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Comment

Science via podcast

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Those who used to surf the web back in the early nineties would probably remember the early web pages: static, minimal, long, made up almost exclusively of text and, most of all, silent, precisely as the early movies. Back then, the Internet was dramatically different from the net we got used to know today: now it has become a melting pot of different types of media, a media stage where different players interact, in many ways staging a sort of revolution in the communication world, changing the role played by traditional media and triggering new information processes. The net has created new public information spaces, places to spread news, to dialogue and to play a part: not only does it knock down time and space barriers in traditional communication, but it also welcomes new communication formats and overthrows the traditional circuit of information production and distribution. Indeed, today the net is ever more populated by active web users who manage blogs, exchange files, put videos online, and produce podcasts: in short, the audience stands up and enters the stage.

Even science communication is not stranger to the changes brought about by the new way to use and populate the web. An epitome of this process of change is the scientific podcast.

In this article, we present a brief review on the spreading and the purposes of podcasts in science communication, coming from a survey implemented as an activity of the course *Science via podcast*[1] addressed to second-year students of the Master in Science Communication of SISSA of Trieste. The research involved interviews carried out with the authors of a number of scientific podcasts, from Italy and abroad, and with communication experts. All the interviews were published in the Master podcast website *Dr Jekyll & Mr Pod*.[2]

In December 2005 the New Oxford dictionary named *podcast* the word of the year, providing this definition: a digital recording of a radio broadcast or similar program, made available on the Internet for downloading to a personal audio player. A podcast basically allows users to retrieve multimedia contents (audio or video, even though when speaking of podcasting here we only refer to audio files) – through an automatic link to the websites they are interested in – to download updates to their PC and then to transfer them to mp3 players, mobile phones, palmtop computers, etc. Users are only required to get a free subscription, so that they will not have to surf from website to website to find the information they need: podcasting provides a sort of virtual remote control allowing everyone to design their personal programme schedule.

The podcast phenomenon enjoyed worldwide success when the commercial success of a new technological instrument, the iPod – selling 16 million items in 2500 – triggered a short circuit in two worlds that, until then, had lived without any connections at all: blogs and radio. From that moment onwards, very quickly, podcasting has established itself as a new form of content spreading that has managed to revolutionise the access to information, as well as its production method.

But where does the novelty of podcasting lie in? It owes its success to many characteristics. First of all, it is user-friendly. To be an audio podcast user, you only need to install a software, an *aggregator* (some free versions are available on the Internet: iTunes and Juice are two of the most common examples), which monitors your websites of interest and reports the publication of new multi-media files. When it finds any new file, it downloads it on your computer.

Moreover, the podcast allows you to listen to on-demand programmes: the access to information becomes 'asynchronous', which means free from the scheduled time of broadcasting of an audio information, making it portable: you can listen to it whenever you want, with whomever you want, and as you like it, for example on any mp3 reader.

But a podcast is also a new method to produce audio contents. Economic and simple to produce, it gives anyone the chance to become authors, editors or producers of information. Podcasting has thus

become an instrument available to anyone, providing a new dialogue opportunity to a large community of people meeting on the net, to share information, ideas and impressions on what happens in society.

What are the forms through which podcasting is spreading with respect to science? What is its potential?

The results from our survey show that this instrument has now become widely accepted and exploited in very different situations and in many communication scenarios, involving different players and many and different publics. Indeed, over the past few years, podcasts to provide information and communication services have been released by traditional media, such as radio programmes, newspapers, weekly magazines and scientific journals. To mention an example, *Scientific American*, founded in 1845 – and therefore having a very long tradition in science communication –, entered the podcasting world in 2006, by offering *Science Talk*, a flexible weekly programme in a format, that has now produced over one hundred episodes. «We have decided to test podcasting as it was clear that it was not an amateur issue anymore, but it was then an important communication arena» says Steve Mirsky, an author not only of the first podcast of that journal, but also of the daily podcast *60 Seconds Science*. «Thanks to a daily podcast, science can follow you while you take your morning coffee, being brilliantly told in 60 seconds. As a whole, our podcasts report 4 millions downloads per month».

Also science festivals, science centres and research institutes have started to communicate through podcasts, taking it as an instrument to promote their activities. Also, there are cases of researchers and young scientists finding in podcasts a way to make their ideas freely circulate and to feed the public debate on science.

Then, what about the world of science podcasting?

One of the most widespread forms – and somehow one of the simplest – is closely linked to radio broadcasting. Radio programmes devised and produced to be listened to on the airwaves are uploaded on the web and distributed through podcasting. It means that a programme can meet the public through different channels and in this case, as maintained by Peppino Ortoleva, a professor of History of Media at the University of Turin: «podcasting has the same characteristics of a radio programme, without the time and space constraints of the first 20th-century medium».

For example, this is the case of *The naked scientists*[3] programme, created by the young and resourceful British researcher Chris Smith, broadcast by BBC and soon established as one of the most popular science podcasts, with thousands of users downloading the podcast every week, of *Il Disinformatico*, a programme aired by Rete Tre of the Swiss Radio and hosted by Paolo Attivissimo,[4] or of *Radio3Scienza*, the daily science news of RAI Radio 3.

In fact, radios had long seen podcasting, and more in general the Internet, especially as an information-spreading instrument alternative to 'the airwaves', able to overcome the space and time limits of broadcasting, without being really able to explore its potential. Only in the past few years, people started to realise that from the encounter of the first and the last media of the 20th century, the radio and the Internet, actually comes a new medium which takes the language from the former and the distribution channels from the latter, and is a mixture of different languages, given its hybrid nature, making new forms of audio experimentation viable.

On the Italian stage of science radio programmes, at the forefront of this new path there is *Moebius*, the weekly science programme of Radio 24, which uses the web as an amplifying instrument for its radio broadcast: on the *Moebiusonline*[5] website you can subscribe to podcasting, to download the audio files of the episodes aired by the FM radio, but you can also listen to special reports devised and implemented only for a podcast distribution. While the FM-aired programme must meet the expectations of the widest number of listeners (which implies a reasonable duration of the reports, an adequate special report on the subjects meeting the schedule and a fast-paced conversation), a podcast allows to match the same contents with a different style. The cross-utilisation of the media (radio and podcast) paves the way to new science spreading methods and different communication techniques can reach different publics. «*Homemade information* – as defined by Federico Pedrocchi – a host and editorial director of *Moebius* – defeats the tyranny of the traditional medium, forced to interpret at best the wishes of its public to reach an audience as large as possible. Through podcasts, the widest audience is reached precisely by adapting the same contents to different formats».

«So, by podcasting, adds Pedrocchi, it is possible to implement different levels of information addressed to different publics having different interests. On the other hand, never before has it been important to make some crossing, by exploiting any possible communication key provided by the digital medium which matches the vocations of different media».

Thus, not only does podcasting free audio information from the schedule constraints, but it also allows a radio schedule to be completely broken down, to be newly composed on the Internet, into subject-oriented sections able to meet the wishes and the special interests, even of a small portion of public.

So, total asynchrony is the great novelty of podcasting, overcoming the intrinsic inflexibility of the traditional media: all the journalists and experts interviewed acknowledge the great utility of podcasting as an instrument sometimes able to complement and sometimes to supplement other media.

A significant case is *Novacast*, the *Nova 24* podcast, the weekly science, innovation and technology supplement of *Sole 24 Ore*. Its editorial office chose to use different media to make information circulate and thus to better spread the magazine content. This is why the press is joined by the web: with a blog platform, *Nova 100*, and the podcast, *Novacast*. The latter is a popularisation space which leaves the formal press language aside and gives in to an easygoing presentation of the supplement. It is based on the will to rouse the listeners' interest as potential readers, but also to reach a young public, accustomed to new media and not to buying and reading an adult newspaper as the *Confindustria* (the Italian Employer's Federation) newspaper can be.

This way, a podcast becomes not only a marketing instrument, but also an instrument used by papers to tackle the challenge posed by the Internet communication era: whereas on the one hand the web is creating a deep crisis within traditional media – that have to compete with the widespread presence and the fast spreading of the web –, on the other hand the web is also the cradle of the instruments needed to keep up and to face this hard competition.

Science podcasts, however, are not only the web voice of magazines or radio programmes and they are not produced exclusively by professional journalists. Young researchers, more or less interested in the changes in the information and communication processes, have found in this instrument a way to tell about their research projects in their sector. There are several examples of this: *This week in Science*,[6] *Scientificast*,[7] but also the aforementioned *The naked scientists,* are all podcasts addressed to a general public born by initiative of young researchers. There are also many podcasts addressed to scientists themselves, as the podcast of *Radiation Research*,[8] the official journal of the *Radiaton Research Society*.

With regard to podcasting, and more in general to social media, defining who is inside and who is outside the control room is not an easy task. Aside from communication experts and scientists, there is a wider audience – whose borders probably cannot be defined – which is not a simple public for science news. In the web 2.0 environment, made of media that meet and intertwine, what emerges is a community of people populating the net, creating and sharing information, knowledge, comments, viewpoints on an evolving world and society. Significant words were pronounced by Rob Semper, director of the Center for Media and Communication of the *Exploratorium* of San Francisco, who says that new communication technologies are also affecting the museum experience. It is the case of visit paths autonomously created by visitors themselves and, through podcasts spread on the Internet, shared with other people: «Internet is gradually entrusting communication to the hands of visitors every day more».

So, Internet and the new media like the podcast are completely overturning the communication scenario. Not only because they turn unidirectional information processes (typical in traditional media) into interactive dialogue forms. Social networks are also and above all creating different and new forms to be citizens and to take part in the public debate, also on science. This is the belief of Luca De Biase, editor in chief of *Nova 24* and a careful observer on the world of social media.

Even though – according to Giuseppe Granieri, an expert in communication and digital culture – some few years will still be necessary to see the full implementation of the potential of these instruments, the future of communication really lies in *interactive media*. Podcasts, blogs, wiki and social networks in general are opening up new room for debate and knowledge and, at the same time, they feed a great change in the social and political debate.

And also podcasting – which has its roots in the Internet – is taking the shape of an exercise of citizenship.

Translated by Massimo Caregnato

Notes and references

1 The course (http://mcs.sissa.it/corsi/podcast.html) is held by Ilenia Picardi, Simona Regina and Federica Sgorbissa and has a dual purpose. On the one hand, it provides food for thought on the podcast as a new communication, distribution and access method to information, even of a scientific nature. On the other hand, it is a workshop for students to create some audio material for the *Dr. Jekyll & Mr. Pod* podcast.
2 http://medialb.sissa.it/mrpod
3 http://www.thenakedscientists.com/
4 http://attivissimo.blogspot.com/
5 http://www.moebiusonline.eu/
6 http://www.twis.org/
7 http://www.mevio.com/shows/?mode=detail&episode_id=95494
8 http://lsmr1.lbl.gov:8080/xwiki/bin/view/Radiation+Research+Society/

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