The need for radio theory in the digital age

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A B S T R A C T ● This article makes an argument for connecting old and new technologies in our efforts to create a coherent field that we might call 'radio studies'. The lack of academic work to date on radio – the 'secondary medium' (Lewis, this issue) – has left us with a void in media and cultural studies. Radio's pervasive nature in everyday lives is less apparent in precisely those settings (the developed world in particular) where it has become a part of the everyday fabric of life. Currently there is a revival of interest in radio studies, which coincides (perhaps not accidentally) with the growth of new digital media technologies. The 'Radiocracy' conference at Cardiff demonstrated not only the resurgence of interest in academic studies of radio, but also the many and innovative ways in which radio is used (and sometimes abused) globally. In each location the medium is used differently, demonstrating not only that a global definition of the meanings and uses of 'radio' cannot be assigned, but also that new evolutions of 'radiogenic' technologies should not be dismissed as being different from 'radio' and therefore not a part of the remit of 'radio studies'. Many net.radio initiatives seek to circumvent governmental restrictions on analogue radio broadcasting by incorporating and developing new 'radiogenic' technologies. Examples are given to illustrate the arguments in this article; a small-scale net.radio operation in London is contrasted with a large commercial net.radio company located in the USA, and a development initiative in India is also considered. ●

K E Y W O R D S ● digital age ● innovation ● net.radio ● radiobility ● radiocracy ● radiogenic ● radio studies ● technology ● theory ● webcasting

Introduction

One of the themes of the 'Radiocracy' conference was 'theory, technology and innovation'. It is fitting to return to this theme at the end of this special issue of the *International Journal of Cultural Studies* and to look towards the future. The near future at least is undoubtedly digital. New media technologies, hardware and software, are arriving on our PCs, TVs and mobile phones daily, it seems. The role of radio in our media future is unclear; however, it seems likely to remain – in one form or another (or, more likely, in myriad forms) – central to the everyday lives of most people in their leisure pursuits, as a soundscape to their domestic and work lives, or in developmental enterprises and the promotion of democracy.

   This article calls attention to:

1   the lack of radio research and theory and the need for post-disciplinary approaches to the development of a coherent field of radio studies;
2   radio and 'radiogenic' developments and how they relate to radio's past and their implications for radio's future; and
3   the innovative ways in which old and new technologies are converging and connecting and how these are being used by traditionally marginalized groups.

As my title suggests, I want to address why I think academics and practitioners interested in radio research and developments should resist any temptation they may feel to reject webcasted audio as somehow un-radio-like. Instead it should be embraced as an interesting and important new medium, especially since the Internet is the fastest-growing new technology ever.

Why is radio theory needed?

The 'Radiocracy' conference showed the breadth and depth of research and practice being undertaken in the field of radio studies. Yet radio is often described as an under-researched field. There are many reasons for this, as Peter Lewis explores in his article in this issue. The low profile that he describes has become a characteristic of radio – it is seen as a secondary medium, not just by the academic world but by many producers of radio and by consumers. My own doctoral research into the consumption of radio illustrated this (Tacchi, 1997, 1998a), yet at the same time it revealed radio as absolutely entwined in everyday living. Radio is ubiquitous, but quietly so; it is invisible (Lewis and Booth, 1989). Radio is cheap to produce and has been around for a long time – it is the oldest of the time-based media in the home. Radio has become naturalized – so much so that it is difficult to establish its significance.[1]

   Just as new technologies break down or redefine barriers of space, time

and the consumption/production divide, the study of radio and soundcasting should challenge disciplinary and methodological boundaries. My own doctoral research illustrates why radio studies, or radio theory, needs to achieve some coherence yet, at the same time, remain multi- or post-disciplinary. As an anthropologist interested in radio and everyday life I studied the consumption of radio sound in Bristol, a city in the south-west of England. I wanted to understand what it was about radio that made it so pervasive, so much a part of domestic, everyday life. I found that radio sound has the ability to engage with people's emotions. Radio is used to maintain or alter mood – it is emotionally evocative and reassuring. It is a part of domestic soundscapes and through its study contemporary domestic life can be glimpsed. The study of radio promotes, among other things, an understanding of the importance of the different senses in articulating private identities and notions of sociality (Tacchi, 1998b), of the enactment of gender relations and identities (Tacchi, forthcoming), and of the impulses and conflicting cultural loyalties of diasporic communities (Tacchi, 1997). I found radio to be a deceptively powerful medium.

More applied research (Tacchi and Williams, forthcoming) stemmed from this academic work. A study of the UK radio industry revealed the lack of innovation in and increasing blandness of local commercial radio in the UK in the mid-1990s. Previous research confirmed that there was an audience for something different. Williams had experience of running a successful and innovative pirate radio station in Bristol in the late 1980s. That station had been called FTP (For the People) and it went on to become a legal, licensed service, before being taken over by a large radio group. In the light of our research findings, and Williams's previous experience, we designed and developed Future Radio.

Future Radio wanted to broadcast the 'Bristol sound'[2] to a young cross-cultural audience and to the local Asian and African Caribbean communities across generations. Our research identified these groups as marginalized by local radio services, and the music we wanted to play was rarely broadcast other than on local illegal or 'pirate' stations. Our aim was to set up a 'community-style' radio station, but our options for licensing were severely limited. The only way we could broadcast legally was by obtaining a commercial local radio licence. The application process took five years. We carried out research on the commercial viability of such a local station using market research techniques, more academic methodologies such as participant observation and in-depth interviews, and we set up an advisory group of local young people. We worked with local designers, artists, club promoters, bands and DJs. With local musicians and music engineers we produced two compilation CDs that explore and expose local Bristol club and underground sounds, which represent an important aspect of local cultural expression for the groups we targeted. We called the CDs *The Sound of Urban Audio*. We studied the licence application process and carried out

extensive business research. We monitored local and national radio services, and studied illegal broadcasters in Bristol and beyond. The research we carried out for Future Radio and the experience of applying for a local licence taught us a lot about both the regulation and the conventions of the radio industry (see Tacchi and Williams, forthcoming for a fuller account).

Needless to say, we were not awarded the local licence by the Radio Authority (see Wall, forthcoming for an account of the UK regulatory system). We now feel that this was a good thing. We have moved on to an attempt to establish Future Radio as a net station. This is proving to be easier (no regulation, no conventions) and is more likely to succeed. Every restriction or limitation you come across with the Internet is temporary.

Technology: is net.radio radio?

But the move from broadcasting to the net raises the question of whether net.radio *is* radio. In order to investigate this it is necessary to consider what radio as such might be. Radio can be said to have certain characteristics, but the evidence suggests that radio is what history says it is: it has no essence since it has already taken, and continues to take, different forms. Radio is what it is at a given time, in a given context of use and meaningfulness. During the current period, radio is migrating to the net, where its context, use and meaning will change compared with broadcast or two-way radio. It is therefore important to follow what is happening in net.radio. The future is unclear, but the changes need to be charted as they unfold.

Recent technological developments have been designed to achieve usability, mobility, accessibility and radiobility. By radiobility I mean the technical ability to be radio, or to be radio-like or 'radiogenic'. MP3 and RealAudio offer usability – the compression of audio files allows us to download near CD-quality sound, to live stream and to time shift.[3] WAP – the Wireless Application Protocol – offers the potential of mobility. The week of the 'Radiocracy' conference (November 1999) saw the UK launch of the Nokia NK7110 mobile phone which, using WAP, allows you to browse the net on your mobile phone. At the time of writing, just five months later, this technology was being refined and improved, driven by competition for the global market, expected by the manufacturers to be potentially vast. Ericsson and Mitsubishi have both recently launched their own WAP phones with new features to rival Nokia. This drive for domination of the marketplace and the consequential development of improved technological and mobile ability shows that the Internet can and will be mobile – or, if you like, *wire-less*.

The promise of free dial-up to the Internet by UK telecommunications companies such as BT and NTL suggests a future of accessibility in the UK which, for net.radio in particular, is important – radio is free to the consumer, soon net.radio will be free. But the UK and US model of home

PC web access is, according to an international study of Internet use by Angus Reid Group, not where the real promise of Internet growth lies: 'The "Euro-Asian" model of wireless web access on cell phones and palmtops and public access to the Web in cafes and kiosks must play a greater role' (http://www.angusreid.com/media/content/displaypr.cfm?id_to_view=100). The company's *Face of the Web* report predicts that the creation of universal access to the Internet through the development of cheaper and easier technologies will set the scene for the next few years of Internet growth.

Developments such as Sonicbox tuners (www.sonicbox.com) and Radio Webcaster (www.radiowebcaster.com) show the desire to produce devices that will offer radiobility. These are transmitters and tuners that are plugged into a PC, take digital net.radio and transmit it to any FM receiver within a range of about 100 feet. The FM receiver then pumps out radio waves. You can preset your tuner to hundreds of net stations and hear them through your hi-fi system, portable radio or Walkman. Other developments dispose of the need for a PC: PenguinRadio (www.penguinradio.com) gives you a device that plugs straight into your hi-fi and phone line and Kerbango (www. kerbango.com) provides a stand-alone radio set that does not require a hi-fi but simply plugs into your phone line. PhoneRadio (www.phoneradio.com) allows your cell-phone or palmtop to search the net for radio and music.

Combine all of these things – which will happen – and free, usable, mobile radio (or even wireless) is the result: this is not radio in the traditional sense, but it has to be said that radio as it is now is not the same as it was in the early 20th century. Equally, radio in one country or locality is not the same as it is elsewhere – it is used differently in different places and at different times and has different meanings associated with it. The same is true of the Internet, as Miller and Slater (2000) show with their ethnographic study of the Internet in Trinidad. They show how there is no such place as 'cyberspace', but that it is precisely through the locally contextualized consumption and production of the Internet that locally specific meanings are generated and understood. Equally, it can be said that there is no such place as 'radiospace' in general, or in the abstract; it is different in different places, among different communities of listeners, at different times. The network of radio researchers, practitioners and theorists should embrace radio in all of its existing and potential forms, and these should now be mapped. Different experiences, locations, backgrounds and disciplinary approaches can be combined to achieve a field of study (and practice) that is post-disciplinary and yet coherent.

Innovation

An important and exciting difference between established and regulated terrestrial radio in the UK and net.radio is the space the latter allows for innovation. I'm particularly interested in innovative, music-based services

that appeal to young people. Legal (and illegal) radio in the UK is largely governed by established conventions. I know from my research with young people in Bristol that, although they would like radio to sound different, they think that radio *has* to be the way it is. This is not the case with net.radio – young people approach it with a different attitude. The Internet offers a challenge; conventions are yet to be established, and the very nature of the medium may well promote a resistance to convention.[4] Currently, the Internet *attracts* innovation.

The multimedia properties of the Internet offer the potential of protecting spaces for innovation in net.radio. Of course there are net.radio stations that are reproducing the relationship between commercial radio operators and listeners where the audience is 'packaged' and sold to advertisers, and the largest possible audience is sought. But not all net stations see this as the way forward. To illustrate how different models of radio can co-exist on the net, two music websites can be compared, showing how the companies behind them measured success differently. One company is US-based Launch.com (www.launch.com). It states that its aim is to 'discover new music'. The other is Gaia Live (www.gaialive.co.uk), a London-based net.radio station, dedicated to exposing what it considers to be the best underground – that is, non-mainstream – music coming out of the city.

Launch has no physical location in the sense that it could be based anywhere. Users log on to Launch and tell it which types of music and which artists they like. Launch then offers music, music-related videos, reviews and news that match those preferences. Users can set up their own personal net.radio station. Launch sees itself as offering more than radio in the sense that when people join they are placed in a 'listening community' – a group of people with similar tastes to their own, with whom they can interact. People can listen to each other's stations, or ask others for their choices in order to influence their own station. Launch calls its users 'communities'; ironically providing a highly commercial redefinition of 'community radio'.

Gaia Live uses the medium quite differently. For it the most important thing is the sound that it provides. The choice of music is based on the DJs that it invites to play because of their relevance and success in the local London music and club scene. It offers a set programme to listeners. It live streams for up to 18 hours a day, all weekend, and archives many of the shows for time-shifted listening.

Both companies started around five years ago with the idea that they would offer 'alternative' music to people, but they have moved in different directions – commercially and in terms of their business structures, their use of the medium, their objectives and their output. Launch has adapted and become more mainstream. Gaia Live has stuck to its original aims in terms of its music policy. This has meant that the two companies have developed differently in terms of business structures and commercial profitability. Gaia Live's organizational developments have, it believes, allowed it to retain its

integrity and relevance. Launch measures its relevance in terms of numbers of users, whereas Gaia measures its in terms of its musical integrity (as it defines it).

These are very different enterprises. They both see themselves as exciting and successful. Both have used new technology to create their own mode of operation, and they use different measures of success. Launch has attracted an audience that it sells to advertisers. It has about 2 million users. It attracts investment from the likes of Intel, and is set to be a multi-million dollar company. Gaia Live has, on average, 250,000 requests a week. It is housed in one room in Brick Lane in London's East End, and is managed and run by the owner, who sleeps in the studio. DJs pay £20 a show, which helps with the general running costs. Gaia Live is equipped with hardware and software by getting companies interested in new web audio developments to sponsor it by providing the latest equipment. It does not take advertising. It is looking to generate income from a separate company that will be an Internet retail outlet for the downloading of music featured on the station.

These are just two examples of how the Internet can be used. Each is successful in its own terms, and each is developing and looking for new opportunities that technological developments make possible. There is space on the Internet for both of these approaches, and many, many more. Looking further afield we can see how groups in developing countries are using the Internet in combination with terrestrial radio to promote community development. In India the community radio movement is strong, but as yet has failed to make significant advances against oppressive government policy in this area (Noronha, 1999). A community development project named VOICES works towards introducing community radio in India and setting up Community Communication Centres (CCC). A CCC would provide telephone, fax, email and Internet services to villages that lack these facilities. As a part of the CCC, the VOICES Community Radio Station would 'become the nerve centre of social and economic activity and development in the village' (Asirvatham and Vellani, 1999). While VOICES awaits changes in regulation that will allow it to broadcast, Arun Mehta (1999) proposes combining Internet, satellite and cable technology to deliver community radio to the most remote Indian communities in ways that bypass government restrictions.

Conclusion

In this new audio and technological environment, how might one set up a radio station? Whether it is in the most remote or the poorest areas of the world, or in urban centres in the West, the use of new technologies, combined with existing radio technologies or techniques, appears to hold great potential. This is especially the case if there is an element of community

development involved or if regulatory powers prevent more traditional terrestrial broadcasting.

In partnership with established net.radio stations, Future Radio intends to carry out an experiment. Given that the appeal of city-based radio stations to a global audience seems to be precisely their location, a station webcasting from Bristol should hold global appeal because it is broadcasting the 'Bristol sound'. Conversely, a terrestrial station that broadcasts only to Bristol can use the Internet to bring global sounds to a local population. The Internet allows this two-way cross-fertilization. It presents interesting and curious possibilities for rethinking the concept of a local radio station. Future Radio – the net station – would offer *local* sounds to a *global* audience. Future Radio – the terrestrial station – would offer *global* sounds to a *local* audience. This is an exciting and interesting prospect; the main obstacle to its enactment remain the regulations on terrestrial broadcasting which would make local broadcasts illegal.

Many other people are, like me, looking to the Internet as a space where they might be able to legitimately set up the kind of radio service that otherwise seems impossible. These attempts, failures and successes need to be charted and studied. One of the things that surprised me about the response to the call for papers for the 'Radiocracy' conference was that the people who were proposing to talk about the Internet came mainly from developing countries. There are projects under way that are using the Internet and other new technologies to bring radio to the poorest and most remote communities in the world.

In the UK we tend to talk about the restrictions rather than the possibilities of new technologies. One of the problems with the Internet that is often cited in the the UK is its inaccessibility. Despite the problems of access, which should not be ignored, it can be argued that access problems will be overcome and that in terms of radio, or at least radiobility, the Internet is *enabling*. Currently net.radio has the prefix 'net' to distinguish it from 'real' radio. But when radio researchers and practitioners from around the world talk to each other it becomes clear that 'real' radio itself is different in different places and at different times – to a large extent it is context-specific. The network of researchers and practitioners that met at 'Radiocracy' is ideally placed to chart, examine and theorize about the future of radio as it evolves.

Notes

This article is a revised version of the paper presented at the 'Radiocracy' conference in Cardiff in November 1999.

1 By 'naturalized' I refer to the ways in which, in parts of the world where a radio set in every multimedia home is the norm, the radio has become a

taken-for-granted part of everyday lives and is rarely talked about. This serves to reduce its apparent significance as opposed, for example, to television. Where radio is less common one nevertheless senses that the 'taken-for-grantedness' of its position is still apparent, as Jayaprakash's article in this issue seems to indicate. This quality of radio (its invisibility) serves in fact to reinforce its power both in everyday identity maintenance in urban life in the West (Tacchi, 1997) and in more extreme circumstances, as we can see from Windrich's article on radio in Angola (this issue).

2 The term 'Bristol sound' is associated with the success of Bristol music acts such as Massive Attack and Tricky, who gained international recognition in the late 1980s and defined the Bristol new music scene as distinctly 'underground' and 'cutting edge'.

3 MP3 is an open format for making large music files smaller without radically degrading their audio quality. MP3 is widely recognized as the most popular format for storing music on the World Wide Web (see www.mp3.com). RealAudio was launched by RealNetworks in 1995. It allows you to live stream audio over the Internet (see www.realaudio.com). Live streaming is real-time webcasted sound rather than archived sound files that are stored. Streaming allows you to listen to an audio file as it is received with no need to wait for the whole file to be transmitted.

4 In fact, conventions are beginning to appear, as is evidenced in the very terminology used in this article to name radiogenic webcasted audio – that is, 'net.radio'. The way this term is written is becoming a convention in itself.

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Amanda Hopkinson introducing
Trevor Baylis, OBE.
Photo: Jaime Feliu Torres

Jo Tacchi (right) with colleagues.
Carin Aberg speaking.
Photo: Jaime Feliu Torres