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Literacies and media: tuning in with body, technology and affects

FÁTIMA REGIS

Visiting Scholar at Democracy Lab, Department of Communications at University of California, San Diego, USA (2020). She was a Visiting Scholar at C21 - Center for 21st Century Studies of University of Wisconsin-Milwaukee, USA (2019). She holds a Ph.D in Communications and Culture from Rio de Janeiro Federal University. She is an Associate Professor in Communications and Digital Media at the Graduate Program of Rio de Janeiro State University. She is a scholar of Media Studies, Digital Literacies and Cognition Studies. She is a CNPq (National Council for Scientific and Technological Development) Researcher in Brazil. She is the director of UERJ's Digital Media Laboratory. State University of Rio de Janeiro (UERJ) – Rio de Janeiro, Rio de Janeiro, Brazil.
Email: fatimaregisoliveira@gmail.com.
ORCID: 0000-0001-5126-2295.

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Abstract

Recent studies (Murrock et al., 2018; Sangalang et al., 2019) demonstrate that there is primacy of affect in engaging with content of disinformation and hate speech. Despite this, research on media literacy favors conscious factors in the interpretation of the world, ignoring material and affective factors. This text aims to discuss how the body, technology and affects act in the interaction with the media. For this, it is organized in two parts. The first problematizes approaches on literacies and media. The second brings research on embodied mind and affect theory to support how bodies, technologies, and affects participate in distributed mediation (Grusin, 2010).

Keywords

Literacies; New media literacies; Embodied mind; Cognitive technologies; Affect theory.

Introduction

The digital technologies' boom in the mid-1990s has intensified the presence of digital media and networks in society. The pervasiveness of the media in the technical, cultural, aesthetic, political, and economic spheres has positive and negative aspects. For example, when it comes to knowledge construction and citizen participation, if on the one hand, digital media and networks favored access to information, content creation by ordinary citizens and political participation, providing certain democratization of the media; on the other hand, the same ease of producing content has generated the opposite scenario. More recently, digital social media have been the locus for the spread of disinformation, hate speech, fear, and intolerance, spreading extremist values of religious fundamentalisms, political conservatism, and exclusive nationalist ideologies.

The widespread of fake news and disinformation campaigns has prompted the emergence of new terms - news literacy; news appreciation; news media literacies (Fleming, 2014) - and new theoretical and methodological approaches to media literacy to investigate how people engage with news from different media (Murrock et al., 2018; Sangalang et al., 2019; Walter & Murphy, 2018). The aforementioned studies have shown that there is a primacy of factors such as affect/emotion, preconceived beliefs and ideas (not endorsed by clear evidence and reliable sources) in the way people assimilate and engage with these media and news in their daily lives. Studies also find that the production of uninformative content (textual, visual, and audiovisual) deliberately uses emotional manipulation tactics to obtain the desired ideological propaganda effects on the target audience's opinions and behaviors. Finally, the same studies seek to develop strategies to combat disinformation also based on rhetoric and narratives that appeal to the emotional. Our point of interest in the aforementioned studies is that, although they admit that affective/emotional factors precede the conscious and rational literacy factors, they promote actions of media literacy and combating disinformation without engaging in a broader and updated discussion on the concepts of affect/emotion and on the ways in which they are coupled with media interactions. The studies build their strategies to combat disinformation based on rhetoric, storytelling and media planning (analysis of the characteristics of the message and information design; narrative structures, knowledge about the media companies; knowledge of the target audience and others), ignoring recent findings of research that discuss the way in which affect intertwine with contemporary media systems (Massumi, 1995; Ahmed, 2004; Grusin, 2010).

This paper aims to discuss how body, technology and affect act in the interaction with the media. For this, the argument is built in two parts. In the first, I propose a brief mapping of the concept of literacy and of the various approaches derived from the expansion of the concept of literacy to include literacies in different media: media literacy, new literacy studies, new media literacy, multiliteracies. The objective of this first part is to problematize the concepts about literacies in interactions with media environments, in their different approaches, demonstrating that they give priority to content and sociolinguistic interpretation factors (conscious factors), leaving aside bodily, affective and material factors that have emerged as fundamental elements to deepen this issue. As noted by Ferrés and Piscitelli (2012), studies on media literacy have advanced in the discussion about changes in the media landscape, but they are insufficient to understand the complexity of the individual that emerges from the couplings with the media environment.

In the second part of the text, I resort to scholars from media studies, cultural studies and affect theory who have been drawing on the findings of experimental research in neurosciences and cognitive psychology for reading the ways in which the body, technology and affects (non-conscious factors) interfere in conscious mental processes. Researchers like Brian Massumi, Sara Ahmed, Richard Grusin help to understand how bodies and affects, individual and collective, are coupled with media environments, acting in the proliferation of discourses of fear, hatred and intolerance and disinformation campaigns, and

cannot be ignored by studies about literacies and media.

From Literacy to New Media Literacies

The emergence of the discussion on Literacy

According to Luciana Piccoli (2010, p. 259), “the word literacy, in Brazil, had its origin documented in the field of linguistic sciences and education from the second half of the 1980s”. This chronology demonstrates that the emergence of the literacy debate in Brazil is contemporary to the international discussions that converged around the expansion of the concept of what it means to know how to read and write (literacy), originating the field of New Literacy Studies. One of the precursors to the expansion of the concept of literacy was the British researcher Brian Street who, from field research on the uses and meanings of literacy in people's daily lives, started to question the concept of literacy. Street proposed that literacy – which until then was seen as a neutral activity, a mere technical skill – became “to be considered an ideological practice involved in power relations and based on specific cultural meanings and practices” (Piccoli, 2010, p. 259).

American researcher James Paul Gee (2005) explains that NLS understand literacy as something that people do not only inside their heads, but within society. The NLS' argument is that literacy is not primarily a mental phenomenon, but rather a sociocultural phenomenon. Thus, literacy has an eminently social character, that is, it is built in the social field, through social practices. From the perspective of NLS, literacy becomes plural, literacies. Since the social practices that provide literacy are multiple, they can be informal, outside the school space. Thus, explains Gee:

There are many different social and cultural practices which incorporate literacy, so, too, many different “literacies” (legal literacy, gamer literacy, country music literacy, academic literacy of many different types). People don't just read and write in general, they read and write specific sorts of “texts” in specific ways and these ways are determined by the values and practices of different social and cultural groups. (Gee, 2010, p. 4)

Another important achievement of NLS is that, by including several social practices, and events, they also included oral language practices in the concept of literacy. The NLS problematized the divorce between oral and written societies, instituting a fruitful debate on a continuum between oral and written societies, with the great merit of unveiling the imperialist tone of the arguments that supported the superiority of print-based cultures (Olson, 1997).

In Brazil, the broadening of the concept of literacy came along with a certain conceptual confusion, since literacy was translated into different terms, with different meanings as well: alfabetização, alfabetismo, letramento, lecto-leitura, cultura letrada. Luciana Piccoli presents the Brazilian tensions and negotiations around the term, explaining that they refer to the theoretical and methodological perspectives that support it and that these perspectives are impregnated with the historical and cultural context in which they arose. The author who follows the theoretical approach of NLS defines alphabetization “as the process of acquisition of reading and writing” and the term literacy as “what refers to social, cultural and historical practices that arise from the multiple possibilities of using such skills, even if distant from the conventional way” (Piccoli, 2010, p. 266).

As for the precursor to the expanded concept of literacy in Brazil, there is no dispute: the great educator Paulo Freire is internationally recognized as a pioneer of the idea of literacy in Brazil and in the world. In works such as *O ato de ler* (The act of reading), Freire argues that the act of reading is not restricted to pure reading and decoding of written language, but to understanding the world.

The conception that what is understood as literacy is a process, immersed in social life and that it accompanies and helps in its transformations, has gained supporters in Brazil and in the world. Researcher Angela Kleiman explains that the literacy process is not reduced to the mere assimilation of texts and erudite works, but reflects the mastery over all kinds of laws, protocols, socio-cultural practices that allow us to act as citizens, exercising the right to think and act about everyday life, politics and the world we live in (Kleiman, 2005, p. 18). The idea that literacy processes are not exclusive to the school environment paved the way for the inclusion of non-printed based media in literacy discussions.

From 1970 onwards, it became clear that the media (print, oral and audiovisual) was increasingly widespread in all sectors of society, being, therefore, strong mediators between the individual and society. This perception raised discussions about how people were engaging themselves with the media content. Ignacio Aguaded (2011) explains that at that time terms such as Educommunication and Media Education arose. He also clarifies that Unesco is a pioneer in the debate on the interfaces between education and communication and in the inclusion of the discussion about media in-school programs, in the training of teachers, and even in the informal education of unemployed families and workers.

Discussions on Media and Education gave rise to a new term for thinking about literacy, the concept of media literacy (alfabetización mediática in Spanish, literacia midiática in Portugal's Portuguese).

Media literacy

The concept of media literacy is widespread throughout the world. It refers to the idea that the skills for reading and writing should be extended to the various media (print, audiovisual, digital, and others). There is also a convergence that it is necessary to develop a critical sense for the enjoyment of media and entertainment products.

Thus, James Paul Gee states that:

Media literacy as a field was concerned with how people give meaning to and get meaning from media, that is, things like advertisements, newspapers, television, and film. (...) And giving and getting meaning from media can, of course, involve giving and getting meaning from images, sounds, and "multimodal texts" (texts that mix images and/or sounds with words) as well. (Gee, 2010, pp. 10-11).

According to the National Association for Media Literacy Education (NAMLE):

Media literacy is the ability to access, analyze, evaluate, create, and act using all forms of communication. In its simplest terms, media literacy builds upon the foundation of traditional literacy and offers new forms of reading and writing. Media literacy empowers people to be critical thinkers and makers, effective communicators and active citizens. (Media, 2010, p. 1).

Education institutions have sought to systematize education strategies for media literacy. There are several approaches on how to insert different media products and languages in schools. Renee Hobbs, David Buckingham, and Douglas Kellner are some of the leading international theorists in the field. In addition to producing sense and being critical, Renee Hobbs (2010) and David Buckingham (2005) emphasize that being literate implies reading and writing media, that is, mastery over consumption and the creation of content for all types of media.

In Brazil, we have two major schools: *Educomunicação* (Soares, 2014) and *Mídia e Educação* (Fantin, 2011), which bring competent theoretical and methodological approaches and inspire many projects in the area.

In the Portuguese and Spanish speaking countries of the Iberian Peninsula and South America and the Caribbean, the article by Joan Ferrés and Alejandro Piscitelli (2012), *La Competencia Mediática: Propuesta articulada de dimensiones e indicadores* have been widely adopted. The paper defines six areas

of media skills that must be developed to obtain the skills necessary to act as full citizens in the world and, above all, in the media culture. The six competencies must be developed in the areas: languages; technology; interaction processes; production and dissemination processes; ideologies and values; and aesthetics. I want to underline in Ferrés and Piscitelli's proposal the emphasis given by the authors to the necessary discussion about the neurological revolution that crosses the field of literacies and has received little attention from both communication and education researchers. In the words of the educators:

Among educators, there tends to be much more predisposition to incorporate the changes produced by the technological revolution in the teaching-learning processes than to assume the contributions of the neurobiological revolution.

Neuroscience has turned many of the beliefs about the functioning of the mind held for centuries in Western culture upside down. Based on neuroscience, we are urged to change the way we think about ourselves forever. In educational praxis, we seem much more willing to change the way we think about the media than to change our view of ourselves as interlocutors of those media.

The changes that neuroscience refers to have to do especially with the influence that emotional and non-conscious processes have on the conscious mind. In the practice of media literacy, attention is only paid to these processes. Therefore, education for the media is insufficient and focuses exclusively on conscious processes, because today we know that consciousness can only be understood if we study the non-conscious processes that make it possible, in the words of neurobiologist LeDoux (1999, p. 32). (Ferrés & Piscitelli, 2012, p. 75).

We will return to this quote from Ferrés and Piscitelli below.

Digital literacies

In the mid-1990s, the discussion about expanding the concept of literacy, which began in the 1970s, took on new nuances with the advent of digital media and networks. As these expand the possibilities of access, production, and distribution of content, and inaugurate several communication platforms, revolutionizing the panorama of media systems, new discussions about the new literacies become necessary. We will briefly describe three approaches that emerge with digital technologies: The New Literacies Studies, Multiliteracies and New Media Literacies Studies.

The New Literacies Studies - TNLs

According to Paul Gee (2005), The New Literacies Studies only update the expansion of the concept of literacies from the printed culture to the digital culture. The researchers at this school understand media and digital devices as technologies to give and apprehend the meaning of things, they remain in the field of language and representation of signs, as conscious processes. Gee calls attention to the new spelling that adds The and literacies, in the plural, to distinguish from NLS. As the author explains: "The NLS was about studying literacy in a new way. "The New Literacies Studies" is about studying new types of literacy beyond print literacy, especially "digital literacies" and literacy practices embedded in popular culture" (Gee, 2010, p. 9).

Multiliteracies

Multiliteracies is a term that was coined in the mid-1990s by a group of researchers who became known as the New London Group. The group of researchers met for one week in New London (Connecticut,

USA) and wrote the manifesto *A Pedagogy of Multiliteracies – Designing Social Futures* (1996). The Group is formed, in its majority, by professors and researchers from countries marked by cultural conflicts and by the indifference of the authorities regarding these issues in the classroom, which, according to them, causes more violence and a lack of perspective for young people.

With the term multiliteracies, the authors want to highlight two significant changes in the globalization panorama that refer to the multiplicity of the term literacy. The first multi refers to multiculturalism for the growing cultural and linguistic diversity arising from the growing transnational migration, made possible by the globalization process. The second multi refers to the multimodal forms of expression and linguistic representation, which proliferated from the various communication platforms that emerged, mostly, from digital media and networks.

In Brazil, the multiliteracies concept and its application in schools were disseminated by authors such as Monica Fantin (2008) and Roxane Rojo and Eduardo Moura (2012). The educators emphasize that the work is based on the students' culture and life history and on the basis of media products and language expressions known to them, underlining the importance of informal literacy processes in the constitution of the subjectivity of these young people.

New Media Literacies Studies (digital literacies and participatory culture)

The authors proposing the terminology of New Media Literacies Studies (NMLS) have been associated with the field of media literacy in the USA. They are based on the findings of the perspective of TNLS (digital literacies) added to the advent of participatory culture. The New Media Literacies are not exactly a school, but some well-known researchers in the field of media studies, such as Henry Jenkins and Douglas Kellner have adopted this nomenclature.

James Gee explains that NMLS highlights four factors that need to be deepened when it comes to how digital technologies promote major changes in media society and culture:

First, digital tools are changing the balance of production and consumption in media.
(...) Second, digital tools are changing the balance of participation and spectatorship.
(...) Third, digital tools are changing the nature of groups, social formations, and power.
(...) Fourth, all the above trends are leading to the phenomenon known as “Pro-Ams”.
(...) We live in the age of “Pro-Ams”: amateurs who have become experts at whatever they have developed a passion for. (Gee, 2010 pp. 12-13)

The author points out that the difference between New Media Literacies Studies and media literacy is that the emphasis is not only on how people respond to media messages but also on how they proactively engage in a media world where production, participation, the formation of social groups and high levels of non-professional experience are prevalent (Gee, 2010, p. 13). New Media Literacies Studies are associated with studies and research on the participatory culture and digital culture.

We conclude this first part of the text by highlighting the major theoretical and methodological advances achieved by the aforementioned approaches: the discussion on the non-neutrality of literacy processes; the expansion of the concept of literacy to include social practices and knowledge; the expansion of the concept of literacy to include oral practices; the extension of literacy skills to encompass the diverse expressions and media environments; the methodologies for including media literacy projects in schools, among many others.

Notwithstanding all these advances, in the aforementioned theoretical approaches analyzed, we verify the privilege of approaches in the field of content interpretation, and sociolinguistic representation of the world, based only on the conscious and social aspects of these processes.

It is certainly not a matter of minimizing the importance of forming critical thought and learning

about the techniques of argumentation and rhetoric as a motto for understanding the political, cultural, and historical negotiations of the world. We just want to point to the possible theoretical and methodological gains of including other factors that favor the understanding of the complexity of literacy processes in contemporary times.

As Murrock et al. (2018) point out, we live in a time when the proliferation of disinformation tactics promises to threaten the news media and destabilize democracies. As I presented in the Introduction to this paper, the same studies that observe the primacy of non-conscious factors (body, affect, technologies) in the assimilation of false content, propose counter-disinformation measures that do not consider non-conscious factors and focus their strategies on conscious factors (true content, rhetoric, storytelling).

We return to the shrewd consideration of Ferrés and Piscitelli to ponder that "Therefore, education for the media is insufficient and focuses exclusively on conscious processes, because today we know that consciousness can only be understood if we study the non-conscious processes that make it possible, in the words of neurobiologist LeDoux (1999, p. 32)" (2012, p. 75). s

Tuning in with Body, Technology and Affects

A good way to start the discussion of why literacy and media approaches need to expand their horizons and embrace non-conscious factors is a closer look at the term multimodal. The term becomes more present from digital technologies as we saw above. The authors who cite it, James P. Gee and New London College, explain the multimodal as "texts that combine images, and/or sounds with words", which is a characteristic of the media in general, intensified by digital technologies that enhance remixes. It should be noted that multimodal is not restricted to texts and languages (sounds, images, audiovisuals) or conscious forms of communication. As already demonstrated by researchers in the field of cyberculture, it is necessary to emphasize that in the panorama of technologies and digital media, multimodal is, above all, multisensory (Pereira, 2012; Regis, 2015). Digital devices such as cell phones, video games, ipads, virtual reality consoles embed not only the use of images, sounds, music, but also tactile and proprioceptive skills. Digital media and technologies, therefore, explore different sensory senses, such as auditory, visual, and tactile, and other perceptual and attentional elements of our rich body sensorium that cannot be explained only by conscious factors. In this way, digital media not only multiply the signs of mediation but also engage the literacy processes throughout the body, with their affects, intensities, and moods. As Brian Massumi explains, these elements are not only irreducible to linguistic and/or semiotic interpretations but can be opposed to them (Massumi, 1995).

As we already discussed elsewhere :

(...) these [cyberculture] practices - exploring environments, learning languages, and social interactions - demand the action of the body and cognitive forms, irreducible to the intellectual and representational skills by which the media products are usually judged. In addition to the skills related to intelligence, such as logic, associative capacity, problem-solving, analysis and decision making, the contemporary media system requires a repertoire of skills that traditionally are not considered cognitive, such as perceptual sensory-motor skills and social (Regis, 2011, p. 117).

To contribute to this discussion, I intend to highlight that what we call the cognitive process, the processes related to superior human abilities such as thinking, reasoning, decision making, are inextricably intertwined with biological, material, affective and social factors, and cannot be thought apart from them. In other words: the cognitive process operates from inextricable couplings between body, material environment (technologies), social, and affect. In short, the cognitive process encompasses the environment (including the media there), intertwining conscious and non-conscious elements.

Despite their various theoretical advances, the NLS, TNLS, Multiliteracies, NMLS do not

problematize the concepts of mind, intelligence, and cognitive process. They ignore the scientific advances of the cognitive sciences, neurosciences, and cognitive psychology on mental concepts and modes of operation, which are fundamental to any study of literacy, teaching, and learning.

Embodied mind, cognitive technologies and affect

In the 1970s and 1980s, researchers from different fields of cognitive sciences and, in particular, cognitive psychology, evolutionary biology, neuroscience, and artificial intelligence observed that computers performed tasks that require traditional intelligence (logical-mathematical reasoning) with extreme ease. However, the activities that a man does without thinking - such as walking, handling objects, and recognizing a person - were extremely difficult to reproduce by robotic means (automate). These findings opened the way for the study of sensory-motor and perceptual functions in the mind's operation. These studies have shown that the sensorimotor system occupies most of our brains and is the result of two billion years of evolution (Moravec, 1988). Hans Paul Moravec explains that the process we call conscious (and intelligent) mind is only possible because it is supported by the oldest and most powerful knowledge of the sensory-motor mechanisms: "organisms that do not have the ability to perceive and explore their environments – like plants – do not seem to acquire the capacity to develop intelligence ", argues Moravec (1988, p. 16).

These researches – which have now spanned almost five decades – demonstrate that our minds are embodied and based on non-conscious processes, originating from the solid rock that is our sensorimotor apparatus. Thus, the processes we call reason and/or mind encompass conscious and non-conscious factors, as explained by George Lakoff and Mark Johnson:

Reason is not disembodied [...] but arises from the nature of our brains, bodies, and bodily experience [...] the very structure of reason itself comes from the details of our embodiment. The same neural and cognitive mechanisms that allow us to perceive and move around also create our conceptual systems and modes of *reason* (Lakoff & Johnson, 1999, p. 4).

Philosopher and cognitive scientist Andy Clark draws on experimental research from cognitive psychology and neuroscience to explain that in order to understand what is unique about reason and human thought, it is necessary to understand that cognition includes not only the body, the brain but also the material and social world, highlighting in this socio-technical environment what he calls cognitive technologies: "the devices and resources, such as pens, papers, PCs and institutions, based on which our brain learns, develops and operates" (2001, p. 141).

By emphasizing concrete experience and coupling with technology in cognitive production, studies on the embodied mind produce an inextricable coupling between the body (bio psychic) and the material and cultural environment (sociotechnical) in the mental processes. The mind is not reduced to the brain, it operates as a kind of network that integrates body/brain and other human and non-human agents.

Andy Clark draws on a variety of neuroscience research and summarizes the various factors that make up the complexity of the human mind:

The central idea of mind, or rather the special type of mind associated with the high-level relationships, distinctive of the human species, emerges from the productive collision of multiple factors and forces - some bodily, some neural, some technological and some social and cultural (Clark, 2001, p. 141).

The idea that mental operations are not encapsulated in the brain, and that our intelligence acts in a distributed manner, combining technical objects, affects, and sociability, is not new. Donald Norman (1993, p. 146) and Jerome Bruner (1991, p. 3) have already used the term distributed intelligence. Edwin

Hutchins coined the term distributed cognition (1995). Andy Clark explains that this distribution is not a linear division of tasks, but an inextricable entanglement, made possible by the incredible plasticity of our brains that is modulated in contact with technology and the environment. Based on experimental research in the field of cognitive psychology and neuroscience, Clark (2003) explains how the thumbs of young people under the age of 25 proved to be more muscular and skilled than other fingers, simply as a result of the extensive use of electronic controllers of handheld games and texting on cell phones. Clark argues that from these adaptations of the thumbs, new generations of phones will be designed around this greater agility, leading to further changes in manual dexterity and the like.

Clark explains this inextricable integration between brain/body and the socio-technical environment with the concept of feedback loops:

In all the cases we have examined, what matters are the complex feedback loops that connect action-commands, bodily motions, environmental effects, and multisensory perceptual inputs. It is the two-way flow of influence between brain, body, and world that matters, and on the basis of which we construct (and constantly re-reconstruct) our sense of self, potential, and presence. (Clark, 2003, p. 114)

As Clark explains, it is through the influence flows (action commands, body movements, multisensory perceptual data) between brain, body, and world that the mind/body is attuned/modulated with the environment (material and social environment).

Based on these researches authors from the field of communication sciences, cultural theory, literary theory and design, such as Donna Haraway, Katherine Hayles, Bruce Mazlish, Andy Clark and Donald Norman stand for the idea that there is coevolution between humans and their material and social environment and that the new conceptions of human must place men and technology as co-extensive, co-dependent and mutually defined.

Distributed mediation: tuning in with body, technology, and affect

Studies on affect and emotion have a long tradition in the humanities. Over the centuries they have been treated by philosophical approaches, with Aristotle, Baruch Spinoza, Gilles Deleuze, and Félix Guattari as some of their greatest exponents. More recently, cognitive psychology and neurosciences have been developing experimental research, launching new perspectives for these studies. Today, even humanities researchers, when they look at the topic, rely on experimental research findings.

Since at least the 1990s, neuroscientists like António Damásio and Joseph Ledoux have defended the inseparability between cognition and affect/emotion, emphasizing the primacy and anteriority of affect and/or emotion in relation to aspects of conscious thought.

To start the discussion it is necessary to distinguish affect from emotion. Unlike emotions that would be individual, affect is relational, that is, shaped in relationships with other people and material objects. As Jonathan Flatley explains, “emotion suggests something that happens inside and tends toward outward expression, affect indicates something relational and transformative. One has emotions; one is affected by people or things”. (Flatley, 2008, p. 12).

Because it is relational, affect carries the potential to produce moods (*Stimmung* in German)¹, that is, a kind of affective atmosphere under which intentions are formed, designs designed and particular affect can be attached to particular objects. If a person is anxious, for example, things in the world are more likely to seem scary, if he is curious, new objects may seem interesting to him.

To get an idea of the importance of affect for understanding the landscape of the proliferation of fear, hate, and fake news through digital social media, let's take Flatley's statement “As a concept,

¹The concepts of mood and *Stimmung* have been introduced in the fields of Literary Theory and Theory of Culture to support discussions on aesthetics. See Felinto (2012).

mood provides a way to articulate the shaping and structuring effect of historical context on our affective attachments” (Flatley, 2008, p. 19).

In the last two decades, scholars from cultural theory, literature, and media studies have dedicated themselves to studying affect as a component of the cognitive process in the process of interaction with the media. Brian Massumi relies on philosophers (Gilles Deleuze and Félix Guattari, William James, Henri Bergson) and neuroscientists like Hertha Sturm to elaborate his theory of the autonomy of affect and to defend the primacy of affect in the interaction with video images (Massumi, 1995). Massumi's interest in research developed by Sturm is to show that not only is the body affected by images but that the meaning of conscious content is also affected by bodily and non-conscious states. Both levels, image quality (the content of the image; its indexing to conventional meanings in an intersubjective context; its sociolinguistic qualification) and intensity (strength or duration of the image's effect on the body), are immediately embodied. In other words, what the autonomy theory of affect teaches us is that the (conscious) interpretation we make of the image does not coincide with the (non-conscious) ways in which the same image affects our body.

Seeking to understand the relationship between affect and media in contemporary society, especially after September 11, 2001, media theorist Richard Grusin (2010) starts from researchers like Andy Clark and Daniel Stern to propose his conception of a distributed mediation from the conceptions of distributed mind and distributed affect.

Grusin notes that the feedback loops described by Clark (2003) operate in the same way as what neuropsychologist Daniel Stern called affective attunement. According to Grusin, from his innovative research on child psychology in the 1980s, Stern demonstrated that in the child's interpersonal world, the sense of self arises through cross-modal emotional feelings or experiences, both with other people and with other things. Stern maintains that the child's sense of distinction between self and other, as well as the unity of perception and the connection between perceptions and a world of people and things, is created and grounded on a very early level of psychological development and affective experience of the baby (Stern apud Grusin, 2010, p. 95).

Grusin relies on this description of affective attunement studied by Stern to assess the impact that this mode of operation of affects can have on media environments. The media theorist ponders:

For questions concerning our affective relations with media, what is particularly intriguing about Stern's account is that he takes cross-modal affective patterning or mapping to be basic to our interactions with the world from infancy. In this light one can begin to understand how such audio-visual media like film, television, mobile phones, computer and video games, and the web work to imitate, reinforce, or reproduce the virtuality of our embodied experience. From the perspective of affective attunement, sound film or TV become crucial forms of affect modulation because of the way in which they couple visual and auditory patterns or sensations, as well as the way in which they present audiovisual images of the affective states of other people. Even more complexly in some sense, video games (and interactive media generally) would seem to work as modes of trans-modal or cross-modal affective and cognitive modulation by adding touch to sight and sound, so when you move your avatar in a game, for example, or use your mouse to move the cursor on the screen of your PC, or manipulate the touch screen on your iPhone, you are adding cross-modal patterns of touch to the coupling of sight and sound. That is, the haptic movement of hand on controller, along with other bodily/muscular movements involved, produces a change in the medial other, in both the user's avatar or cursor and the other human and nonhuman actors on screen. In this way our media interactivity provides a kind of intensification or reduplication of affective interpersonal relations. (Grusin, 2010, p. 95-96).

The embodied mind studies (and distributed cognition) as well as those of affective attunement demonstrate that the body/mind acts in constant attunement/modeling with the material and social environment (technologies and people), exchanging flows and intensities. As technological devices – in

this case, the media – permeate these exchanges, the media system can intensify the proliferation of affects and moods.

Grusin considers that the contemporary media operates in a logic of distributed mediation, that is, it produces dynamic and heterogeneous assemblages, composed of various technical, social, aesthetic, economic, and political elements that merge and regroup in changing formations, but relatively stable, distributed throughout society. With the concept of distributed mediation, Grusin calls attention to the distribution of affect between human and non-human actants: “(...) I will address the cycles of affective feedback that structure our 'media in everyday life', the ways in which we interact with multiple media in almost every aspect of our daily lives” (Grusin, 2010, p. 90).

For Grusin, thinking mediality in terms of affect:

“(...) is to think of our media practices not only in terms of their structures of signification or symbolic representation but more crucially in terms of the ways in which media function on the one hand to discipline, control, contain, manage, or govern human affectivity and its affiliated things “from above,” at the same time that they work to enable particular forms of human action, particular collective expressions or formations of human affect “from below” (Grusin, 2010, p. 79).

Grusin's conception of mediation distributed from distributed mind and affects intensifying collective habits and behaviors, that is, that “our interactivity with the media provides a type of intensification or reduplication of affective interpersonal relationships” (2010, p. 96), converges with Sara Ahmed's study on the affective economies. Ahmed argues that emotions/affects are not psychological dispositions, nor do they reside in a subject or object, they circulate between subjects and objects, mediating relationships between the psychic and the social, the individual and the collective, expanding the intensities of these affects (2004, p. 119).

What we learn from the concepts of the embodied mind and the affect theory that is interesting to the communication sciences and media theory, in short, is:

Mind/Cognition:

- The mind is embodied and inextricably associated with the environment. It encompasses the brain, the body (intensities, sensorialities, and perceptions) and the material and social environment (people and objects).
- The cognitive process is situated and depends on the context. It is in a continuous process of tuning/updating with the environment. This means that the cognitive process encompasses sensorimotor factors, non-conscious and, therefore, factors such as the content of the message; its indexing to conventional meanings in an intersubjective context; its sociolinguistic qualification are not enough to explain the ways in which we learn, communicate, socialize.

Affect:

- Affect is corporeal and relational, it operates through affective attunements/modulations with the material and social environment.
- Affect infolds the environment; bodily intensities are coupled with the material and social environment and co-evolve with it (in it).
- Affect acts in the construction of individual and collective meaning. That is, it is not possible to explain everything by language, subjective or intersubjective context, and/or sociolinguistic meanings given by culture.

Cognition and Affect:

- They deconstruct the idea of the human as a rational, conscious subject and owner of his free will.
- They shade the boundaries between subject and object; nature and culture; reason and affect; body and mind.

What we learn from the distributed studies of mind and affect is that when investigating literacy processes in media environments we need to consider the multisensory, perceptual, affective flows between brain/body and the world that allow our mind/body to tune/module with and in the environment (material and technical environment).

This perspective seems profitable to analyze the contemporary situation and seek methodological approaches to investigate the flows and intensities that circulate and are amplified through distributed mediation, generating moods of fear, hatred, insecurity, belief in fake news, and misinformation. These approaches must consider that the aforementioned phenomena do not find explanations in strictly sociolinguistic, interpretational, semantic and/or conscious analyzes.

Final considerations

We start with the current issue about the proliferation of disinformation campaigns and hate and fear speeches, and we asked whether this question can be answered only based on approaches that privilege the content of the message; its intersubjective context; its sociolinguistic meaning given by culture in the media literacy process. We made a brief mapping of the different theoretical approaches that address the multiple literacies in the media, showing how these approaches privilege the processes of interpretation and social representation, even when they address terms such as multimodal, which encompasses sensory, non-conscious processes.

We have presented some research on neurosciences and cognitive psychology, fields that have produced experimental research and revolutionized the concepts and ways of living in man in the world. These researches have demonstrated that the processes of production of meaning and cognitive processes cannot be reduced to processes that are primarily conscious and / or of sociolinguistic and / or intersubjective significance. These findings change not only our conceptions about the role of the media in society but also, and mainly, our conscious and non-conscious, sensory, and affective forms of interaction with the media. As Ferrés and Piscitelli (2012) ponder, these changes have not received due attention from educators and, we might add, from media scholars.

More than half a century ago, the pioneering incursions of Paulo Freire and Brian Street started from critical and innovative formulations, supporting positions about the literacy process not being neutral, nor merely technical, and about the importance of expanding literacy to include forms of social and oral literacy that offend the culture of letters. These conceptions that today may seem evident and even commonplace were a quantum leap in the 1970s. Perhaps today we need to expand our concepts and perceptions about man, mind, technological devices, affects, and take another quantum leap in the field of literacies and humanities to face the challenges at the door.

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