and hence more stable financial situations, can be a lightning rod for criticism, with advocates for more access-focused models arguing that the approach can result in smaller under-served communities being

abandoned, and that gains in audience numbers are off-set by declines in the number and range of individuals and groups directly represented in production. Fairchild's analysis of the implementation of the Healthy Station Project at WERU and other stations leads him to conclude that the push for professional and national content ignores the potential of locally-originated content to "critically [inform] listeners about the world in which they live without obscuring the contours of the place in which they live" (Fairchild, 2001). It is, ultimately, a desire to maintain such locally-originated programming that animates the projects we explore below.

Case Studies

KUSF

In mid-January, 2011, the University of San Francisco, a private Catholic university, announced that it had sold the broadcast license of KUSF, its student radio station, to a corporation controlled by the University of Southern California. Although the sale, facilitated by Public Radio Capital, was from one educational institution to a subsidiary of another, the format of the licensed station was to change drastically, from an eclectic volunteer-operated radio station, to a classical music station. KUSF, operating since 1963, had a strong reputation for its music programming, and had some long-standing volunteer DJs from the community, in addition to student involvement (Fauteaux, 2015). USF claimed that this development would allow the University "to focus on the station's primary purpose as a teaching laboratory for students", and to raise funds from the sale for use on university activities – arguing, also, that an online operation would be more cost-effective for a smaller radio station.

The loss of the KUSF student station was met, as might be expected, with an immediate negative response, from volunteers and audience members. The station was well-regarded nationally for its music programming, and for its place within the alternative music ecosystem. On February 18, 2011, a dozen free-form and college radio stations participated in a simulcast, organized by Billy Jam, a

DJ from New Jersey's freeform radio station WFMU, of a live broadcast from a San Francisco record store, to draw attention to KUSF's plight. Jam frames the KUSF situation as part of the broader trend, and a larger issue, "an ugly trend of US college radio stations getting sold off, and hence is a direct attack on independent media (an endangered species already) everywhere" (Waits, 2011).

The KUSF situation is noteworthy for a number of reasons. First, the high-profile nature of the station (particular in certain counter-cultural sectors) draw attention to, and media coverage of, a trend in college radio – particularly when quickly followed by other high-profile shutdowns, WRVU at Vanderbilt University in Nashville, and KTRU in Rice University in Houston (Fauteaux, 2015; Smallwood et al., 2018). Second, the activism sparked by the closure led to a a re-energised college radio 'movement', including driving engagement with a nationwide 'college radio minute of silence' that April (Fauteaux, 2015), and later with annual College Radio Day celebrations – first national, in 2011, and international from 2012 (College Radio Foundation, n.d.).

In the aftermath of selling the KUSF license, the university planned to switch to an online streaming service, focused on providing a laboratory experience for students. This would not only eliminate the broadcast outlet for students, but also terminate most of the content previously provided on the station. KUSF staff initially launched their own 'KUSF in Exile' streaming operation, with hosting support from WFMU and operating from temporary studios, while also (unsuccessfully) challenging the license transfer (Janssen, 2012; Waits, 2012). Seven years after losing the KUSF broadcast channel, the project returned to the airwaves as San Francisco Community Radio on KXSF-LP 102.5FM, a low-power station (Fong-Torres, 2018).

WYSU

These newly disenfranchised student and campus groups join large numbers of aspiring community radio groups – a recent window for license applications saw some groups that have been waiting for an opportunity simply to apply for over a decade, so rare is available broadcast spectrum in the US. As

an alternative, we see groups accessing 'digital sideband' channels on existing community stations; building networks of unlicensed 'low power AM' transmitters; turning to the internet; and combinations of the above. These tactics leverage technological developments, reaching audiences in ways that would not have been possible just a few years ago. However, they come with various limitations, in terms of scalability and cost, or accessibility to audiences. Projects that aim to serve working class immigrant populations will not see the same benefit from a SoundCloud streaming audio solution as will a project aimed at college students or audiophiles.

The shortage of channel openings means that many groups that might otherwise be interested in operating broadcast student radio are limited to online operations. The situation at Youngstown State University, in Northern Ohio, is a relatively common one. The University has an NPR affiliate, WYSU, which provides some opportunities for students to gain work experience, but there was, until recently, no student-run or student-focused broadcast outlet. The university has now launched an online-only operation, Rookery Radio, with the station (faculty) advisor, Adam Earnheardt, noting (Waits, 2011) the future "potential to jump on an HD channel at a local station", though that appears not to have materialised. The station is supported by the University, and its School of Communication, which provides a faculty adviser, but describes itself as a "student-run" station, with access to airtime available to all university-affiliated students, and under the slogan "real college radio" (Rookery Radio).

KTRU

In April 2011 the FCC approved the sale of KTRU, the student station at Rice University, a secular private university in Houston, TX, to the University of Houston, in the process denying a petition by listeners aimed at halting the sale. As with KUSF, an alternative music format would be replaced by classical music. The reasons for discontent among KTRU station supporters are several – loss of individual access to the airwaves for staff, loss of a service to a particular audience. Joey Yang, the student station manager, notes that while defenders of

such deals often point to gains for other genres (such as classical music or news), in the case of KTRU "we're looking at a net format gain of zero, and a loss of independent radio" (Freedman et al., 2011). In KTRU's case, programming continued online, but also on one of the HD digital sidebands of local community radio station KPFT FM, part of the Pacifica network. When the station secured an LPFM license in 2015, it ceased its retransmissions on the KPFT sideband channel (Hardy, 2015; Passwaters, 2015).

CHIRP

Not all of the crises faced by radio stations have come from educational institutions abandoning the broadcast medium. CHIRP is a Chicago-based radio project that emerged from the crisis of losing a broadcast channel to the (license-holding) institution (Sless-Kitain, 2008). The organization was founded in August 2007, after WLUW, a radio station which had previously been available to the community, under the stewardship of local public radio operator WBEZ, was taken back by the licensee, Loyola University. By early 2009 Shawn Campbell, the group's founder, was reporting a volunteer base of 120 individuals (Prometheus Radio Project, 2009).

Many of the United States' community radio stations are to be found in smaller cities and towns. This is largely a function of spectrum scarcity – a city the size of Chicago has the same number of city-wide slots available as does one the size of the much smaller Urbana, Illinois. So, from the days when KPFA was established in Berkeley rather than San Francisco, the nation's larger cities have had few community stations. The regulations introduced by Congress restricting LPFM licensing meant that few large cities had LPFM stations. The CHIRP group was reliant on passage of the Local Community Radio Act to have a chance of getting an LPFM station, which eventually happened in 2011 (Prometheus Radio Project, n.d.).

Campbell has expressed concern that internet services such as webcast do not necessarily provide the localism associated with over-the-air

broadcasting. Radio's strengths, she noted, "were always localism and immediacy, that it was live and right in your community" (Raymer, 2010). Matthew Lasar has expanded on this issue in pointing to the particular economics of broadcast radio, where there are no additional unit costs for additional listeners. (Lasar, 2009) notes that Live 365 streaming service, "a package that permits just 100 simultaneous listeners starts at $200/month" and quotes media activist and radio producer Paul Riismandel as noting that an LPFM station in a large city could potentially "reach a population as much as a thousand times that size."

Notwithstanding the limitations identified, lacking, at the time, an opportunity to start a broadcast station, CHIRP decided, in the interim, to found a web-only service, though this was clearly a less favoured solution, with the group announcing that "the online station will limit its listenership because of expensive Internet royalty rates" (Gantz, 2009). Such a service was intended to build an audience and support base for the project. Campbell notes that stations such as KEXP, a music-oriented station linked to Seattle's Experience Music Project and available online, attract a large audience in Chicago, and suggests that this indicates a large audience for a "cool music and arts-oriented community radio station" (Sless-Kitain, 2008).

A webcast would allow CHIRP to tap into that interest, and to provide a service even without a broadcast license. Perhaps most importantly, a webcast can provide a proof of concept, something more than a dry-run, for their more ambitious broadcast project. For a project that relies on the public to attract funding, and on the involvement of a large team of volunteers, a webcast can help to sustain such support and engagement. As Campbell has noted, "you can only keep volunteers and supporters around so long with the promise of a future project" (Prometheus Radio Project, 2009). A webcast, then, acts both as an outreach vehicle, reaching potential funders who can see in the online service a proof of concept, and provides volunteers with a degree of instant gratification.

One of the shortcomings of a webcast operation is, as Campbell notes, that not all members of the public have access to such a station – and of those

who have some access, not all will have equal access (Sless-Kitain, 2008). "If you're waiting in line at the library for an hour to get your 10 minutes on the internet, you're not able to listen to audio" (Prometheus Radio Project, 2009). The profile of webcast listening – most of it occurs during office hours – suggests that much of it happens in workplaces, and that many of those listening to webcasting are among those with persistent internet access in their workplace. Relying on a web-based service can "shut out people who do not have access to those technologies." The issue here extends beyond one of exclusion of individuals from the audience. We can recall the case of public broadcasting in the United States – where analysts have noted that reliance on audience support, coupled with a political requirement not to infringe on commercially-viable markets, has resulted in a service that serves primarily those in the relatively privileged socio-economic sectors of society. So too, there will be incentives for a service that is only available online to provide content that speaks to those who might listen online, and to ignore the interests and concerns of those who will not, in any event, be able to access the content.

Founded in 2007, it took a little over two years for CHIRP to launch its webcast service, in early 2010 (CHIRP, n.d.), and another three years before the FCC opened a 'window' for low power license applications. The station finally came on air in 2017, a decade after WLUW reverted to Loyola University.

WRVU

At WRVU in Nashville, TN, the independent corporation, supported by student fees from Vanderbilt University, that operates a variety of student media outlets including the station, decided in 2011 to sell its FM, moving its audio programming to online streaming, and using the revenue from the license sale to create an endowment for future development of student media at the university. While the corporation board had a student majority, radio station volunteers noted that none had involvement with the radio station, with most involved with print operations.

This development can be seen to hinge on differing assessments of the value of broadcast operations in the mix of media outlets available to students (as producers and as audience members). Members of the board argued that "as student demands and interests change, we need to be in a place to support them." One member of the board, engaging in online discussion with station supporters, claimed that "the option of divesting the license is being considered because of the attractiveness of developing an endowment" and that a move to an online-only format should not change the station's value as an "outlet for innovative music" or damage its ability to attract an audience or volunteers. This seems to reflect a view that an FM operation is of declining importance to student listeners, and that the fiduciary responsibilities of the board support liquidating of this depreciating asset while it still has significant value, and investing the funds received in support of other media outlets.

Those who supported retaining the broadcast channel, in contrast, pointed to the differing economics of the broadcast and streaming models, with streaming accommodating a limited number of listeners at any time, and to questions of accessibility by the members of the broader Nashville community (the "digital divide"). They also noted the role of the broadcast channel in anchoring the station to a geographic location, and the greater possibility for attracting casual or chance listening to a broadcast channel than to a web stream that must be specifically sought out by listeners. Unlike in San Francisco, where KUSF volunteers had no advance notice of the station being silenced, in Nashville, a group of station supporters coalesced as the plan to sell the station came into focus. A campaign to 'Save WRVU' – including a challenge, lodged with the FCC, of the transfer of the license to Nashville Public Radio – was ultimately unsuccessful (Waits, 2014). As with the University of San Francisco, an online-only student-only station continued, but the broader station community (and over-the-air audience) was disenfranchised when the station was silenced in 2011. Station supporters, who had come together as part of the Save WRVU campaign, applied for an LPFM license in 2013, and eventually went on air with an LPFM station, WXNA-LP, in 2016 (Trageser, 2016).

Discussion

Alternative paths to audiences

The inherent limitations of the broadcast model – each station can accommodate only 24 hours of content in any day, and programs are aired in serial fashion, with only a single program scheduled at any time – has caused some existing broadcast operators to investigate the possibilities provided by such additional channels. The digital radio platform adopted in the United States is an 'In-Band, On-Channel' model, where existing licensees retain their analogue signals, and layer a digital signal on the same channel. These digital channels can accommodate additional 'side-band' audio channels, opening up opportunities such as those referred to by Earnheardt at WYSU. However, as McChesney (2001, viii) and Anderson (2013) have noted, the adoption of the IBOC model represented a regulatory win for existing broadcasters, as it limited the expansion of capacity compared to other digital standards – and ensured that the benefits accrued to existing licensees, who retained control of the side-bands, rather than to the public or new entrants.

The shortage of over-the-air spectrum, and the widespread availability of relatively low-cost – and often free at point of use – tools for the production and dissemination of user-created content offer interconnected opportunities and challenges for community-based media. The shortage of available broadcast channels means that when the FCC accepts applications for new stations, they are frequently significantly oversubscribed, with many groups seeking mutually exclusive slots. As the portion of the band dedicated to non-commercial stations has become more crowded, the opportunities for new stations have become rarer, increasing the market value of existing broadcast licenses. From another perspective, while web streaming does provide an opportunity for distribution and audience reach that would not have been available some years ago – as in the case of the generation of students to lose their Class D licenses – the availability of web streaming is also being used as a rationale for divestment of licenses by universities, as in the cases of both KUSF and WYSU, in both of which

cases the university included a move to streaming as part of their plans – for their 'laboratory radio' activities in the case of the University of San Francisco, and for the quasi-autonomous 'Rookery Radio' in the case of Youngstown State University. We can thus see these developments emerging from an interplay of technological change, economic incentives, and ideological framing of the mission of the university.

Non-commercial and community-based outlets are often among the first to experiment with the potential of new tools for media production, as with the global Indymedia movement, which provided a space for the distribution of activist-generated content at a time when many professional news outlets were still rather gingerly rolling out their online efforts (Coyer, 2005). Both new projects and those operating within established community media organizations can leverage new opportunities for the creation of tactical media, relying on a form of arbitrage that exploits dynamic systems for the quirks and loopholes that emerge. However, there is an uncertainty in relying on peripheral or unintended features of systems (be they technological or regulatory) – such arbitrage always takes place with the possibility that a change in system architecture or implementation will cripple one's efforts, though as Rodríguez (2001) and others (Ó Baoill & Scifo, 2019) have noted, the ephemerality of individual projects forms part of a "colorful quilt" (Rodríguez, 2001, p. 22) of cultural and political interventions.

More broadly, the journey from experiment to sustainable engagement can be a tricky one for community media. Where initial experimentation was driven by individual interest – the tinkerer's instinct – or volunteer involvement, ongoing resources may not be present to sustain institutional development. The example of KUSF in Exile provides a useful example of an influx of volunteers and resources at a time of crisis, with support from WFMU, and its volunteers, enabling the initial webstream and response, but with the station group needing to ensure its own long-term viability. As corporate and professional media embrace a tool, the cost of continued (effective) use of that tool may rise – status quo engagement by media outlets may not be a viable response. In

addition, as noted by the founders of CHIRP, while a webcast might be useful in offering 'proof of concept' and sustaining volunteer engagement, it is neither sustainable (given the largely linear relationship between audience and costs online) nor sufficient by itself as a long-term, accessible, solution for an economically and culturally diverse city such as Chicago.

Fraught relationship with technologies

The current moment offers an additional challenge for community media, in the form of decisions over how to engage with corporate-operated online social media. While community media have long been dependent in various ways on the very systems so much of their criticisms have been directed towards, the relationship between community media and social media network is an all-subsuming one, with these networks controlling the means of distribution (retaining ongoing control over the path from content creator to audience, while also bundling information about those relationships to be sold to third parties) and gaining a form of regulatory control over content providers through binding service agreements.

In addition, many of the incentives that would drive individuals to engage with community-based media, such as access to production resources or distribution channels, are declining in value as a result of the tendencies noted above. How can community media organizations add value to their communities beyond that provided by loose networks of activists and citizens distributing content through online social networks?

Leverage of opportunities facilitated by current market conditions – such as regulatory gaps or emerging technologies – can provide important short-term benefits to community media, but such arbitrage opportunities will inevitably disappear as commercial entities become aware of them. The answer must lie in the deep entwining of community media organizations in their local communities, including, formally and informally, in other local organizations. Such institutionalization brings its own risks, but promises more stability and, crucially, enables a broad-based understanding of how 'community' is conceptualized in the context of community media.

Does medium matter?

In the context of these developments, it is incumbent on any observer to interrogate seriously the arguments for and against retaining broadcast operations for college radio stations. In previous generations, college 'radio' operations leveraged technologies such as carrier current and closed-circuit transmission, as well as transmission via public cable-access networks (Sauls, 1995, p. 2). If concern over the loss of broadcast spectrum is simply a question of sentimentality, a lament for the loss of tradition and the familiar, then while we might have sympathy for the emotional impact of the change for those directly involved, it is not something of broader concern.

So, does medium matter? The answer to this will depend in some part on the mission we identify for college and community radio. If the goal is to act as a laboratory space for broadcasting students, it may be reasonable to view the distribution mechanism as secondary to the production process, an approach that appears present in several of the cases discussed above, such as the laboratory radio offering from the University of San Francisco – though notably, this relied upon a jettisoning of the KUSF community-oriented service. Insofar as uncoupling operations from a geographic broadcast signal dissuades non-students from seeking involvement, and facilitates a 'rebooting' of operations, removing a broadcast signal may indeed be seen as a positive development by those who view the involvement of a sizeable number of non-students in station operations as indicating a divergence between station activities and the 'core' mission of their institution. Such a view can be interpreted as stemming from both a fiscal conservatism, common to a time of financial stress for education institutions, and also to a philosophical retrenchment in terms of an understanding of the desired relationship between 'town and gown', something that goes beyond the scope of this paper, but which is significant to future struggles over the existence, and role, of college stations (Dolber & Ó Baoill, 2018, Miller, 2012, Schuetze, 2012).

If the goal is to serve audiences, or to provide an opportunity for

community members (broadly defined) to reach local audiences, then the lack of a broadcast signal is clearly going to have an impact on the ability of an outlet to operate effectively, as noted by Campbell in the case of CHIRP. Issues of access, the continued impact of the digital divide, are important here (Fairlie, 2017).

More subtle – and grounded in social rather than material conditions – is what is expected of broadcast outlets in the emerging on-demand world. Those listeners who have access to digital outlets are not simply swapping analogue for digital. Rather they are supplementing, switching between platforms depending on availability and convenience. Patterns for webcast and radio usage suggest that many audience members are listening to station webcasts while inside the geographic coverage area of the broadcast station, and are doing so at times, and places, where they are unable to listen to over-the-air signals, such as while at work, etc., and are switching to broadcast signals while commuting, etc. Removing the broadcast signal damages at least part of this 'on demand' chain. It should be noted, of course, that this geographic basis for online audiences is based at least in part on brand recognition – something that is important in a situation where listeners must actively seek out a particular station. Continued station promotion will ensure continuity of at least some part of this brand recognition. It is notable, too, that stations are primarily operating streams in the online environment (though KUSF in Exile also provided stream-on-demand versions of their shows), replicating the broadcast schedule structure in the online platform, rather than experimenting with other platform-appropriate forms. This may be due to inertia, though the constraints of copyright regulation undoubtedly also play a factor (Ó Baoill, 2014). With the return to the airwaves in recent years, the incentives to move online production away from the linear schedule model are, perhaps, further dissipated.

In the cases examined here, online-only operations have generally been a less desirable option for stations, adopted largely due to external pressures, as evinced by the significant effort – and time – expended by activist groups to secure a return to the airwaves, even when the new channel was a low-power,

rather than full-power assignment. In addition, stations have reported a significant fall-off in volunteer levels after a move to online-only transmission. The passage of the Local Community Radio Act – first proposed in 2005, and eventually signed into effect in 2011 – was crucial to ensuring that additional low power channels were viable, facilitating the FCC's 2013 LPFM application window. While not meeting all the demands of activists advocating for access to the airwaves, the passage of this legislation does illustrate the role that legislative and regulatory initiatives – and the activist movements that sustained pressure for their implementation – can have on the opportunities that are available to groups such as those examined in this article.

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