

Ideology and Scientific Dissemination: A Bakhtinian Analysis of the Discourse in *Ciência Hoje* [Science Today] Magazine / *Ideologia e divulgação científica: uma análise bakhtiniana do discurso da revista Ciência Hoje*

*Luiz Rosalvo Costa**

ABSTRACT

The purpose of this paper is to explore, based on theoretical propositions of the Bakhtin Circle, some relations between discourse and ideology, taking the scientific dissemination discourse of *Ciência Hoje* [Science Today] magazine as our object of investigation. Operating with the idea that the concrete utterance is the main locus of creation of ideology, we focus on two editorials of that magazine (one from the 1980s and the other from the 1990s), trying to show how ideological clashes of contemporary society manifest in the architecture of those editorials.

KEYWORDS: Ideology; Utterance; Bakhtin Circle; Scientific Dissemination

RESUMO

O objetivo deste artigo é explorar, com base em proposições teóricas do Círculo de Bakhtin, as relações entre discurso e ideologia, tomando como objeto de investigação o discurso de divulgação científica da revista Ciência Hoje. Operando com a ideia de que o enunciado concreto é o locus privilegiado de constituição da ideologia, o artigo focaliza dois editoriais da revista (um da década de 1980 e outro da década de 1990) procurando mostrar como embates ideológicos da sociedade contemporânea se manifestam em sua arquitetura.

PALAVRAS-CHAVE: Ideologia; Enunciado; Círculo de Bakhtin; Divulgação científica

* Universidade de São Paulo-USP, São Paulo, São Paulo, Brazil; luizrosalvo@uol.com.br

Introduction

The argumentation developed below, taken from the doctoral dissertation defended by the author in 2014, is guided by two premises. The first is that the conception of language resulting from the conjugation of the work of Mikhail Bakhtin, Valentin Vološinov and Pavel Medvedev (members of the Bakhtin Circle), characterized by a specific appropriation of the notion of ideology, represents a useful theoretical support for an approach that is interested in understanding the modes by which, in contemporary society, forms of thought (as well as the ethical, esthetic and cognitive references), materialized in enunciative practices, are related to the political and economic processes and mechanisms of domination inscribed in the production and circulation of discourses. The second is that the forms by which scientific knowledge is incorporated in contemporary social life, marked by a specific combination of the functions of science simultaneously as ideology and as productive force, make the discourse of scientific dissemination/popularization a privileged area for the manifestation of the ideological conflicts of current society.

To show the plausibility and relevance of this reasoning, two editorials of the magazine entitled *Ciência Hoje* [*Science Today*] (one from the 1980s and the other from the 1990s) will be analyzed. The choice of utterances at two different moments intends to show, by means of a comparative analysis, how changes in the ideological configuration of society can be perceived in the enunciative architecture of the magazine.

1 Ideology in the Theory of the Bakhtin Circle

That the issue of ideology constitutes an important substratum of the work of the Bakhtin Circle has already been indicated by studies affiliated to different traditions, among which the authors Bernard-Donals (1994), Gardiner (1992), Alpátov (2003), Tchougounnikov (2005; 2008), Lähteenmäki (2005; 2006), Tihanov (1998), Tylkowski (2010), Faraco (2009), Miotello (2005) and Zandwais (2005; 2009) can be mentioned.

A point from which the incorporation of the ideological phenomenon in the work of the Circle can be traced is the project that, during the 1920s, Medvedev and Vološinov intended to undertake toward the construction of a science of ideologies. This project,

developed in dialog with the Marxist tradition, was in line with the agenda of the Institute of Comparative Studies of the Literature and Languages of the West and East-ILIAZV.¹ It is in the course of the reflections developed in the scope of this project that they came to formulations about the material and signic nature of ideology, as Bakhtin/Medvedev's following passage illustrates:

Nor do philosophical views, beliefs, or even shifting ideological moods exist within man, in his head or in his 'soul'. They become ideological reality only by being realized *in words*, actions, clothing, manners, and organizations of people and things – in a word: in some definite *semiotic material*. Through this material they become a practical part of the reality surrounding man (1991, p.7; my emphasis).²

In the same sense, the inseparability between sign and ideology will be stated in an even more categorical manner by Vološinov:

Everything ideological possesses *meaning*: it represents, depicts, or stands for something lying outside itself. In other words, it is a *sign*. *Without signs there is no ideology* [...] The domain of ideology coincides with the domain of signs. They equate with one another. Wherever a sign is present, ideology is present, too. *Everything ideological possesses semiotic value* (1973, pp.9-10; emphasis in the original).³

In this line of reasoning, the word (not the word in dictionary form, but the utterance-word) will be thought as being an element in which the ideological and dialogical are mutually presupposed. Understood as the ideological sign par excellence, the word is also the dialogical meeting point whereby the subjective, intersubjective and social are linked simultaneously, as

It is determined equally by *whose* word it is and *for whom* it is meant. As word, it is precisely *the product of the reciprocal relationship between speaker and listener, addresser and addressee*. Each and every word expresses the 'one' in relation to the 'other'. I give myself verbal

¹ Concerning this institute of Leningrad and its importance in the intellectual context of the Soviet Union in the 1920s, see Brandist (2012).

² BAKHTIN, M./MEDVEDEV, P. *The Formal Method in Literary Scholarship: A Critical Introduction to Sociological Poetics*. Translated by Albert J. Wehrle. Baltimore and London: The John Hopkins University Press, 1991.

³ VOLOŠINOV, V. N. *Marxism and the Philosophy of Language*. Translated by Ladislav Matejka and I. R. Titunik. New York and London: Seminar Press, 1973.

shape from another's point of view, ultimately, from the point of view of the community to which I belong. A word is a bridge thrown between myself and another (VOLOŠINOV, 1973, p.86; emphasis in the original).⁴

Thus, far from being opposed, ideology and dialogism meet in the sign (and, therefore, in the concrete utterance). This idea will be subadjacently incorporated in many formulations of Bakhtin, who, especially from 1929 onwards, will develop a view of language in which ideology, articulated with the conception of dialogism, will appear as an element of great importance. Thus, just as Vološinov did, he will confirm the dialogical nature of consciousness materialized in the utterance-word:

The idea *lives* not in one person's *isolated* individual consciousness – if it remains there only, it degenerates and dies [...] Human thought becomes genuine thought, that is, an idea, only under conditions of living contact with another and alien thought, a thought embodied in someone else's voice, that is, in someone else's consciousness expressed in discourse (1984, pp.87-88; emphasis in the original).⁵

And thus it is that he will refer to living language as “ideologically saturated, (...) as a world view, even as a concrete opinion, insuring a *maximum* of mutual understanding in all the spheres of ideological life” (BAKHTIN, 1981 [1934-35], p.271; emphasis in the original).⁶

The conception that emerges from the articulation of the work of Vološinov, Medvedev and Bakhtin indicates that language is inseparable from historical-social reality. From this point of view, ideology is understood to be a mesh of meanings and senses materialized in sign-objects and in utterances in which the injunctions from the economic and political structures are reflected and refracted.⁷

⁴ For reference, see footnote 3.

⁵ BAKHTIN, M. M. *Problems of Dostoevsky's Poetics*. Edited and Translated by Caryl Emerson. Minneapolis and London: University of Minnesota Press, 1984.

⁶ BAKHTIN, M. M. Discourse in the Novel. In: *The Dialogic Imagination: Four Essays* by M. M. Bakhtin. Edited by Michael Holquist. Translated by Caryl Emerson and Michael Holquist. Austin and London: University of Texas Press, 1981. [1934-35].

⁷ Concerning the concepts of *reflex* and *refraction*, see Bondarenko (2008).

2 Concrete Utterance and Ideological Environment

In the development of the formulations presented above, the concrete utterance appears in the work of the Circle as a privileged *locus* of constitution of ideology. Having the word (ideological sign par excellence) as raw material, the concrete utterance is the place where the individual consciousness and social ideology meet. It is in it that the predominant ideas in society (including those whereby the processes of domination are actualized) are prototypically materialized.

It is in concrete utterances (as well as in the other sign-objects) that the *ideological environment* is materialized (BAKHTIN/MEDVEDEV (1991 [1928], pp.13-14),⁸ this being the place where moral values, religious and cognitive references, forms of knowledge and political and philosophical conceptions circulate. Expressing the historically possible adjustment between the forms of economic exploitation and the processes of political and social regulation, the meanings and senses present in the ideological environment provide a minimum of stability and consensus necessary to ensure hegemony and the exercise of domination.

In contemporary society, as shown by Featherstone (1995; 1997), Jameson (1996; 2006), Lyotard (2013 [1979]), Castells (2012), Lévy (1996; 1999), Lipovetsky (2004a; 2004b) and Harvey (2008; 2010), among others, the constitution of this main core of meanings and senses is inseparable from certain transformations occurring in the productive forces. In connection with them, in the last four or five decades, modes of economic, political and social regulation are crystalized in line with redefinitions in signic and enunciative production in different spheres of ideological communication and activity.

Presupposing a great advance of communication and information technology and a specific form of incorporating science and knowledge in economic and social life, these transformations are executed in a set of processes, such as: a) the development of forms of organization of work and production based upon the compression of time and space; b) the establishment of a productive system supplied by an uninterrupted movement of technological innovations; c) the breathtaking advance of microelectronics, telematics, digital technology and wireless communication; d) the intensification of the demand for performance and productivity; e) the exacerbation of individualism and competition.

⁸ For reference, see footnote 2.

In view of the central importance assumed by knowledge in these processes, significant implications are felt in the sphere of science and discursive production associated with it, as it is the case, rather illustrative, of the discourse of scientific dissemination, in which the sphere of science is articulated to other spheres, especially those of the media and education.

3 Science, Media, Education and New Ideological Configurations

A symptomatic aspect of the aforementioned processes is the fact that the cognitive schemata, the patterns of representation and the models of reasoning that are typical of the production world and of economic relations have penetrated social life as a whole in proportions never seen before. They have installed a productive drive and spatial-temporal references oriented to the *here-and-now* (speed, instantaneousness, volatility, simultaneousness, ephemerality, etc.) in the core of the systems of interaction, intersubjective relations, forms of sociability and, therefore, of signic and enunciative production in which and by which the ideology of society is constituted.

The need for acceleration of the time of working capital, the intensity of the rhythm of work and the imperative of performance and productivity (HARVEY, 2010), being reflected and refracted in signs and relations of several spheres, make clear the tight relationship between senses in circulation in society and the logic of the production of goods. Furthermore, they show the close correspondence between values, references, cultural, ethical, aesthetic and cognitive practices and the principles of organization of the productive forces. The dissolution of spatial and temporal frontiers, eclecticism, relativism and the primacy of the present, the contempt for propositions of universal validity, the rejection of rationalizing and totalizing narratives and political projects, the appreciation of mobility rather than fixedness, multiplicity rather than unity, nomadism rather than sedentarism, discontinuity and fragmentation rather than totality and ephemerality rather than permanence are some of the most important consequences of this historical process (JAMESON, 1996).

In the main spheres involved in the discourse of scientific dissemination, this gradual subsumption by the productive system of goods is shown in several ways. In the case of science, two processes can be emphasized: a) *technologization*, whereby scientific

knowledge, initially instrumentalized as the dominion of nature, is increasingly applied as productive force of capital, and b) *commercialization*, which is expressed in a series of political, economic and social injunctions whose main effect is to progressively link knowledge to productive and profitable purposes, to the detriment of the conception of science as a public intellectual asset (cf. OLIVEIRA, 2008).

In the field of the media, the continuous technological revolutions encompassing digital communication, microelectronics, telecommunications and processes of production, storage and transmission of data and information, along with the institutionalization of the *Internet*, World Wide Web and wireless communication, lead to the constitution of a society globally interconnected in the form of multiple networks. In this new context, the means of communication operate in an omnipresent manner, contributing, on the one hand, to the acceleration of the economic, administrative and financial flows (cf. Castells, 2012) and, on the other, to the reorganization of the forms of sociability, sociodiscursive interaction and identity. Assimilating the procedures of communication in network, interaction in fluid environments and situations as well as handling of transitory, fragmentary and unstable realities, these forms of sociability, sociodiscursive interaction and identity incorporate some of the axial elements of the universe of productive forces and material existence.

In the case of education, a significant implication of all these processes is the increasing agencying of activities of this field for the training and qualification of labor for the labor market. Under the influxes of the reorganization of capital in recent decades, the educational sphere is strongly invaded by injunctions that mobilize it for the promotion of *total quality* (GENTILLI; SILVA, 2002), i.e., to its submission to the logic of productivity and performance, lessening the importance of its role as humanistic and emancipatory instance.

4 The Scientific Dissemination of the Magazine *Ciência Hoje* [*Science Today*] in the 1980s

Created in 1982, the magazine *Ciência Hoje* [*Science Today*] established itself, during the 1980s, as an instrument of the Brazilian Society for the Progress of Science-SBPC to restate the commitment of science and scientists to the development of Brazil and, at the same time, to show its intent to maintain a direct channel of communication

with the other sectors of society, taking an active part in the discussion concerning the redemocratization of Brazil.

Responding to the demands of the historical and social situation, the discursive performance of the magazine in its first decade of existence is integrated with a strategy of modern-illuminist performance that reiterates the understanding of science as knowledge committed to the future, to development, to a systematizing view of human experience and to the building of a society that is clarified by rational thought.

In the following decades, nevertheless, the harassment of references and parameters associated with the new forms of management of production is translated into discontinuities, fissures and reorganizations that are reflected and refracted in the enunciative architecture of the magazine as a whole and especially in its editorials, given the strategic nature that this genre presents in the discursive production of the magazine.

To start a comparative analysis, let us take one of the most representative utterances of the magazine in the 1980s, published in the edition of March-April of 1984 (Fig.1).

At first, it should be pointed out that the utterance in question is produced in a genre (the editorial) that fits perfectly in the discursive aim of the enunciators in the sense that they state the importance of science and scientists at a specific moment of Brazilian history. Thus, the repeatable elements of the genre, as the opinionative nature, succinct size and structural simplicity are joined to other features that this utterance shares with practically all the editorials published in the magazine during the 1980s:

- Authorship assumed by a supra-individual subject (the editors), who speaks in the name of a collective instance and evokes meanings and values related to society as a whole, configuring an enunciative *ethos*⁹ similar to that of the educator;

⁹The notion of *ethos* is used here in the sense attributed to it by Aristotle and, generally speaking, the theories of contemporary argumentation inspired by Aristotelian rhetoric. It refers, therefore, to the character of the orator, i.e., to the image that he produces of himself in order to gain credibility and to ensure the confidence of the audience to whom he is directed. The use of categories related to rhetoric in this analysis takes into account that, beyond their differences, the Bakhtinian theory and the theory of argumentation, while sets of principles, categories and procedures articulable to the study of discourse, point, each one in its manner, to the eminently dialogical nature of discourse, since both of them assign a fundamental role to the *relationship* between the addresser and the addressee in the discursive elaboration. Furthermore, the reasoning presented here retakes the idea, developed more fully in Costa (2010), that, along with politicization, one of the characteristic aspects materialized in the editorials of the magazine *Ciência Hoje* in the 1980s is precisely *rhetorization*, i.e., the orientation of discourse for persuasive

CIÊNCIA AO LEITOR

Caro leitor:

A exemplo de outras entidades, organizações, associações e sociedades de classe, a SBPC resolveu tomar posição em favor do restabelecimento imediato das eleições diretas para a presidência da República. Ao fazê-lo, não abdica de sua postura de intransigente afastamento de toda e qualquer atividade político-partidária, e nem supõe que esta mudança possa vir a resolver, num passe de mágica, os graves problemas por que o país vem passando. Todavia, ingressa na luta pelas diretas cônica de seu significado enquanto manifestação de reencontro da nação consigo mesma.

O desenvolvimento da ciência no Brasil está hoje seriamente ameaçado por questões de natureza econômica e financeira. No entanto, a SBPC bem sabe que o fundo desses problemas é outro, e que mesmo a abundância de recursos — caso existisse — não seria por si só garantia de boa ciência. A escassez de recursos para as atividades científicas é apenas mais um dos frutos de uma política em que o autoritarismo e a falta de apoio efetivo por parte da sociedade levaram a um afastamento da realidade mal encoberto pela arrogância tecnocrática.

Não faltaram advertências da comunidade científica quanto aos equívocos da política do governo — como foi o caso, notoriamente, do malogrado e dispendioso programa nuclear. Mas os cientistas, como outros segmentos sociais, não foram ouvidos; nem quando defendiam seus legítimos interesses e nem, muito menos, quando buscavam resguardar os interesses nacionais em matéria de sua competência específica. E não se pode dizer que isso seja coisa do passado, já que neste momento vem sendo negociado um empréstimo junto ao Banco Mundial para a área de ciência e tecnologia que é tratado como mais uma injeção de dólares, sem que suas finalidades precípuas, sua oportunidade, os critérios de sua aplicação e seus efeitos reais sobre o desenvolvimento global da ciência e da tecnologia no país sejam adequadamente discutidos com a comunidade científica.

Urge buscar as bases para a legitimação do processo político. Urge procurar um sentido maior que reúna a nação na construção de uma sociedade em que todos se sintam participando e colaborando em algo que os transcenda. Sem esse espírito, os esforços se perdem e ganham primazia os interesses menores. E vai-se resvalando, a ponto de o país correr o risco de se ver reduzido a butim disputado por grupos organizados de aventureiros.

As ameaças não faltam. Ainda agora, na área de ciência e tecnologia, recrudescem os esforços para solapar a informática nacional, laboriosamente construída com base em um esforço sem o qual jamais escaparemos das malhas da dependência nos setores de ponta que comandarão o desenvolvimento científico e tecnológico mundial nas próximas décadas.

O sentido real da representação política e da participação da nação na construção de seu destino precisa ser restabelecido. E a eleição direta do próximo presidente da República — nas nossas circunstâncias e para além de argumentos cuja insinceridade é transparente — é um passo fundamental nessa trajetória. As sociedades científicas da área das ciências sociais sintetizaram muito bem o pensamento da comunidade científica. Publicando seu documento, bem como outras matérias pertinentes, *Ciência Hoje* solidariza-se, também, com um movimento cuja grandeza e significado redimem o país e anunciam ventos que só podemos aguardar com ansiosa esperança.

Os editores

Fig.1 – Editorial of the magazine *Ciência Hoje* [Science Today] – March-April 1984.¹⁰

purposes. Concerning rhetoric, see Aristotle (1990); Perelman/Olbrechts-Tyteca (1996); Perelman (1993); and Meyer (2007), among others.

¹⁰Editorial of the magazine *Ciência Hoje* [Science Today] – March-April of 1984

- Graphic composition in a compact block, without a title, which fills the extension of a page with a textual area of great density;
- Monothematization: the utterance is concerned centrally with presenting the position of the SBPC regarding an issue – in this case, the direct elections for the presidency of the Republic and the role of science and scientists in reconstructing the Nation;
- An almost exclusive use of verbal resources: the utterance is reduced to a block of text on a uniform background.

Published at a historical moment marked by an intense political and social movement (in full-force campaign to re-establish direct elections for the presidency of

To the Reader

Dear reader:

Like other entities, organizations, associations, and professional societies, SBPC decided to take a stand for the immediate restoration of direct elections for the presidency. In doing so, it doesn't give up its attitude of uncompromising distance from any partisan political activity, and it doesn't suppose that this change is likely to resolve, by magic, the serious problems of the country. However, it enters the struggle for direct elections aware of its significance as the manifestation of the nation meeting again with itself.

The development of science in Brazil is threatened today by issues of economic and financial nature. However, SBPC knows well that the background of these problems is another, and that even the abundance of resources for scientific activities is just one of the fruits of a policy in which authoritarianism and lack of effective support from the society led to a departure from reality, poorly covered by technocratic arrogance.

There have been plenty of warnings from the scientific community regarding the government policy mistakes – as was the case with the ill-fated and costly nuclear program. But scientists, like other social segments, have not been heard, even when defending their legitimate interests and, even less, when they sought to safeguard national interests in regard to their particular qualifications. And one cannot say that it is a thing of the past, since at this moment a loan from the World Bank for the area of science and technology is being negotiated. This loan is treated as another injection of dollars without its core purposes, its opportunity, the criteria for its application and its actual effect on the overall development of science and technology in the country being adequately discussed in the scientific community.

Seeking the basis for the legitimacy of the political process is urgent. It is a matter of urgency to seek a greater purpose that brings together the nation in building a society in which everyone feels participating and collaborating in something that transcends themselves. Without this spirit, efforts are lost and minor interests gain primacy. And one goes to the point in which the country risks being reduced to booty disputed by organized groups of adventurers.

Threats abound. Even now, in the area of science and technology, efforts to undermine the national computer grow, threatening an industry laboriously built on an effort without which we will never escape from the clutches of dependence in leading sectors that will lead the worldwide scientific and technological development in the coming decades.

The real meaning of political representation and the nation's participation in building its destiny needs to be restored. And the direct election of the next president of the Republic – in our circumstances and beyond the arguments whose insincerity is transparent – is a fundamental step in this path. Scientific societies of the social sciences field synthesized the thought of the scientific community very well. Publishing its document, as well as other relevant matters, *Ciência Hoje* [*Science Today*] also sympathizes with a movement whose magnitude and significance redeem the country and announce winds for which we can only wait with eager hope.

The publishers

the Republic in Brazil), this editorial is constituted, therefore, as a discursive event which simultaneously produces and is produced by the context. As an utterance, it is composed as a territory in which ideological voices of society are at the same time built, displayed, and placed in dialogue. That is why one can see, incorporated in the elements of its architecture, the images of addresser and addressee that emerge therefrom, a specific mode of interaction between the discursive will of the enunciator and some of the basic features of the ideological-discursive configuration of the moment. Among these features, whose influxes come together to give the utterance an appearance that could be called modernist, the following can be emphasized: politicization, rhetorization, the enhancement of the future and the perspective of totality.

Politicization, formatted by values predominantly of the educative sphere, is the basic driving force that organizes the other aspects and guides the construction of the utterance and of the subject who enunciates it. It is in dialogue with and in response to the atmosphere of intense political discussion that rhetorical potentialities of the genre are mobilized for the defense of determined positions, projecting, in the editorial, an enunciator who is confident in the role of ideas and in the reasoning force of words. Thus, *logos* (reasoning, argumentation) is one of the structuring principles of the utterance, and it is not by chance that it is presented as a compact totality of verbal signs organized according to a persuasive purpose. Situated inside an extremely politicized discursive flow (in which the fight against the military dictatorship and the discussion between various projects of reorganization of society are essential data), this enunciator believes in the force of his arguments and in the political program to which he is committed. That is why his signature has an institutional characteristic, being the authorship of the utterance assumed by *the publishers*, who are responsible not only for the execution of the editorial-journalistic project of the magazine, but also for its ethical-political orientation.

In agreement with the enunciative *ethos*, the image of the addressee that is produced is that of a subject to be simultaneously informed and persuaded. The rhetorical modality of the utterance is, therefore, of a deliberative nature:¹¹ it is about imparting knowledge to the addressee and at the same time gaining his adhesion to a thesis,

¹¹ The background reference here is the three genres of classical rhetoric: the *judicial*, which accuses or defends, referring predominantly to a past fact; the *deliberative*, which intends to move or dissuade, referring to a future action; and the *epideictic*, which praises or censures and in general refers to the present.

convincing him of the need to adopt certain actions in order to build a future life in *polis*. Thus, the text is punctuated by phrases which refer to the propositive and active nature of the enunciator: *take a stand for, enters the struggle, is urgent, it is a matter of urgency to seek, needs to be restored*.

These elements¹² are sufficient to show how, in the editorial under focus, the architectural components are mobilized, in interaction and in dialogue with the master lines of the context, to compose an utterance that is structured in order to produce certain effects. Produced in a discursive flow in which an atmosphere of intense politicization and discussion predominates, this editorial is organized in a rhetorical whole. As it articulates the ideological spheres involved in scientific dissemination and is comprised above all of signs and senses from the educational sphere, its purpose is to lead the addressee to acquire ‘consciousness’ and adhere to a determined thesis regarding the best manner to manage the relations between the State and society as well as the role of science, scientists and scientific knowledge in building the future in Brazil. A very different case occurs with the editorial published in the edition of November of 1998 (Fig.2).

¹² Some of the ideas presented here are partially developed in Costa (2009).

5 The Discourse of *Ciência Hoje* [*Science Today*] in the 1990s: Under the Siege of Post-Modernity

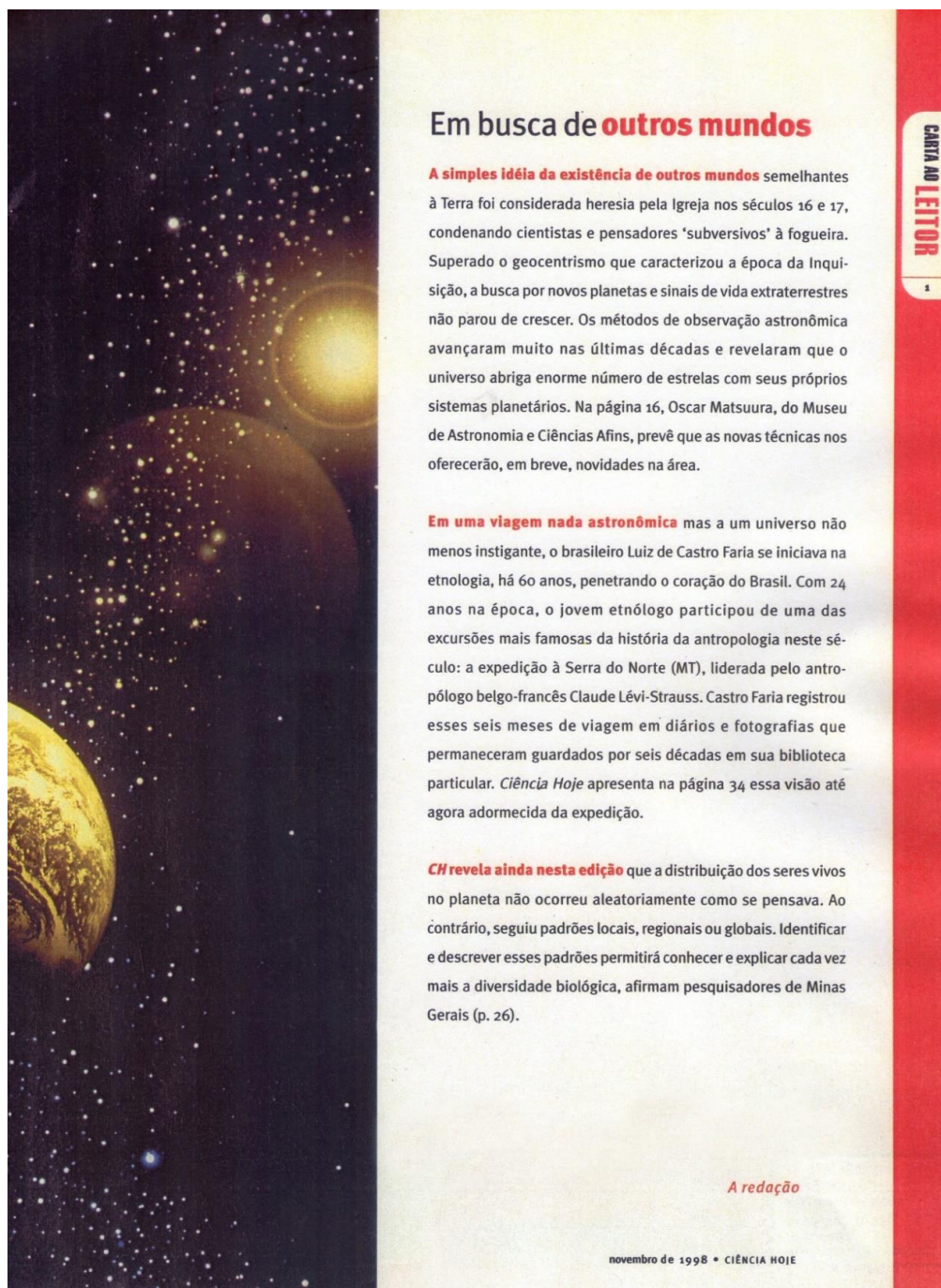


Fig.2 - Editorial of the magazine *Ciência Hoje* [*Science Today*] - November 1998.¹³

¹³ Editorial of the magazine *Ciência Hoje* [*Science Today*] – November of 1998

Letter to the Reader

In search of other worlds

The very idea of the existence of other worlds similar to the Earth was considered heresy by the Church in the sixteenth and seventeenth centuries, condemning scientists and ‘subversive’ thinkers to the fire. By

It is not necessary to peruse the text to perceive, from a first overlook, that the editorial of November of 1998 has very different characteristics from those observed in the previous one. However, as an introductory genre, it shares several aspects with the editorial from the 1980s (an inscription in a specific discourse; its liminality and mediation nature; its localization in the first pages of the issue; a concise format and structure that is compatible with the one-page space; a supra-individual subject, etc.); certain aspects of its architecture are very different and express, indeed, the tendencies that, announced throughout the years of 1997 and 1998, represent the development of a process whereby the ideological voices present in the discourse of the magazine change. Thus, as it can be seen, this editorial:

- is visually less dense, presenting a surface in which the text shares the space of the page with a photograph, and on the right side there is a vertical strip with the title of the section;
- is constituted of a text divided into three smaller blocks; besides the title of the section (Carta ao leitor [Letter to the Reader]), the utterance has a specific title (Em busca de outros mundos [In search of Other Worlds]) and is signed by *The editorial staff*;
- is plurithematic: each one of the three texts composing it has a theme focused upon the edition of the magazine and quickly discusses it;
- gathers semiotic resources of several orders, combining image, color, and text.

In an approach that is exclusively interested in the concrete-semantic elements of the material surface of the utterances, the reasons for the differences related to the

overcoming geocentrism, which characterized the time of the Inquisition, the search for new planets and for signs of extraterrestrial life has not stopped growing. The astronomical observation methods have advanced greatly in recent decades and has revealed that the universe is a home to a huge number of stars with their own planetary systems. On page 16, Oscar Matsuura, from the Museum of Astronomy and Related Sciences, predicts that new technologies will soon offer us novelties in the area.

On a trip that is absolutely not astronomical, but one to a universe that is not less exciting, the Brazilian Luiz de Castro Faria was initiated in ethnology, 60 years ago, penetrating the heart of Brazil. Aged 24 at the time, the young ethnologist participated in one of the most famous tours of the history of anthropology in this century: the expedition to Serra do Norte (MT), led by Belgian-French anthropologist Claude Levi-Strauss. Castro Faria recorded these six months of travel in diaries and photographs that were kept for six decades in his private library. On page 34 *Ciência Hoje* [Science Today] presents this vision of that expedition, which has been dormant so far.

CH still reveals in this issue that the distribution of living beings on the planet did not occur at random as one previously thought. Instead, it follows local, regional or global standards. Identifying and describing these patterns will increasingly allow us to reveal and explain biological diversity, according to what the researchers from Minas Gerais say.

The editorial staff

editorial of April of 1984 could be restricted to the changes in what the enunciator wants to say, in standards of textual composition and construction, and in the procedures of graphic design and programming adopted by the magazine over the years. Diversely, an approach oriented by the perspective of dialogism presupposes that, permeating the logical relations constituted by the signic material mobilized in the construction of these utterances, relations of a dialogical nature operate (BAKHTIN, 1984 [1963], pp.183).¹⁴ It means that the aforesaid utterances are not merely the result of the discursive intention of a subject who, handling the semiotic resources most suitable to his objectives at different moments, conveys his message to an addressee. Much more than this, they constitute links in the chain of ideological communication and, in this condition, are in dialogue with and respond to other utterances in circulation in the discursive flow of society. Their architecture represents, therefore, not only the enunciative will of a subject, but a space where the voice of this subject meets and faces other voices (both individual and social) present in the discursive flow. In this architecture, consequently, the correlation of the forces that dispute hegemony in society is reflected and refracted. Thus, each one of these utterances corresponds to a small portion of the universe of social ideology.

Therefore, without detriment to the intrinsic value of the changes in graphic conceptions and in textual construction processes (also conditioned by changes in the extratextual reality), as well as in the discursive intention of the subject, the differences between the two utterances, seen from a dialogical perspective, relate to the fact that each one of them has been produced in different historical-social realities (presupposing different networks of relationships, interactional processes, systems of communication and conditions of enunciation) and, therefore, each one reflects and refracts a different constellation of forces in confrontation in the material social existence and in the fight for the control of the senses and meanings produced in the heart of this existence.

It is the constitutive presence of conditioning proper to the historical-social moments at which the two utterances are produced that explains the nature of the discrepancies that exist between them, which are basically due to the fact that they are both crossed by different social voices: while in the editorial of 1984 the tone is entirely set by voices identified with modern parameters (sense of history, totality, future, system,

¹⁴ For reference, see footnote 5.

collectivity, etc.), which confers to it a strong tone of politicization in that context, in the second, which is already pervaded by certain voices tuned with post-modern references, this atmosphere is completely absent. Furthermore, while it could be said that in the first editorial there is a greater presence of the sphere of education, in the second, signic elements associated with the sphere of the media are much more visible.

One of the means by which these new ingredients penetrate, being incorporated in the elements whereby the effects of sense are built and consumed, is the very image of the enunciator, which in the editorial of 1998 no longer assumes the ethical-political responsibility for the project of the magazine, being presented not as *the publishers*, but as *the editorial staff*. This produces a cooling of the political weight of the enunciator, whose responsibility is removed from the institutional level and becomes situated only on the 'journalistic' production level of the magazine.

In line with this image of the subject, the speech object of the utterance is no longer the defense of a program, but the description of the materials offered to the readers in the publication. In this case, it is not a matter of persuading the reader to adhere to a point of view, but of seducing them and attracting their interest to the information conveyed in the issue.¹⁵

In this direction, the use of intersemiotic resources and the fragmentation of the textual block play an essential role. The varied semiotic composition (combining text, image and color) decentralizes the cognitive axis of the utterance that, differently from the first editorial, appeals not only to reason, but also to the sensoriality of the addressee. In turn, the segmentation of the textual block, diluting the informational load into smaller units, allows the addressee not to have to run through the sequences of the text to produce its senses and to be able, if not interested in the main theme evoked in the title and dealt with in the first fraction, to direct his/her attention to the other units, 'navigating' in search of that which is of greatest interest to him/her, without necessarily having to take in all the utterance, whose structure, although constructed on a printed surface, is less anchored in linearity than in contiguity, juxtaposition and simultaneity, thereby holding similarities

¹⁵ This depoliticization of the editorials of *Ciência Hoje* [Science Today] lasted from 1997 to 2004, when they returned to present political positioning and evaluations. An important difference, however, is that they are no longer signed by a collective body, but by an individual who answers for the institution. An example is Renato Lessa, the CEO of the *Instituto Ciência Hoje* [Science Today Institute].

with what would come to be consolidated as the model of space-time organization, which is typical of hypertexts and of utterances produced in virtual platforms.

In rhetorical terms, if in the editorial of the 1980s the deliberative genre predominates, as its ethical-political orientation invites the addressee to look to the future, in the second, it seems to emphasize the epideictic, for in it there is a discourse that focuses on the “praise” of the objects of the *here-and-now*: the facts of the present moment endowed with scientific interest, the news of the world of science, etc. Symptomatically, the main focus of the utterance is the scientific research on planetary systems in the universe and the possible existence of extraterrestrial life, one of the favorite commonsensical scientific ‘curiosities’.

Therefore, whereas in the first utterance we have a subject who wants to involve his/her addressee with the totality of a reasoning, of an argumentation and of a program within which a certain understanding is placed in the role scientists play in building a future country, in the second, we have a type of shopwindow in which the ‘attractions’ of the world of science presented in that issue are highlighted. Besides the visual resources, other factors contribute to this effect, namely the choice of lexicon and the use of expressions that refer to an imaginary in which the scientific work, associated with a spirit of unveiling, exploration and adventure, assumes the nature of a fabulous and ‘exciting’ spectacle: *geocentrism being overcome, the search...has not stopped growing, astronomical observation methods advanced greatly... and revealed, novelties in the area, universe...exciting, young ethnologist, most famous tour of history, expedition, were kept for... decades, this so far dormant vision*, etc.

Conclusion

What the argumentation of the preceding pages hopes to have shown, even without fully developing it given the dimensions of a paper, is, firstly, that the theory of the Bakhtin Circle represents a relevant theoretical support for approaches interested in the question of ideology; secondly, that in the enunciative production characteristic of contemporary society, important processes by which, in the last four or five decades, crucial transformations in the forms of economic organization and political and social regulation were defined reflect and refract; thirdly, that, in view of the manner in which

science (while productive force and ideology) was incorporated in these transformations, the discourse of scientific dissemination constitutes a relevant field for observing the conflicts between the forces which struggle for hegemony when producing the senses and meanings that are materialized in the concrete utterances in circulation in society.

Focusing upon two editorials of the magazine *Ciência Hoje* [*Science Today*] (one of the 1980s and the other of the 1990s), the paper has aimed to indicate that the discourse of the magazine is crossed by an antagonism between, on the one hand, voices identified with a project of scientific dissemination of a modern-illuminist nature, marked by the investment in a systemic and totalizing view of the world, committed to building the future and, on the other hand, voices that are more identified with meanings, practices and values of post-modern inspiration, defined, among other things, by the depoliticization and praise of what is fragmentary and contingent.

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