

Science in the Brazilian magazine *Piauí*: who writes the story also has a story

Renata Fontanetto¹

Museu da Vida / Casa de Oswaldo Cruz / Fiocruz, Rio de Janeiro, Brazil

Luís Amorim

Museu da Vida / Casa de Oswaldo Cruz / Fiocruz, Rio de Janeiro, Brazil

Honorary Research Associate (STS/University College London)

Marina Ramalho Museu da Vida / Casa de Oswaldo Cruz / Fiocruz, Rio de Janeiro, Brazil

Introduction

Can literary journalism contribute to critical and reflective science journalism? If so, how is this possible? These initial questions guide this work. To answer them, we chose to study the magazine *Piauí*, considered one of the representatives of literary journalism in the Brazilian market.

Piauí was created in 2006 by a group of journalists, and one of its main founders is Brazilian documentary filmmaker João Moreira Salles. In Brazil, it is considered a representative of literary journalism, covering stories about politics, sports, literature, economics, science, environment, culture, and other subjects. In addition to covering its own stories, the publication also buys and translates material from other vehicles, such as the magazine *New Yorker*, a great representative of literary journalism on a global scale and a strong inspiration for the Brazilian magazine. *Piauí* describes itself as a magazine of "journalism, ideas and humor" and they "publish for those who like to read" (*Piauí*, 2017).

For this research we rely on theoretical work that analyzes journalistic coverage of science topics and seeks to understand which are the main criticisms directed to science journalism. We understand that this genre contributes to the public debate about scientific subjects and can influence the public imaginary around science.

One of the points raised by Castelfranchi (2003), for example, is that many scientific magazines approach science as if it were a "room of wonders and a synonym of truth", as well as a "generous mother of new therapies, machines, and well being". According to the author, it is common in cinema and in comics to observe science being associated with a "mad scientist", whose inventions and experiments can be destined for destructive ends.

According to the project "Science, technology and innovation in the Brazilian media" (Andi & Fundep, 2009), when science journalism assumes a similar position to the deficit model, it is easier to create a "distance between scientific discourse and the common language" (p. 32) and to strengthen the image of scientists as gods, above the mortals. This project evaluated materials from 62 Brazilian printed vehicles and suggests that most of them do not insert contextual

¹ renatafontanetto@gmail.com; luís.amorim@fiocruz.br; marina.ramalho@fiocruz.br

elements in stories, "followed by a reduced number of texts that describe the facts in detail, with chronological elements, information from various sources and explanatory texts" (p. 34). .

On this, Oca (2010) notes something interesting: "the media production logics impose a dynamic and a way of addressing the messages", being "spectacle and novelty" and thus limiting the chances of better explaining and contextualizing the news. Another point that deserves to be highlighted is the area of science that gain more space in the media. As pointed by Andi & Fundep (2009), health sciences, biological sciences and earth sciences are more portrayed, to the detriment of human and social sciences. This pattern can also be noted in science stories broadcasted on Brazilian television (Medeiros et al, 2013; Ramalho, Polino & Massarani, 2012).

What do characterize literary journalism?

Literary journalism, narrative or nonfiction creative writing mixes literary elements to the text to tell a story and remains faithful to vital aspects that characterize journalism as a social activity within society. Muresan (2010) states that it is a narrative that "would normally have been written in a dry newspaper manner, but on the contrary, it was written with style, vivid description and narrative flow that immerses the reader into the history" (p. 22).

According to Tom Wolfe (2005), social realism is an essential component of literary journalism that plunges into the sources of literature. He points out a few aspects, such as construction of scenes, with a true description of what actually happened; complete dialogues; presentation of scenes according to the perspective of a character; and detailing a character's behavior, hobbies, and preferences.

The author Norman Sims (1995) also mentions other elements that bring richness to literary journalism, such as presence of authorial voice in the text, immersion in a reality, accuracy in information and proper style of writing - with use of figures of speech, for example. The Brazilian author Felipe Pena (2006) created the concept of the seven-pointed star, with seven different values, to describe this journalistic genre. These are: leveraging the resources of journalism; going beyond the limits of everyday events; offering an extended view of reality in the text; fully exercise citizenship; break the dictates of the lead; avoiding primary definers (sources that are already very interviewed); and ensure the continuity and depth of the stories.

Methodology

For this study we applied a content analysis on 43 magazine articles, selected by keywords on the magazine website ("science", "scientist", "research" and "scientific..."). All articles are from the 1st magazine edition to the 102nd edition. It is important to mention that we adapted the content analysis protocol from the one created within the framework of the Ibero-American Network for Monitoring and Training in Scientific Journalism (Ramalho et al, 2012) in order to perceive patterns and characteristics of *Piauí's* science stories.

To better understand the data in a qualitative way and to contextualize them, we interviewed João Moreira Salles (publisher and founder of the magazine) and Bernardo Esteves (science journalist of *Piauí* since 2010), following a semi-structured questionnaire, to get to know the institutional vision of the publication, opinions and personal preferences of these writers. In this paper, we will talk about some relevant results having in mind the perspectives brought up by the interviewees.

Magazine Piauí's case: some highlights on the results

When does science appear?

The last five years that emerged in the analysis (from 2010 to 2014) concentrated a greater amount of texts, which suggests a shift in editorial orientation towards science. This interested look of the magazine for science and technology begins with some worries of documentary filmmaker João Moreira Salles.

In his interview (2016), he says the following: "I think in the early years of the magazine, science probably did not go to our pages much, I think it starts to appear there for the third or fourth year for a personal interest of mine, essentially. I realized that I was contributing even more to increase this imbalance between the symbolic role that the humanities and the social sciences occupy in the Brazilian imagination, to the detriment and expulsion of the [other] sciences. I think this is a bad recipe for a country".

Salles then began to get involved with the Institute of Pure and Applied Mathematics (Impa) - a reference research center located in Rio de Janeiro -, and to write about the area. His article "Artur Avila has a problem", published in January 2010, tells the story of the Brazilian mathematician who gives name to the article and who eventually won the Fields medal in the year 2014. Salles's work was awarded with Esso, one of the most important recognition in the Brazilian journalistic sphere. *Piauí* begins to pay more attention to science and, in 2010, this institutional interest culminates in the hiring of a specialized science reporter, Bernardo Esteves. We can say that João Moreira Salles expanded his ties with the academic universe and made clear his interest in also investing resources in Brazilian science when, in 2017, together with the linguist Branca Moreira Salles, he created Instituto Serrapilheira, a private non-profit institution that aims to invest in research and science communication projects within the country. The initiative aims to distribute 350 million brazilian reais to different research and science communication projects around the country, something equivalent to 86 millions american dollars.

Description of scenes and characters

The descriptions of scenes appeared in 29 of the 43 articles analyzed, while those of characters in 31. This feature of literary journalism, according to Tom Wolfe (2005), is just one more that he used to entertain the reader and avoid a "dragged, monotonous" text in "tone of pale beige". He says, for example, that the presentation of a scene according to the perspective of a character suggests that the journalist was able to convey what goes on inside the head of who is being portrayed and he admitted that he often changed the perspective of the narrator of the text. In our view, the use of these techniques helped to create a better visual impression of the story that *Piauí* was telling.

In this sense, the journalist Bernardo Esteves (2016) states that "(...) it's a way to engage the reader and insert him into the story. It is to speak: give me the hand, come, enter and know this character ". In his turn, João Moreira Salles (2016) affirms that it is in the "conviviality that I perceive the details, the way the person talks, the way one is silent, behaves, the gestures, the house, the interests, (...) ". For this, time and space may be essential. Salles goes on: "If I have to talk about Artur in 5,000 characters, I'll say he's a mathematician who won the Fields Medal. It says nothing, absolutely nothing of what he does, the object he studies, and where he came from".

Scientific controversies

During the analysis, the narratives of the *Piauí* articles were categorized according to a list of frameworks in which the protocol of the Ibero-American Network (Ramalho et al, 2012) is based, one that was originally thought by Nisbet, Brossard and Kroepsch (2003) in a study on the science coverage of *The New York Times* and *Washington Post* on stem cells. These frames are the approaches, that is, the perspectives that the journalist has sewn into story. It was possible for each article to mark up to three frames. In the end, we count the number of times a given category - such as "new research", "new technological development", "scientific controversy" and "scientific uncertainties" - appeared. In the final list, the "controversy" frame appeared second, with a total of 13 inserts. The journalist Bernardo Esteves, specifically, contributed a lot to this scenario, since of his ten analyzed stories, seven explored controversial scientific subjects.

His active search and curiosity for scientific controversies was also due to his studies during PhD. As he clarified in the interview: "The way I see science has changed a lot after I took my doctorate in history of science (...), but working on a more sociological theme of science than with the history of science. I became a Latourian² after my PhD. What I am going to keep from this and perhaps to illuminate this issue of controversy is the central aspect of Latour's thought, which is this: when everyone agrees, when the scientists are all agreed, we have what he calls a black box closed. No one questions. When there is controversy I think it has floor to show the construction of scientific knowledge" (Esteves, B. 2016). Literary journalism can, in his view, give more scope for approaching controversies, limiting the validity of conclusions, and allows the author to contextualize the production of truths. In his words: "narrative journalism helps, it gives us tools to present truths as situated, as contextualized. Not a scientific truth that is independent of any historical, cultural, and social factor".

In love with math

Among the areas of knowledge, *Piauí* presented more texts from the biological sciences, health sciences and Exact Sciences and Earth Sciences. The latter refers to mathematical sciences and also to areas such as astronomy, geosciences, physics, chemistry and oceanography. In the protocol, we were able to insert up to two areas of knowledge by text. In relation to the coverage of the first two large areas, the journal does not deviate from what other vehicles usually do, but one of the highlights and differentials is the number of inserts for the area of mathematics: out of a total of 12 in the area, six are about math. Of these, five correspond to texts written by João Moreira Salles, and all his texts analysed are about mathematics. This is due to his history with the Institute of Pure and Applied Mathematics (Impa), as we mentioned above. On this, he brings an interesting perspective:

"I proposed the agenda here in the magazine and the team who actually created the magazine - very qualified journalists, some of the best in the country - had never heard about Impa, which gives a little idea of how science is practically invisible to the Brazilian journalistic establishment, which made me even more willing to write." (Moreira Salles, 2016).

Mathematics was so important for the magazine that in 2014, when Artur Ávila was announced one of the winners of the Fields medal, *Piauí* produced a special edition about math, showing how Brazilian science managed to get to the point of receiving an award such as Fields.

Some words about charts

Finally, another element we would like to highlight is *Piauí's* choice not to put charts and tables - resources that are quite present in daily newspapers, for example - to aid in some explanation or

² In reference to the French philosopher, anthropologist and sociologist Bruno Latour.

visualization of scientific data within story. Both interviewees evaluated that these resources are not lacking. Moreira Salles is also objective on this issue when he says that "the greatest service that the magazine can provide to science communication is to get the reader to the end of the story". Bernardo Esteves notes that because *Piauí* is a magazine that prioritizes text, they strive to write articles "good enough that explain data without graphs and charts". "I try to adjust my investigation and my writing to fill the gap", he complements.

Final remarks

We observed contextualized texts, with constant concern to situate the reader with historical events. This contextualization is greatly benefited by the time of investigation and space for publication that the magazine offers journalists. The stories, for the most part, are bigger than the news found in daily newspapers, which contributes to the deepening of the text. In subjects on controversial science topics, the effect is positive: there is more room to develop the narrative and seek different respondents with different points of view.

With regard to the resources of literary journalism, scene descriptions, character descriptions and the use of full dialogues of a conversation - the first two most widely used - are tools that contribute to the reader's immersion in the text and to identification with story. The character description and aspects about one's life, specifically, may contribute to the elucidation about the figure of the scientist, perhaps helping to break down more stereotyped aspects about the researcher being portrayed.

We understand that a news story that falls within the genre of literary journalism would not solve all the gaps of science journalism because there are other factors that also count in the equation. We consider, however, that the use of some of the features of literary journalism can help to humanize and contextualize the story, and might bring a new perspective look to the reader about the science. It should be noted that it is difficult to reconcile literary journalism with traditional factual journalism, since production times may differ greatly. *Piauí* is an exception to this model of traditional factual journalism. Many of the texts analyzed tell stories that have already been revealed in print newspapers and yet bring new components. *Piauí* carries out a different science coverage by investing in a slower, detailed, judicious and spacious journalism.

References

- Andi & Fundep. (2009). Ciência, tecnologia & Inovação na mídia brasileira. Retrieved from <http://www.andi.org.br/inclusao-e-sustentabilidade/publicacao/ciencia-tecnologia-inovacao-na-midia-brasileira>
- Castelfranchi, Y. (2003). Imaginando uma paleontologia da cultura científica. In: Com Ciência. Retrieved from <http://www.comciencia.br/reportagens/cultura/cultura17.shtml>.
- Esteves, B. (2016). Entrevista com Bernardo Esteves [Recorded by Renata Fontanetto].
- Medeiros, F. N. S.; Ramalho, M.; Caldas, C.; Massarani, L. (2013) Ciência e Tecnologia em um programa de infotainment: uma análise de conteúdo da cobertura do Fantástico. Intercom (São Paulo. Impresso), v. 36, p. 127-147.

- Piauí. (2017). Mídia Kit 2017. Retrieved from <http://piaui.folha.uol.com.br/wp-content/uploads/2017/08/m%C3%ADdia-kit-2017.pdf>.
- Moreira Salles, J. (2016). Entrevista com João Moreira Salles [Recorded by Renata Fontanetto].
- Muresan, M. (2010). Creative Writing in Journalism. *Studia Universitatis Babes Bolyai Ephemerides*.
- Nisbet, M.C., Brossard, D., Kroepsch, (2003) A. Framing Science, The Stem Cell Controversy in an Age of Press/ Politics. *The International Journal of Press/Politics*, v. 8, n. 2, p. 36-70.
- Oca, A. (2010). El renovado desafío del periodismo científico. In: *Jornalismo e ciência: uma perspectiva ibero-americana*. Rio de Janeiro: Fiocruz / COC / Museu da Vida.
- Pena, F. (2006). *Jornalismo literário*. São Paulo: Contexto.
- Piauí. (2016). Mídia Kit 2016. Retrieved from <http://piaui.folha.uol.com.br/wp-content/uploads/2016/06/m%C3%ADdia-kit-2016.pdf>.
- Ramalho, M. et al. (2012). Ciência em telejornais: uma proposta de ferramenta para análise de conteúdo de notícias científicas. In: *Monitoramento e capacitação em jornalismo científico: a experiência de uma rede ibero-americana*. Rio de Janeiro: FIOCRUZ/ CIESPAL.
- Ramalho, M.; Polino, C.; Massarani, L. (2012) From the laboratory to prime time: science coverage in the main Brazilian TV newscast. *JCOM, Journal of Science Communication*, v. 11, p. 1-11.
- Sims, N. (1995). The art of literary journalism. In: *Literary Journalism – a new collection of the best american nonfiction*. New York: Ballantine.
- Wolfe, T. (2005). *Radical chic e o novo jornalismo*. São Paulo: Companhia das Letras.