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Abstract

Is podcasting the future of radio? Is podcasting that missing link connecting radio and the Net that Internet radio stations were not able to establish? Is podcasting a revolutionary or a transitory cultural trend? Furthermore, is podcasting a way towards a more democratic audio media system or is it rather a new tool in the hands of the multinational recording industry? This article will explore these questions, providing an historical framework to the introduction of digital sound (from 1991 to 2007) and related social practices, distinguishing four main phases: the birth of the popular use of digital music; Web radio; Music for free; the iPod and Podcasting.

Keywords

Podcasting

Internet Radio

Digital Music

Filesharing

Italian Radio

Introduction: Digital sound and radio history

The aim of this article is to link emerging social practices of digital sound to radio history. Although music filesharing, web radio and podcasting currently form part of academic debate, we actually know very little about the impact of these innovative practices on the present and the future of radio. An historical framework of the introduction of digital sound and its relationship with radio is provided here, distinguishing four main phases: the birth of the popular use of digital music; Web radio; Music for free; the iPod and Podcasting. Critical analysis is supported by several

examples, all taken from the Italian radio landscape. While the extension of these results to other countries, even in the age of globalization, may need to proceed with caution, comparative studies are eagerly anticipated.

The first phase – Birth of the popular use of digital music

Social practices of popular music diverge from those regarding audiovisual and video content. The introduction of portable gramophones (since the Twenties), of transistor radio sets with cheap and tiny earphones (1955) and of Sony Walkman tape player/recorders, often with built-in radio receivers (1979), appear as milestones of a shift away from socially performed music (live or recorded) to personal choice and listening to music in a mobile way. All of these to some extent represent an extension of the private sphere within the public space, what the French author Patrice Flichy defined as “communicational bubble,” in which the boy or girl walking through the town are almost completely engaged by listening to his/her own music, surrounded by it (Flichy 1991). Audiocassette recording and the Walkman allowed private copying of discs, even if of low quality, tape-exchanging or bartering and particularly the possibility of shaping one’s own personal music compilation, to be performed in a mobile and nomadic way and directed to provide everyone with a peculiar, personally determined soundtrack of everyday life. This is a feature that video, which requires more direct attention, a large screen and fixed position, could never afford apart from screens in public spaces like malls and pubs, paid slender and distracted attention by a passing audience. In any case, these would represent public performances and not personal compilations.

The coming of digital music prolonged and enlarged trends in the use of popular music that were already present in an analogic world. Since 1991 a digital audio file could be played by an Apple Macintosh computer thanks to the bundled QuickTime software. In 1992 Tim Berners Lee developed the WWW at Cern labs, Geneva, and the following year Mosaic, the first web browser, was introduced by the University of Illinois. Between 1993 and 1994 Netscape, the first commercial browser, appeared. In 1995 MPEG-3 (commonly called MP 3) was introduced as an implementation of MPEG-1 Audio Layer III data. In the same year, Windows 95 was launched. An

audio file could now be performed by an IBM compatible PC with no additional software. Explorer was embedded in Microsoft Windows 95 and, at a mainstream level, it appeared as a mass legitimization of the Internet. In the very same year RealAudio by Progressive Networks was released, providing the first effective and widespread software for streaming, although Liquid Audio was chronologically the first.¹

1995 was a critical date as far as changes in the popular perception of sound are concerned. As often happens, at the beginning things appeared differently. When sound began to be performed by personal computers, manufacturers began to produce them equipped with built-in or outer loudspeakers for a sophisticated stereophonic sound. The main social relevance of the personal computer, regarding sound, appeared to be the possibility of duplicating discs, even illegally, using widespread and cheap mastering devices. Those “CD burners” created numerous problems for the recording industry. During that period, however, the Internet grew exponentially, becoming a mass practice in most developed countries. MPEG-3 became widely used as the standard means of compressing audio files. The diffusion of sound through the net would dramatically change the distribution, economy and culture of music, not to mention all related social systems, including radio and the recording industry. Among the various consequences, we can distinguish two important categories:

- a) Almost everybody could broadcast. The former enormous social and economic distance between broadcaster and listener could evolve towards an almost peer-to-peer (P2P) relationship, at least potentially.
- b) Almost every existing radio station could “webcast” (broadcast on the net), breaking space and time boundaries and many (if not all) forms of social control and censorship.

Streaming software allowed one to access a digital sound (or, later, video) file before it had been completely downloaded. Before the introduction of streaming, downloading time could be so long - due to the dimensions of the file - that it would discourage potential listeners (around this time WWW was popularly interpreted as “World Wide Wait”). Before, streaming sound practices on the net were restricted to a small niche of high-speed connection holders and passionate music lovers. Later, at the end of the nineties, they became more and more popular.

¹ Liquid Audio streaming software was developed in 1995. It provided copy protection and copyright management, and did not meet the *esprit du temps*, interested mostly in music sharing for free (Mack 2002: 576-577). Liquid Audio company (after January 2003, Liquid Digital Media) was formed in May 1996 in Redwood City, California, USA.

Increasingly, streaming practices reduced the monopoly of contemporariness formerly the exclusive preserve of radio thanks to its unique possibility of live broadcasting. Until the coming of the Net, radio broadcasting was the only synchronous sound medium and shared with TV alone a “culture of contemporariness” much envied by other “still” media like newspapers, cinema and records, obliged to arrive always after events and to pay a heavy toll to a technological and social delay. A huge social and political fence divided “recorded sound” from “live broadcasting”. Now streaming allowed an almost-live broadcasting on a mass scale, where the only delay was the buffering time.

The Second Phase: Web radio

In the second half of the Nineties web radio stations were born, first in the USA, then pretty much everywhere (Bonini 2006, Priestman 2002). They can be divided into three typologies:

- a) Websites of an existing terrestrial radio station. They repeat on the web the same audio content that is broadcast (“simulcasting”), breaking its geographical boundaries. On the Internet an Australian listener can be a member of the audience of a local Italian station, which would be otherwise impossible, and he can even ‘phone (time zones permitting) to the station requesting a special song, as if he were inside the narrow footprint of the terrestrial antenna of that remote station of another continent.
- b) Web radio only, without any antenna or terrestrial signal. They can bypass the most significant obstacles that make it difficult to establish a terrestrial radio station. These obstacles can be of an economic kind (the cost of the licence), bureaucratic (official authorization) or political (censorship, particularly in countries characterized by weak democracies, like the well known case of B 92 radio station in Serbia).
- c) Thematic radio. Many web portals at the end of the past century offered numerous and diverse libraries of thematic music (called “channels” like in broadcasting), similar to those provided for free by pay-TV systems as a sort of fringe benefit for household TV audiences. These radio stations were extremely poorly formatted, lacking in all paratextual marks that transform a sound flow into a broadcast text. They were severely decimated by the sudden

decline of the net economy in March 2000 (the bursting of the net bubble, probably influenced by an antitrust sentence against Microsoft in court) and, after September 11, with consequent cutting of channels, portals, personnel and, above all, by the growth of streaming practices that allowed users to build a personal compilation and to use the Net in a more interactive and personalized way.

After some years of Internet radio it is possible to affirm, without being considered an enemy of radio and of innovation, that it was not the revolution that had been announced. A paradox can explain this point: an Internet radio dramatically breaks the spatial and temporal boundaries typical of radio (i.e., with my PC, I can also record a radio programme that I want to keep, and then listen to it later), fighting effectively against market and political censorship. These characteristics could be interpreted as making Internet radio a democratic medium but only on the condition that the user is provided with: a) a fast and steady telecommunication connection, cheap or with somebody (e.g., an absent employer?) paying for it: b) a computer that is powerful enough to let the user carry out other tasks while streaming and listening (Wall 2003). The portrait of this listener depicts a wealthy inhabitant of the Western world and reproduces the boundaries of the so called “digital divide” (Antonelli 2003), while an obsolete, tiny, cheap and easy-to-use transistor radio set can be effectively used even in the very centre of Africa, in a village with no electric power supply, promoting knowledge and opportunities. This is clearly not so with Internet radio (Antonelli 2003: 195, see also Bonfadelli 2002).

This paradox makes Internet radio less attractive than it first appears, introducing a second paradox: the Net’s “audience” (as we can provisionally define it) is much larger than radio’s, but Internet radio has an audience more restricted than traditional radio, both numerically and socially. This paradox emphasizes a further difference between radio and television in the transition towards digital: television can make a full profit of digital broadcasting, compressing signals and using the same frequency for several TV channels, formerly broadcast through several frequencies, saving a precious resource and realizing the so called “digital dividend” by selling or hiring that resource no longer essential for broadcasting. Furthermore, television can make profit out of its location within the household, creating a return channel through the existing domestic phone line, using – thanks to a decoder – the existing TV set, without losing any of its previous advantages. On the contrary, radio’s transition to digital (as with DAB, Digital Audio Broadcasting,

and other standards) has either forced users to buy new radio sets that are heavy and expensive or restricted them to the Internet, which remains (and will remain for some years to come) a “static” home technology.

Both Digital radio broadcasting and Internet radio go against the winning trend of radio, namely its miniaturisation and its mobility. Literally, the radio vanishes as an autonomous piece of hardware, hidden in the dashboard of a car, in the alarm clock, in the mobile phone, in the Walkman and its off-spring (from MP 3 to iPods). It is difficult to consider as a revolution a process that goes against the most beloved characteristics of a medium and its related practices.

The Third Phase: Music for Free

The emerging limits, if not the decline, of Internet radio, are connected to the birth of filesharing. Internet radio, as partly digital radio, is not able to continue and empower social uses of radio in the television era, in which listening to radio is more and more a choice rather than a necessity. It remains a niche practice, not a re-shaping, a remediation of the radioscape as transistors were in the second half of the Fifties (Bolter and Grusin 1999). Furthermore, Internet radio, especially in our third typology (thematic music libraries), is not able to maximise the full advantages of the Internet: namely, its interactivity, its call to consumers to participate, its willingness to create “prosumers”.²

While these limits of Internet radio have become increasingly evident, filesharing has been born. “Filesharing” refers to the exchange of music files among music fans on the Net through specific websites, independent from the offers posted by their users. Typical filesharing is for free; attempts at transforming it into a commercial transaction will come later, and will be successful.

Filesharing is tied to the spread of MP 3 as standard and the birth of a new portable personal hardware: a USB flash memory unity, equipped with small earphones, battery operated, which performs MP 3 audio files, after copying them from a personal computer. Napster, the first music filesharing website, appeared in autumn 1999 in the USA, created by Shaw Fanning (in fact

² “Whether we look at self-help movements, do-it-yourself trends, or new production technologies, we find the same shift toward a much closer involvement of the consumer in production. In such a world, conventional distinctions between producer and consumer vanish” (Toffler 1980: 275).

Napster was his nickname). The novelties of Napster were twofold: first, it specialised in MP 3 only; second, it provided central servers to connect users but the transactions between offer and demand were considered a peer-to-peer relationship without intervention by Napster. In December 1999 the powerful RIAA (Record Industry Association of America) sued Napster and its users for copyright infringement. More than 2000 cases have since been brought against Napster and thousands of its users.

At first legal action generated a great deal of publicity for Napster, whose users had grown to 14 millions by February 2001 but, later, it led to the end of free filesharing by Napster, ruled by a Court, in September 2001, shortly before September 11. Of course, free filesharing practices continued but Napster went into decline, due both to legal actions and to the coming of new players such as Apple Computers.

Before describing the iPod era, the fourth phase of our timeline, something should be said about the lasting social practices of filesharing. With streaming and filesharing, music loses its contact with a material support. In the era of the technical reproducibility of artwork, to quote Walter Benjamin, music has ceased to be a performing only art, becoming more and more a recorded art (Benjamin 1936). Live music has become a relatively rare and costly social ritual, a very sharply socially segmented one moreover, while the ordinary consumption of music has transferred from specific public places like theatres and concert halls to the intimacy of the household, creating a new political economy of (cheap) recorded music. In comparison, performed music has been affected by the dangerous Baumol's cost disease (Towse 1977).³ Once, music in the household could be performed by the mechanical piano (pianola), Edison's reel or Berliner's disc. In these three cases, a material support was needed, a fetish or simulacrum of music that had to be bought or hired in the public space and transported into the home. Thus, with the coming of radio, a distinction arose between instant music and permanent music.

³ Mass production (of standard identical artefacts) produces a progressive cost decrease of single artefacts, with fixed costs (design, project, factory, tools, advertising) covered by initial sales. Whereas, on the contrary, the cultural production of performing arts (concerts, stage), according to the Baumols, are composed of prototypes different in every performance and requiring the same manpower, therefore not allowing for significant savings in costs when repeated many times. An orchestra playing a Beethoven symphony (or a team playing a football match) practically costs the same every evening. A long run performance, furthermore, as it is successful may even result in artists demanding higher rates of pay for subsequent performances. Consequently, in the performing arts success often involves increasing costs, not decreasing as it is in mass production, while revenues (tickets and sponsors) are unable to increase at the same rate (Baumol 1984).

Instant music, often live, granted by radio, had an immaterial nature and all the associations of a novelty and of an unpredictable event but it was ephemeral and practically un-recordable. Permanent music was a collection of records, effective but always the same. Permanent music was the music in the household, whereas instant music was often that of in-car audio, transistor radio and the Walkman. With streaming and filesharing, however, the difference between permanent and instant music loses its meaning or, at least, is re-shaped. Music loses its material support, it shows itself again as immaterial, as it was in live performance but, nevertheless, it can now be reproduced, exchanged and transported, breaking definitively the cosy prison of the home, as radio had first enabled it to do.

The fourth phase: from iPod to Podcasting

While Napster closed, in 2001, Apple Computers launched its iPod, a sophisticated and superbly designed multi-standard portable music and video player. This was a digital music player, based on a powerful hard disk rather than on a flash memory.⁴ Its immediate success made the iPod the true heir of the Sony Walkman. The strength of the brand and the beauty of its design were a significant part of this success but so too was its large memory, which was more and more empowered over time. The iPod allowed its user to hold a personal encyclopaedia in which all his or her history in music, video and photos is stored: in other words, a complete set of tastes and preferences. As an encyclopaedia, it is a round, total object with its own personality, not only a tool to perform others' artwork. The iPod was designed during the Napster era and, as with many Apple products, it appealed to the tastes of cultured and moderate transgressives, certainly more liberal than libertarian or radical. The Napster way could no longer be followed (Spitz and Hunter 2005). Soon after the iPod, Apple launched its iTunes Music Store, opening the era of fairly priced

⁴ The first generation iPod was announced on the 23rd October 2001 with a 5-10 GB hard disk capacity (against 512 MB -1 GB of flash-based MP 3 players), and went on sale the following month, just in time for Christmas sales. A photo (2004) and video (2005) viewer were later added; capacity grew to a maximum of 80 GB in 2006. One year later Apple announced that over 100 million iPods had been sold, mostly since 2005. The pod metaphor allows multiple associations of ideas, from science fiction cinema (*The Invasion of the Body Snatchers* by Don Siegel, 1956; *2001: A Space Odyssey* by Stanley Kubrick, 1968) to aerospace engineering, botanic studies and zoology. iPod is provided with iTunes software, a digital media player application (not only MP 3, but almost all audio file formats) first introduced by Apple Computers in January 2001. Version 2.0 was released in October 2001. Both were Macintosh only. The second generation iPod (July 2002, 10-20 GB capacity) included a Musicmatch Jukebox software for Windows Users. iTunes released a Windows version in October 2003.

paid music.⁵ Its customers pay to download music and a DRM (Digital Rights Management) software prevents unlimited copying.

Paying for music is one of the basic premises of podcasting. Podcasting is a form of distribution of audio contents that can be received periodically on one's computer by subscribing (for a fee) or adding oneself to a list, thanks to special software programmes called "feeds". After downloading the contents onto the PC one can copy them (for a limited number of times), re-arrange them, and put them totally or partially onto an iPod.

After this first phase of podcasting, around 2004, the same technique was used by radio stations, in order to reach, periodically and for free, those listeners desiring to podcast a special radio programme. This has also been used (certainly in Italy) by cultural and political organisations in order to spread their content, especially spoken content.

Radio stations that once promoted simulcast now adopt podcasting in order to follow current trends and to go further beyond the temporal and spatial boundaries that affect radio: in other words, going beyond the antenna's footprints and programming schedules. In this case Podcasting (even if we should speak of listeners more as enlisted than as subscribers), is a means of broadening listenership and increasing their involvement. Podcasting allows listeners to mix in their iPods (or similar devices) and listen to their store of music and radio programmes, etc., in a mobile modality.

So is podcasting the future of radio? Is podcasting that missing link that connects radio and the Net, which Internet radio stations were not able to establish? Is podcasting something truly revolutionary or is it merely another transitory cultural trend? And finally, is podcasting a way towards a more democratic audio media system or, instead, is it yet another tool to be exploited by the multinational recording industry?

Past experience of the Internet should make us cautious about the last two questions. At the moment, podcasting does not operate as a more democratic medium. Just as it is valued and

⁵ The iTunes Music Store was opened in April 2003 and proved the viability of online music sales. It now distributes videos, movies and videogames, accounting for 80% of worldwide online digital music sales.

exploited by the recording industry, radio stations and even political or cultural organisations have adopted it in order to promote closer bonds with their listeners and clients, i.e., as with any form of subscription. Radio Radicale, a 30 year old radio station promoted by Partito Radicale, a political party, now uses podcasts⁶ to feed its targeted audience with specific radio programmes, dedicated to various political issues, which are in fact forms of public speech. Vatican Radio presents podcasts in fifteen different languages,⁷ all about news and religious information, plus a multilingual podcast dedicated to the speeches of the Pope, a modern-day application of the “radio as a loudspeaker” concept of the Twenties. Radio DeeJay, one of most listened to private national radio stations, offers podcasts⁸ dedicated to a single entertainer or group, thereby segmenting its mainstream audience. Radio Popolare, a well routed left wing radio station based in Milan with syndicated stations in principal Italian towns, uses podcasts to distribute the targeted music choices of its daily talk show “Mente locale”.⁹ Some websites, like MagmaWeb,¹⁰ offer music podcasts from little radio stations, while young music fans produce music podcasts, like “Lester Voice” by Walter Ego,¹¹ often linked with the growing music database of MySpace,¹² providing a grassroots music repertory.

At the moment, iPod and similar tools seem to be a widespread cult object, particularly as most of them have been given as a present, an “intelligent present”, often presented by relatives and parents for Christmas.

Music podcasting seems far more common than radio Podcasting as such; Italian radio stations use podcasting mainly for speech-based entertainment and comedy shows. Most music podcasts originate not from radio stations so much as from passionate young individuals. When asked why they use podcasts, the young people of Rome who did not simply reply “for fun” stressed the interactivity of their musical choice and the bricolage of managing their own soundtracks. “By using podcast”, a student says, “I feed myself with music, but it’s only raw material. In certain evenings I remain at home and, at my desktop computer, I produce my own music, the one I love and I can send to my friend. Sometime it takes me hours. Then I fill my MP 3 player and I go out.”

⁶ http://www.radioradicale.it/rss_feed.

⁷ http://www.radiovaticana.org/it1/rss_feeds.asp.

⁸ <http://www.deejay.it/dj/podcast?ref=hphead>.

⁹ <http://www.radiopopolare.it/mentelocale/>.

¹⁰ http://www.rtinradio.com/pod/magma_podcasting.xml.

¹¹ <http://feeds.feedburner.com/lestervoice>.

¹² <http://www.myspace.com/index.cfm?fuseaction=music>.

Podcasting, as a social practice, seems to be considered by the young as more individualised than radio listening and music compilation making, involving a relationship with several providers, the podcasters, seen not as institutions but as peers. Another teenager says: "I prefer to skip from one podcast to another, all made by people I know deeply even if I never saw them in person, than to listen to a mainstream radio flow. I can rip and grab songs, offered by a person I trust, in my personal compilation." Late afternoons and evenings appear as the favourite time slot for such practices in central weekdays, taking place at home, given that weekends and Thursdays tend to be devoted to going out.¹³

All these hints, however provisional, suggest a role for podcasting as a niche prosumer activity, not as random listening or a passive feed from the podcaster. While Internet radio is highly static, rooted in the household, podcasting could be the true heir of the urban explorations of the Walkman, both having as their ancestor the flâneur (city-walker) of Baudelaire; the person who "marries the crowd", who likes most "to be out of home, and nevertheless to feel at home everywhere, to watch the world, to be in its centre and to be in hiding" (Baudelaire 1885: 64-65). Indeed, even more than the Walkman, podcasting implies a component of manual manipulation on the computer keyboard, accessible to a niche of passionate lovers of music and radio. It seems to indicate the future of radio but, nevertheless, it is difficult to think of mass podcasting given that it requires a component of specialized computer work. What is evoked here, curiously, is radio's past rather than its future, recalling its amateur phase: i.e., those wireless (sanfilistes) radio-amateurs of the 1910s and 1920s who built their own radio sets prior to mass production. This suggests that podcasting is a mid-term technology, representing one of a number of possible ways for radio to face a complex digital future. As an interesting and effective social technology, podcasting would appear to retain the mobile and interactive aspects of radio, its valued attributes as a medium. Yet podcasting may still not offer the definitive mode of radio consumption. Another mobile device of modern times, the cellular 'phone, seems to be more established and more popular. It may well be that the mobile 'phone will create its own political economy as a technological and social platform to carry other media, like a radio set or a camera, a recorder or an MP 3 player, and a popular billing system. Indeed it may be that radio in the digital era may profit more by establishing some form of alliance with mobile phones, including an

¹³ A research on listening habits of the young in Rome, particularly regarding digital media, is taking place in Roma Tre University. It will be prepared by 50 semi-structured interviews to young people (16-21) living in Rome, plus 500 questionnaires to the same target and a deep review of radio stations and web musical resources.

evolution of Podcasting, as suggested by the presentation in December 2006 by Apple of an iPhone. Technology in the UMTS generation of mobile phones could be ready for this but once again it will be the social uses of technology rather than the technology itself that will finally decide.

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