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Automated speech and musical radio: first approximations

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Abstract

In this article we present the initial results of a research that seeks to understand the role of speech automation through the use of synthesized voice without human recording in the musical radio. We then discuss the role of technology and automation in radio, and, through a theoretical view, approach the presentation of examples and the discussion of trends of this communicational phenomenon. We look at the object from the discussions of innovation, predominantly from the debate about adoption of innovation presented by Rogers (1983).

Keywords: Musical radio. Automation. Market. Innovation and artificial intelligence.

Introduction

This article is born from the concerns and discussions built at the Convergence and Journalism Research Group (ConJor), in the Federal University of Ouro Preto. From the discussions about innovation, automated production of news and radio, the authors noted some projections and consequences for the radio market - specifically the musical and the young radio¹.

Considering the predominance of music programming in FM broadcasters in Brazil and its close relationship with the music industry (KISCHINHEVSKY, 2008), we believe

¹ This article presents partial results of the research project “Knowing the online listener: A study on the profile of the radio audience in the convergence scenario”. The project is funded by PROPP Financial Aid to Researcher of UFOP, CNPq / MCTI Call No. 25/2015 - Human, Social and Applied Social Sciences and FAPEMIG Call 01/2015 - Universal Demand.

it is important to discuss how innovation initiatives, linked to automation and synthesized speech, can affect the market and the allocation of professionals. In the cartography we propose in this study, we intend to stress the influences of the algorithms in the process of automation of voice content in the construction of the locutions and the programming of Brazilian musical radio stations. The look upon this object is directly associated to the debate about the relationship between media, music and the market, allowing us to discuss the role of professionals and the construction of content in this context. We seek to discuss, through a qualitative and cartographic point of view, how the relation between automation and radio is built - specifically in music broadcasters. Cartography, a recent methodological process, as Ferigato and Carvalho (2011) conceptualize, emerges as an alternative to complement qualitative research.

Cartography base itself on the transformations in the field of research in the last century to “construct a qualitative methodology that sought to be ‘as rigorous’ as quantitative research, through a combination of participant observation, open interviews, and careful analysis of materials” (FERIGATO; CARVALHO, 2011 – Our translation). According to the authors, the cartography seeks an intervention of the researcher in the process and didn’t work with ideas that are preconceived or already formed before the research.

Miranda (2013) makes an approximation between the work and the life of Jesús Martín-Barbero and the cartographic process, since both have the characteristic of disorder, interference that influences the researched object. “Driven by the challenge of breaking, ‘disobeying,’ the vision impervious and objective” (MIRANDA, 2013, p.72-73 – Our translation). In this sense, we intend, following the project, to develop field actions that allow a better understanding of the reality and the consequences of automation for the musical radio locution. Methodologically, we chose cartography because it allows us to understand the complexity of the communicational process. We sought to observe the phenomenon of automated speech by coordinating this cartographic work with an exploratory study, observing the movement of the actors in the scenario of expanded (KISCHINHEVSKY, 2016) and hypermedia radio (LOPEZ, 2010), looking away from historical, journalistic or work routine researches, predominant in the field (LOPEZ; MUSTAFÁ, 2012) and dialoguing with technology based on the concept of innovation. The contradiction and complexity of the phenomenon compose our point of view in this research. We look at the radio market and its business model, linking it to the need for survival, to the search for profitability and to the remodeling derived from this scenario (PRATA; CORDEIRO MARTINS, 2017), predominantly those related to automated locution and the work of the broadcasters (KISCHINHEVSKY, 2008).

In addition to this, qualitative research seeks an “activity that asserts itself from the situational context, the location and implication of the observer in relation to the object and its surroundings” (FERIGATO, CARVALHO, 2011, p.665 – Our translation), leading to a situation of research, which may be done by the analysis of particularities and details. This work intends to align the methods of the qualitative and cartographic research, as a way

to approach them. As Miranda (2013) states, we seek to contribute to the expansion of the number of methodologies, disciplines and studies as a way to increase the possibilities of qualitative research.

Initially, this research intends to know and present radios that innovate in the matter of automated speech. Our look - presented in this article - is in the first phase of the study, which consists of mapping automation initiatives in locution to compose cartography. From it, this cartography is systematized in two axes: a) careful analysis of the material, built from a mapping of the media content automation companies in Brazil; b) semi-structured interviews with entrepreneurs of musical radio stations, with the objective of understanding the possible impacts of automation and adoption of synthesized voice-over for the music radio market. In this text, we present the first stage of this effort: a bibliographic review, followed by the mapping and analysis of the automation companies that work with radiophonic production.

Technological routes and the radio

Radio is a medium directly affected - from its origin - by technologies, which determine its forms of construction and content presentation. In its history, there are physical transformations, such as the invention of radio powered by batteries to radio in mobiles phones, and narratives, such as innovations in radiophonic language. According to Prata (2007), radio has two fundamental moments of transformation. The first is the arrival of television in the 1950s, and the other is the incorporation of digital technologies, which keep the medium in constant flux.

In a little less than a century, radio has undergone several changes, but Cordeiro (2005) says that these constant transformations are part of the medium, “with radio being the medium that throughout the history of communication more easily adapted to the new technological scenarios” (CORDEIRO, 2005, p.443 – Our translation). With significant changes and new possibilities, radio stations try to adapt to new models of language, models and technologies.

And there were not only physical changes, but also changes to producers of radio programs, such as journalists. According to Cordeiro, “technological evolution always dictated structural changes to radio, whose technical system evolved and conditioned, through its change, the radio communication system” (2005, p.443 – Our translation) and that with this, editors and professionals of the area had to adapt to the transformations.

Television arrives in the middle of the twentieth century, and causes the first major change in radio. According to Berland (1990), the radio is detached in this confrontation with the television and it causes that it has to adapt with the other media. The transistor invention, for example, has made the radio gain an advantage over television, which is mobility, and consequently, the programming of broadcasters and modes of speech change, so that it always reaches the listener wherever it is. “Are you brushing your teeth, turning the corner, buying or selling jeans or entering inventory into the computer? So much the

better. Your broadcaster respects the fact that these important activities must come first” (BERLAND, 1990, p.179).

And this technological change also reflects on the audience. The listener turned into mobile listener, according to Prata (2007, p.4 – Our translation): “the arrival of the transistor, which freed the device from wires and sockets, providing the creation of a new language, suitable for a vehicle with high mobility, accompanying the listener wherever that he is”. This has also impacted radiojournalism, as the mobile device demands more streamlined in the information update of a medium that comes to accompany the audience even when in mobility.

Another highlight in this evolution of the radio was the popularity that FM (Modulated Frequency) transmissions gained after the implementation of the integrated circuit, often called a chip, that “uses refinements of the same technology used in transistors, in order to join many electronic components in a tiny piece of silicon” (BIERNATZKI, 1999, p.44 – Our translation). With this chip, it was possible to make smaller devices, in addition to lowering the costs of FM transmissions. “This has resulted in greater reliability as well as reduction in the size of all types of electronic equipment, including radios” (BIERNATZKI, 1999, p.44 – Our translation). Thus, although the FM has a limited range, it can have voices without noise or interference, compared to AM transmissions.

With a better voice quality, several programs, whether of interviews, debates or radiojournalism undergo changes in their production pattern. This, among other elements, also makes the radio to have a leap in popularity. For example, between 1989 and 1993, more than 500 radio stations emerge in the United States, according to Biernatzki (1999). And yet the author states that it is the talk, the spoken radio that creates an intimacy with the listener. Another variable that influences the strengthening of this relationship is the participation of listeners in programs by telephone, because it assigns “an interactive form to the spoken programming that is especially popular, creating a special feeling of relationship between the host, the person who made the call and the listener” (BIERNATZKI, 1999, p.52 – Our translation).

With the consolidation of digital technology in the 21st century, the media have changed, including radio. Mainly because of the digital signal that promotes “digitalization” (PRATA, 2007), both for receiver and transmitter. The gains that this technology has brought are many, such as faster data transmission and noiseless sound. There is an exchange between analog and digital signals.

Another change brought about by digital technologies on the radio concerns to the narrative composition. For Prata (2007, p. 7 – Our translation), the audience not only listens to the radio station, but also wants “texts, videos, photographs, drawings, hypertexts. In addition to audio, there is a plethora of textual and imagery elements”, that’s what the author calls “webradio”, when the radio station is transmitted through the internet. “A URL (Uniform Resource Locator), an address on the Internet, no longer by a frequency tuned to the dial of a radio receiver” (PRATA, 2007, p.11 – Our translation).

That is, there is a potential offer of diverse contents for the public to accompany and interact, which makes this same public “producer and consumer of information” (PRATA, 2007, p.11 – Our translation). What is offered on the Internet is a variety of services, from podcast to artist biographies, chats and weather information.

Automation and radio

With the Internet and the approach of information scientists, media professionals and researchers from a variety of disciplines, there was a dizzying increase in the number of projects and interdisciplinary collaborations focusing on the use of computing as an agent to promote innovation in journalism (GYNNILD, 2014). In this sense, according to the author, the use of computational potential in innovation in journalism not only leads to the innovative use of technologies, but also to innovative ways of thinking and journalism. “Journalistic innovation leads to innovative journalism” (GYNNILD, 2014, p.1 – Our translation).

With the scope of innovations in journalistic practice, automation, one of its aspects, comes as argue Caswell and Dörr (2017), as a potential alternative to meet the desire for sustainable business models for news organizations and to respond to the growing economic pressure for an increase in productivity in the production of journalistic content.

In this way, automated writing tools are increasingly integrated with communication workflows. However, there is a consensus about the potential of these tools related to their limited use of simple descriptive news commonly found in sports sections or financial reports (CASWELL; DÖRR, 2017 – Our translation). Although they play an important informational role, this use limited to descriptive news highlights a limitation of automated journalism in the construction of more elaborate contextual and creative materials.

In audio, automation has been found in initiatives that are not tied primarily to news production, but to automated translation and synthetic narration, such as the technology launched by the BBC News Lab for video narration and automatic news translation.

On the radio, where proximity and engagement are also due to the host (FERRARETTO, 2014), his identity and his differentiation from others, automated locution is a possibility and is part of the list of alternatives from the intense rearrangement made in the radio medium due to the digitalization (KISCHINHEVSKY, 2008).

In these radios, then, automation can happen in the synthetic narration of the names of songs, bands and composers, in the definition of the correct time for insertion of tracks, in the openings and closures of productions, or even, with more complex algorithms, in the intonation of the narration in the identification of acoustic identities, in the selection of soundtrack for background, among other options than the complex textual composition.

This change, moving from the automation of organized programming to a complete automation, which includes synthesized voiceover and, in the case of simple journalistic content to meet the legal minimum demand, text composed by bots, is a challenge for the radio itself.

In this sense, there are many examples of radios in Frequency Modulation (FM) where the formula of automation already operates. By adopting the Rio radio station *Paradiso FM* as a starting point, *Kischinhevsky (2008)* describes precisely how the automation process gains space as an alternative and financially sustainable business model for radios.

Paradiso FM, as described by *Kischinhevsky (2008, p.2)*, has been operating with negative results since its inception and with expenditures in excess of one million. It is a full-fledged case of how the growing cost pressure on radios, and in other media as a whole, generates a process of modification of the logics that govern both daily operations unrelated to journalistic and communicational doing, and to journalistic production itself.

As a result of these modifications, two movements are immediately apparent. The first, according to *Kischinhevsky (2008)*, takes the form of a march for the computerization and automation of daily operations, encompassing bureaucratic, managerial tasks and also activities related to programming. According to the author, this scenario leads to the so-called downsizing, a term that originates from the field of business management that refers to the decrease in the number of jobs in radios.

This decrease, as *Kischinhevsky (2008)* points out, can often occur abruptly, in which specialized professionals are replaced by hardware and software in an indiscriminate manner, aiming at the decrease of the payroll. However, there is also room for it to take place in a targeted and appropriate way from the point of view of the business and especially of the radio as a medium. Similarly, the decrease in the number of professionals can occur gradually or suddenly, the latter, as the author illustrates, is the case of *Paradiso FM*, which had 39 of its 42 professionals fired over a few months (*KISCHINHEVSKY, 2008*).

The second movement observed by *Kischinhevsky (2008)* concerns the modification in the content of the radio programming. According to the author, in these cases there is a predominance of time bands with totally computer-based programming and, consequently, a decrease in the diversity of content supply, which is reflected, according to him, in a “lack of interest of the audience, increasingly likely to consume other media or new forms of radio, as podcasts or web radio” (*KISCHINHEVSKY, 2008, p.2 – Our translation*).

In this point of view, the construction of 100% automated programming, while reducing the construction of the transmitted content, also generates a standardization and lack of the characteristic radio dialogue (*ORTRIWANO, 1985*), without the proximity that engages the new audiences (*LOPEZ, 2016*).

Thus, from the dissemination of automation by radio broadcasts, human locution will become not only a differential, but an innovation from the point of view of processes (*ROGERS, 1983*), innovation that is constituted from the exclusivity of the human and relational aspect of this narration strand, something absent in the synthesized locution.

From the key that human locution increasingly constitutes a differential of new audiences, automation is, therefore, presented as a viable alternative for the genres of programming that do not need or need less of the figure of the host and of the human appeal, as is the case of the musical programmes of the radios. The figure of the speaker,

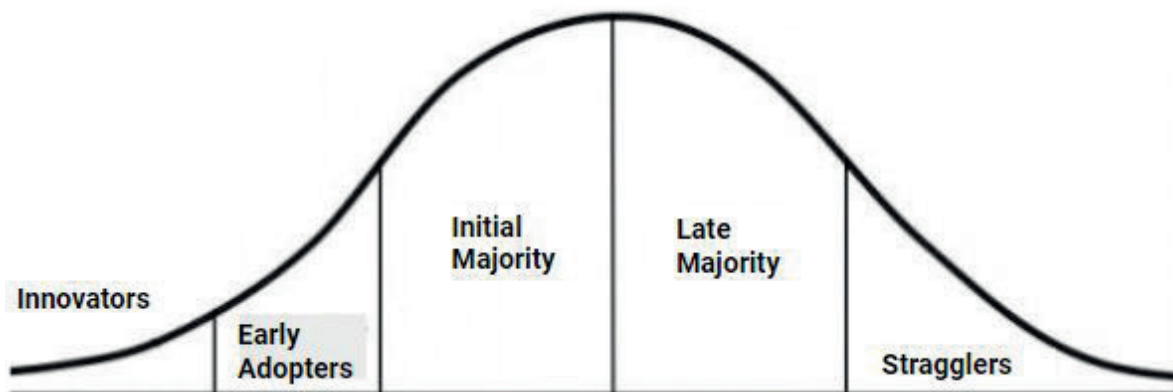
therefore, will be progressively more associated with pictures and places where creative and contextual mediation is required, an essential characteristic that even the most elaborate forms of artificial intelligence are far from perpetrating.

Innovation initiatives

Considering the logic of Rogers (1983), who considers that innovation can establish itself or through its perception by the user, we delimit the paths followed in the exploratory moment of cartography that we started in this study. First, we look for radio stations that declare to work with the synthesized voice in their programming. Although automation appears consistently as a speech to support the update on the websites of broadcasters, it is constantly restricted to programming management systems such as Zara or RadioPro. The reiteration of the technology as a mark of quality and the updating of the broadcasters can be seen on the page of Rádio Folha FM 102.1: “Imported equipment of last generation, totally automated with system coming from Broadcast Eletronic of the United States. A daring for a radio from the inner-city radio” (FOLHA FM, 2015 – Our translation). Automation appears here as a brand of innovation, giving the broadcaster the up-to-date and dynamic label.

This reality, as Kischinhevsky (2008) indicates, affects the content of broadcasters and not only their management. Thus, the discourse of automation as a quality referential appears fundamentally in young and / or musical broadcasters, which allow the exploration of the pre-recording of locution and the automatic organization of programming. This scenario, we believe, will be enhanced by the breakthrough in the innovation adoption curve (ROGERS, 1983), as shown in Figure 1.

Figure 1 - Technology adoption curve of Rogers (1983)



Source: Van Amstel (2012) adapted from Rogers (1983).

We can indicate that while the content automation systems for radio stations are in the adopting stage of the Late Majority, being widely diffused in the market and with effects in

the work and programming organization already studied and discussed, the full automation of the locution through of synthesized voices is still in the initial stages of adoption. We can identify, in Brazil, initiatives that are not explicit and not integral of this appropriation of automation. One of them is *TechnoPopRadio*², which presents between its announcers two automatic: *DeejayTechnopop* and *Deejay Gaudério*. On broadcaster website, one can observe the emphasis on the fact that they are automatic, just as there is a reiteration of the adoption of technologies and investment in innovation, following the profile of the active audiences characteristic of the culture of the connection (JENKINS; GREEN; FORD, 2014).

We observe that automated speakers are treated in a naturalized way by the broadcaster, placing them on an equal place with the speakers. They have the same space on the page, accompanied by an image and links that point to their social media profiles. The icons that value and link them to the spaces of circulation of the public are similar, but when searching for the interaction, differences are established. The “humanization” and the rapprochement between automated and public broadcasters are blurred with the targeting of the broadcasters’ networks - which reinforces the institutional character of these “machine-subjects” as opposed to the human speakers, who stand on the networks, talk about their lives and their practices beyond the studio. This approach, this friendly dialogue that characterizes the radio, occurs only in the dial when the automated locution is activated. The expansion of the radio then excludes the “machine-subjects”. They, in the specific case of *TechnoPopRádio*, close at the end of the broadcast and restrict themselves to the official website of the broadcaster. There is no network interaction simulation. There are no avatars. Brazilian “machine-subjects” have no face - unlike the automated salespeople of pages of commercial companies, such as Luiza, of Magazine Luiza. This one has name, face, way of speaking and specific interaction dynamics.

The automated announcers located in this cartography³ are affected by the weakening of the radio market, the gradual reduction of the participation of the medium in the distribution of the advertising pie, by the depreciation of the working conditions (not only of radio, but of Brazil). To a certain extent, this scenario leads to a growth in the adoption of these systems, which as we have said are increasingly natural and less recognizable as non-human. The

2 *TechnoPopRadio* is part of *Technopop-network*, which includes a home studio and a mobile studio in addition to the broadcaster. The station appeared in 2000, when it was known as *Internet Radio*. In the same year it was renamed *DeeJay NetRadio*, with a musical profile focused on Dance Music. Two years later, on November 5, 2002 was born *TechnoPop-WebRadio*, which initially kept the focus of *DeeJay* and later joined Dance Music with Techno, Pop, House, Rock and electronic music. The move to *TechnoPop-Network* takes place in 2016 with the integration of the two studios, expansion of activities in mobility and interaction through digital platforms and social networks. Today *TechnoPop*, which is based in Caxias do Sul, Rio Grande do Sul, broadcasts at <http://technopopradio.com> and is on Facebook (@technopopradio), Twitter (@technopop_radio) and YouTube (through the Portal channel *GauchosRadios*, at https://www.youtube.com/channel/UCQeDnnQkSITiSZNvMv_PfQw).

3 The Brazilian audio and radio market have undergone, from 2018 mainly, a gradual revitalization and strengthening, especially with regard to the consumption of online audio through podcasts or voice assistants (KISCHINHEVSKY; LOPEZ, 2018). However, radio broadcasters, which have a greater demand for physical structure and personnel and still invest primarily in the advertising business model, have experienced difficulties. According to Prata (2016), innovation in the business model has come from five forms of resource entry: franchising, crowdfunding, signing, product diversification and hybrid models. Yet, as the author points out, the radio market has not reached a standard, an organization that meets the financial needs of broadcasters and is sustainable in the complex, multiplatform, multimedia context of the connection society.

same happened with the systems of automated management of the programming, now inserted in the routines of the broadcasters.

On the other hand, audio has increasingly integrated audience routines - whether through radio broadcasters, web radios, or even voice assistants, such as Amazon Alexa or Google Home, which have a more complex system that allows question-answer type and assume the role of radio in some day-to-day functions such as music curation, presentation of local information or public utility such as weather and traffic.

The adoption of innovation varies in complexity and integration of the automated management system with algorithms and metadata available through audience consumption. There are automation systems that incorporate actions of organization and delimitation of the programming from the tastes and (re) actions of the public, altering the content transmitted in real time while others present a simplified structure, of automated organization fed by human actions. The 100% automated locution, which uses synthesized voice, was not localized in Brazilian broadcasters. As we said before, this exploratory study that we have accomplished has managed, through its methodological strategies, to observe stations that declare to work with the automated locution, since its use can be realized and not publicized. This relativization is especially important if we look at this phenomenon from Rogers (1983). The author points out that in the early phases of the innovation adoption curve there is resistance from the general public, which in the case of radio could reflect the acceptance of the broadcaster and its content by the audience. The relation, when it comes to radio, is still seen as close, having the medium as a companion (ANTROPOMEDIA, 2015) above any other function in the audience's daily life - a role not yet socially acceptable for an automated system.

We can understand, when looking at the proposal of the innovation cycle of Van Amstel (2012), that the locution through synthesized voice went through a moment of innovation generated by the competition for quantity (when it sought to expand the potential of a market already contemplated and, to a certain extent saturated, by the automation systems of programming and management) to a phase of innovation generated by the competition for quality. At the moment, investments in the qualification and naturalization of the automated voice and its potentials for the radio market have been expanded, exploring intonations and dialogues in the automatic generation of audio content. The advancement of algorithms and traceable metadata on digital platforms (ROGERS, 2013) is a key variable for this qualitative improvement and this path in the innovation adoption curve. Through them, the systems allow the adaptation of the rhythm, intonation and dynamics of interaction to the profile of the known audience. Coordinated with automated text generation systems for simpler discursive organization, such as song presentation, opening and closing programs, timing and simple news broadcast, allows the construction of 24 hours of programming in an automated and customizable way for the audience.

Although we have not found explicit examples of the use of 100% automated locution in the Brazilian market, we observe the use of technology in other sectors, including

contemplating voice variations and immediate adaptation to public responses, which indicates the possibility of incorporation by the radio, especially the musical. Automation systems that incorporate speech, such as totems, call centers, self-service and home automation equipment, among others, already incorporate, through the exploration of artificial intelligence and human-computer interaction, variations and personalization of synthesized voices. The diffusion of this technology, with more natural synthesized voices tends to be incorporated by the radio market.

The effects of this change in the music radio market are intense. While allowing a greater knowledge of the audience profile and its tastes and reactions through the algorithms, it affects the organization of the market, with the systems occupying spaces of locution. The use of this technology is more frequent in the field of e-learning, which incorporates experiences of automatic generation of audios and voiceovers in educational videos using text-to-speech technology. But it is possible to find initiatives even in journalism, which integrate varied algorithms with speech synthesis. This is the case of the BBC, which since 2015 has been using voice synthesizers and virtual voiceover technologies to publish news videos in multiple voices. The system works with automatic translation and generation of audio and with natural voices, generating the new videos in minutes and streamlining the process of content production. This integration of technologies is possible in simple narrative constructions, such as those demanded in musical radios that do not work with special productions or with focus on the performance of the speaker.

One variation is important: the potentialization in the new media ecology (CUNHA, 2016) of the role of the announcer linked to the star system, which has its own acoustic identity, that draws through its voice and its speech a conversation with the audience, engaging and enveloping it. There is no rupture (PALACIOS, 2003) in this relation when migrating to digital media or adopting automated systems. The synthesized voiceover, though advance qualifiedly does not reach or draw an identity that distinguishes it from the others. As Kischinhevsky (2008 – Our translation) recalls, “the announcer lost his job”, but his permanence is directly related to his ability to become unique, to resume the close relationship of the radio communicator with the audience. Simplified, standardized, simplified phrases are automated. The relation of the audience with the speaker and the investment in the musical radio as companion of a young and involved listener are (still) not.

Conclusion

This article presents the partial results of a larger study, which intends to make a cartography of the automation of Brazilian musical radios. This first moment does not complete the cartography itself, but is based on it to point out elements of complexity and strengthening of the contradictory in the characterization of the phenomenon. Automated locution is part of a moment of radio reaction to deeper changes in society, where technologies become more common because of their varied application associated with cheapness. The

naturalization of automated locution in everyday life has changed in recent years with the growth of smart speakers⁴, but still generates strangeness when thinking about its application to journalistic or radiophonic productions.

The ease of human speech recognition by the artificial intelligence system as well as the low identification as a “robotized” voice and the integration of human voice productions such as podcasts and songs played in the wizard through applications such as Spotify or Deezer, makes the smart speakers an everyday companion that helps in the daily tasks, informs and dialogues. This integration between the “machine-subjects” and the “human-subjects” in the dialogue with the audience also occurs in the broadcaster that we analyze more closely in this article. Automated speakers are not central to programming. They are integrated - and represented as (almost) similar - to humans. In the complexity of everyday relationships, they have no avatars, they are not personified subjects, but they do not have their outstanding mechanical character. They are linked to social networks and generate an expectation of interaction that does not exist. They do not expand beyond the locution itself. They do not integrate into the culture of connection and sharing, but are derived from it. There lies the contradictory. The “machine-subject” is desired, but feared for affecting already known configurations and market structures; is natural, almost human in speech, and for not highlighting its mechanical character integrates in a more everyday way the subjects’ practices; is not human - and is presented as automatic and automated, managed by an algorithm that performs content curation - but does not have its interface presented to the audience; does not have a name, a social network, but it has links that bring it closer to human speakers and has a denomination that generates an identification with the transmitter and its trajectory. We consider, therefore, that the automated speakers we analyze are, first and foremost, brands of innovation for a broadcaster that speaks to a segmented and predominantly young audience that values innovative attitudes.

In this article we do not detected stations that declare to work with integral voice synthesis. Nevertheless, it was possible to observe initiatives in other areas that characterize the qualitative advance of the automated voice and the advance in its curve of adoption in several fields. We believe from this perspective that the fully automated locution, mainly from its qualitative advance towards the naturalization of the voice and the approach to the dialogue, tends to occupy more space in the programming of the music radios. This assertion stems from its gradual appropriation by media companies and the less complex character of information presented on music broadcasters that have no focus on the relationship between communicator and audience. That is, radios that focus on their programming, the presentation of songs and interpreters accompanied by texts of simpler discursive organization, such as brief news, weather forecast, time and openings and program closures can be composed entirely through automated systems.

⁴ According to data from The Infinite Dial (2018) promoted by Edison Research, in the United States 71% of respondents know Amazon Alexa and 56% Google Home. 18% of them have at least one smart speaker (in 2017 that number was 7%). Of these, 72% own Amazon Alexa, 17% own Google Home and 11% own both.

This change, pointed here as a trend, may be underway with innovative companies and/or early adopters, not being explicit. This observation stems from the diversity of companies offering increasingly complex day-to-day content automation and audience management services to radio broadcasters in Brazil. As a result of these, in order to achieve the proposed research, we intend to follow the research with the direct contact with musical stations of the capitals and metropolitan regions of the Brazilian Southeastern region, seeking to understand their programming composition strategies, besides discussing the role of automation and allocation of speakers in this management process and in relation to the audience. We chose the Southeast region of Brazil because it is where most of the companies that offer radio automation services are concentrated. We understand the challenge of looking at an innovative phenomenon, even in the early stages of the adoption curve, but we consider that due to the consequences that this process may have for the entire music broadcasting industry - especially for broadcasters and for business organization and programming - is a major challenge that needs to be looked at right from the start.

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