Big Data, ubiquitous exploitation, and targeted advertising: new facets of the cultural industry

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Abstract: The emergence of the so-called digital culture from the development of new information and communication technologies led to criticisms of the concept of cultural industry, elaborated by Horkheimer and Adorno in the 1940s, defining the new configuration based on interactivity, open communication and greater freedom among users. However, to a critical view, the new configuration is even more totalitarian than the previous one. All the actions of users in the digital environment generate information that can be compiled and organized according to mathematical algorithms, configuring the so-called Big Data; such information includes personal preferences, political trends, gender, and even personality profiles, and leads to ubiquitous surveillance and manipulation through targeted advertising, being politically and economically far more effective than in the age of the cultural industry described by Adorno. The update of the critical theory of society implies understanding this new configuration, its pretensions and its contradictions. Therefore, the present article aims both to update the concept of cultural industry denouncing, thus, the new forms of manipulation, and to criticize the idea that freedom is immanent to the Digital Culture, present in its defenders.

Keywords: cultural industry, critical theory of society, Big Data, digital culture.

Introduction

Scene 1: March 2017. A researcher uses his computer to search for a book, *The Society of the Spectacle* by Guy Debord, in the catalog of a major physical and online bookstore. Coffee break. Minutes later, he returns and accesses a news site, in the menu on the right he sees an ad: the book he was looking for, with 30% discount. *Scene 2*: November 2016. Contrary to electoral predictions, a journalist on TV announces, on a global network, that Donald Trump is the new President of the United States of America. *Scene 3*: June 2016, British voters vote in favor of the United Kingdom's exit from the European Union. *Scene 4*: September 2017, João Dória employs five different programs to increase his reach in social networks.

In a quick look, these four scenes may seem to have nothing in common between them. Occurring in distant parts of the globe, they also seem to refer to different spheres of life. What would there be in common between the individual act of purchase and the collective act of vote? What would be the relation among the election of an undemocratic, sexist and xenophobic president, the exit of a country from an economic and political Union of European States, the use of Big Data[1,2] by a Brazilian politician and businessman, and the purchase of a book on social criticism in an online store? Maybe nothing, if we assumed that these different actions were carried out by independent and autonomous subjects, guided only by their understanding despite the determinations of the sensible world. This is the current world, connected and founded on a new "social cement," to remember a term used by Adorno and Simpson (1986, p. 138), which connects a the scenes: the digital world is featured in the scenario of these four moments, with specifics that show us that the radicalization of a new model of ideology is in progress.

In the 1940s, Adorno wrote that there was no difference between the choice of a soap bar in a supermarket and the choice of a candidate for the presidency in the United States. He referred to how advertising in the

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1   Throughout this article the term Big date will be used for the singular an the plural form. We understand that this ambiguous usage reflects a characteristic of the observed object itself; the possibility of understanding and dealing with massive data acquired by using algorithms so as to produce socially relevant knowledge, and in this sense the data preserve their multiple and open character, requiring a treatment as plural. On the other hand, the use of massive data by global corporations tends to configure an integrated system, as already occurred to some extent with the Cultural industry, and the article in singular form points to this trend to a totalitarian order. In some segments of the text, it may be questioned whether the use in singular or plural form is appropriate for the time of discussion, but controversy is welcome and can be, apropos, clarifying for the problems related to current attempts to conceptualize Big Data.

2   We indicate, for specific terms in technology that be difficult to the reader, the use of glossaries or dictionaries specific to the area, such as the "Dicionário prático de informática" (https://goo.gl/WZQuaX).

sectors of trade and politics influenced citizens so as to leave no space for critical reflection about their own choices, whether in private or public spheres. The cultural industry, by offering a standardized world and an array of stereotypical thoughts in block to its consumers, had deprived them of the possibility of exercising a choice beyond the imitation of patterns within a mass behavior; although – we must recognize – domination was not exercised without gaps. Seven decades have passed, and it seems that things are not much different, except for the level of technical refinement achieved by a new branch of cultural industry that is sold as "digital culture", which claims to be open and democratic, radicalizing the belief in full individuality. Thus, this article seeks to both update the concept of cultural industry, denouncing the new forms of manipulation, and criticize the claims of freedom of the advocates of Digital Culture.

Individualism, consumerism, difficulty of acceptance of differences are some of the characteristics of Technoculture – term used by Sodré (2010) to characterize the new facet of a technologically mediated culture. In it, the author understands there is

> a transformation of the traditional forms of socialization, as well as a new perceptual and mental technology. Therefore, it implies a new kind of relationship of the individual with concrete references or with what is conventionally designated as truth, that is, another anthropological condition. (Sodré, 2010, p. 27)

Initially, the interest of the market and politics in Big Data is curious. However, it is always important to remember the association between these two spheres, association which is irremediable in bourgeois society. If the universe of institutional politics is the place par excellence of meeting the conditions for maintaining the mode of production of the society currently of interest (Maar, 2006), such common interest does not seem that strange. On the contrary, for the maintenance of a given model of society, technoscientific development has led to the most extreme the possibilities and strategies for manipulation of the masses. If we can speak of a new anthropological condition, it is due to the refinement of the control over human behaviors recorded digitally by means of algorithms created specifically for this purpose. Through a formally defined scheme, online programs and applications register and intelligently provide users with the repetition of themselves; with that they strengthen a series of stereotypes and standardized thoughts about themselves and about the other, by preventing contact with that which does not appear in the dark mirror of our screens. That is how Trump won the elections in the United States:[3]

using data from social network users to target them with advertisements more related to their desires, prejudices and worldviews, and at the same time strengthen them and keep them fostering the bubble of intolerance and fear.

There is urgent need, therefore, for criticism of the new digital communication media in the context of a critical theory of society that unveils the reproduction and the radicalization of barbarism in the present, disguised as individuality and freedom in technological society. This becomes even more urgent when we realize that the transformation of the objective conditions that make barbarism and civilization the two faces of the same historical moment can only be carried out as their contradictions, modes of operation, and deleterious effects are revealed. The criticism of the new digital media arises, therefore, as a political criticism, whose objective is – beyond the neutrality of the technique (as it denounces it as ideology) – to enable understanding the present for the suppression of barbarism.

Cultural industry x digital culture

In a text that discusses in what sense it is still possible to speak of cultural industry, Hullot-Kentor (2008) argues that the concept has a paradoxical existence, since: "if the concept does not escape the apparent exhaustion of the words of Adorno and if there is no doubt that its ghost is gone, still it has a vigorous survival" (p. 18). Its survival and obsolescence are connected to the same phenomenon: to the radicalization of the subjection of the cultural sphere and to the industry logic is added a banal and general use of the expression "cultural industry" to designate precisely the commercial possibilities still open, that is, the mention of the concept no longer moves the thought through the shocking mention of the paradox of industrial production of culture, but has become, itself, a slogan that paralyzes the criticism.

In addition, according to Antunes in the lecture *Notas para pensar a Indústria Cultural na era digital*[4], Marxist researchers point to the inappropriateness of the term due to its supposedly European origin, justifying, with that, their argument that it would have nothing to say about the Brazilian or Latin American reality. In the first case presented in the previous paragraph, as slogan that paralyzes the criticism, the term seems accepted and fixed. Here there is already a refusal to acknowledge the importance of thinking about the cultural industry in Brazil or even globally. Such refusal hinders an advancement of knowledge concerning its new forms here and now, as well as its social and subjective developments. While other researchers oriented toward

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3   In Brazil, one of the first media outlets to report such a feat was the website specializing in information technology Showmetech (https://goo.gl/voHaBX). By the beginning of 2018, a scandal involved the social network Facebook and Cambridge Analytica due to a "breach"

in security of Facebook users' data and their sale to the British political consulting firm that worked both in Trump's election, in 2016, and during the Brexit referendum, which decided on the United Kingdom's exit from the European Union. On the 2018 scandal, see: <https://goo.gl/2uV9Vh>; <https://goo.gl/fEkZoD>; and <https://goo.gl/ixEwWX>.

4   Lecture given at the State University of Santa Catarina, on 5 july 2017.

post-structuralism have difficulty in understanding the cultural industry as a system beyond a specific medium or one of its several branches (TV, film, radio, etc.) – even though they are aware that forms such as capitalism, through technological development, controls the bodies and produces subjectivities. According to them, we are in a new era, in which new media have been developed and, therefore, the concept of cultural industry would be outdate.

It is important to understand, however, that the concepts do not remain identical throughout history. The transformations in society, as well as the changes in thinking are conditions of re-elaboration of concepts in a historical and social linkage. The term *cultural industry*, which first appeared in an article by Horkheimer (1941, p. 303) in plural form, is worked thoroughly by him and Adorno in the eponymous chapter of the *Dialectic of enlightenment*, whose subtitle "The enlightenment as mystification of the masses" performs a double denouncement. It is, at the same time, result of the enlightenment and of all technoscientific progress fostered by it, and largely focused on keeping everyone in a state of false consciousness necessary for the maintenance of economic needs. The criticism of the cultural industry is integrated, therefore, to the criticism of political economy as it presents the sphere of culture transformed into merchandise, in which the consumer – as opposed to being the one whom it is intended in fact to please – is not subject, but object, since it is surrounded by products whose function is precisely to limit its possibilities of existence. As presented by Adorno (1994), to the standardization of merchandises and to the rationalization of the production techniques are added individual forms of production based on technical procedures and on the division of labor, which give the products the illusion of individuality and that transform that which could be subversive in art into barbarism and oppression.

If, at the time of *The dialectic of enlightenment*, when Adorno and Horkheimer (1985) presented the concept of Cultural Industry as a system, it consisted of cinema, radio, television, urban architecture systems, etc. Today, we can consider its expansion through a technological and digital breakthrough, whose function of fostering the reproduction of the current through substitutive experiences, as pointed out by Maar (2000), represents the link between the cultural industry of the 1940s and the current cultural industry and its new facets.

The digital media have very specific characteristics that should not be overlooked. Accordingly, it is clear the need to assess and consider the technological developments in the field of communication, which would have the power to raise the users of the new digital machines to the level of consumers-producers, overcoming the alleged passivity of the spectators of the

cultural industry in the mid-20th century.[5] The problem of the apparatus of the cultural industry in the middle of the last century, then, would be its unidirectional nature. The so-called digital culture (Costa, 2003) would be closely linked to ideas of interactivity, open communication, interconnection and "free" exchange information and images, and that would necessarily culminate in "more freedom." This assumption, which could seem plausible, does not resist a critical analysis of the configuration that acquires today the traffic of information, images, and other data on the internet. On the contrary, there is today an unprecedented concentration of control over the flow of information. Understanding it requires thinking how are currently processed the Big Data – massive data –, which are the operators of this system and with what purposes they are targeted, filtered and managed.

Big Data is defined by Mayer-Schönberger and Cukier (2013, p. 13) as "the capacity of society to take advantage of information in new forms, to obtain useful insights or goods and services of significant value",[6] and refers to

> things that can be done on a large scale, but not on a smaller scale, to extract new insights or create new forms of value, in such a way that transforms markets, organizations, relationships between citizens and governments, etc.[7] (Mayer-Schönberger & Cukier, 2013, p. 17)

It indicates a characteristic of culture in the digital environment that calls into question the way we live and interact with the world through a set of digital devices (computers, mobile phones, tablets, etc.) that send and receive data on a global scale, and this information is configured in a flow with ever-increasing volume. The existence of this huge amount of data challenges the traditional forms of analysis and collection, and at the same time presents new opportunities to produce knowledge based on the whole, no more on a sample. This results, according to Marques (2017), in the emergence of a new interdisciplinary field, the digital Humanities, which incorporate computer technologies and algorithms into

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5 Here, the idea of passivity relates only to the fact that the possible interaction of consumers with the products of the cultural industry in the 1940s was restricted to accepting or not what was produced and presented through the mass media such as music, movies, news etc. Today the consumer is also a producer of content, a worker – although unaware – of this industry, as the digital media survive through their action and interaction in the network. However, it is important to not forget that at any time even the acceptance of a merchandise depends not on a complete passivity of the subject, but on an effort in adaptation that does not occur without contradictions in relation to that which would be, in fact, its interest concerning the possibilities of freedom.

6 In the original: "la capacidad de la sociedad de aprovechar la información de formas novedosas, para obtener percepciones útiles o bienes y servicios de valor significativo".

7 In the original: "cosas que se pudem hacer a gran escala, pero no a una escala inferior, de tal forma extraer nuevas percepciones o crear nueva formas de valor, de tal forma que transforman los mercados, las organizaciones la relaciones entre los ciudadanos y los gobiernos, etc.".

research in the field of Humanities, with unprecedented possibilities of access to historical and current data.

The main characteristics of the Big Data would be: volume, speed, and variability (Mostafa, Cruz, & Amorim, 2015). The first characteristic denotes the enormous amount of data, available in increasing volume – Mayer-Schönberger and Cukier (2013) estimate that the amount of digital data on the planet is equivalent to giving each person on Earth today 300 times the amount of information that is estimated that was stored in the library of Alexandria –, and the prospect of an approach to this data that is not made by sampling, but taking the whole.

Processing data in their entirety would dispense with the need for theoretical formulations, as that would enable a full and complete perspective of the facts as they are in reality. Instead of theories that would explain the events by seeking to generalize results based on samples, data processing works with frequency analysis, in search of patterns, in order to obtain predictability. Accordingly, the Big Data does not seek any explanations as to why things happen, only what happens, forcing society to relinquish "part of its obsession with causality in exchange for mere correlations" (Mayer-Schönberger & Cukier, 2013, p. 18)[8] aiming at predictions and general trends – but not accuracy. This is what Han (2015) called Dataism, a second movement of the lights that "should turn everything into data and information" (Han, 2015, p. 67). According to the author, if in the first movement of the lights statistics was seen as a means of freeing knowledge from its mythical content based on the primacy of the subject, in the second movement of the lights the intention is to "free knowledge from subjective will" (Han, 2015, p. 67), from intuition, from theory. However, this possibility of dispensing with theory is rejected by Han (2015), who mocks the claim of suppressing it and of dealing with the data in the absence of assumptions – which he calls digital totalitarianism (Han, 2015) –, and by Agostinho (2016), who argues that the way the data are viewed and analyzed always presupposes a theoretical mediation.

The second characteristic of Big Data, speed, indicates not only a property of information in the World Wide Web to be accessible practically immediately, but also the possibility of also immediate feedback through certain algorithms, but mainly: 1) the acceleration of growth of the amount of information available, which grows four times faster than the world economy; 2) the capacity to process this information, which grows nine times faster (Mayer-Schönberger & Cukier, 2013); and 3) the acceleration of the extraction of value through the activity of individuals in the digital environment. Together these characteristics produce a steady and growing increase in the speed and volume of the data circulating. It is relevant to note that the identity between information and value, and the systemic pressure for

expanded reproduction of capital also in this sphere, is the economic motor for the pressures for the increasingly wide use of Big Data and, at the same time, generates monopolist pressures and attempts to centralize the collection and the uses that are made of them.

Finally, variability indicates the network's capacity to capture the most subtle variations in characteristics of data and users of the system, raising issues about the privacy and the transparency with which such data are obtained and disseminated. It produces an illusion of freedom through open access to information chosen according to "intimate" inclinations of the user and, at the same time, potentially suppresses the need for contact with data that is bothersome to the user, different than their inclinations.

It seems clear that the possibilities of using this new data to produce meaningful and useful knowledge, as pointed out by Marques (2017), depends fundamentally on the nature of the collection in relation to them, as well as on their purpose, while, on the other hand, use of Big Data to increase sales and exploitation of users, or to produce more subtle and comprehensive new forms of social control, as pointed out by Han (2015), configures a reality difficult to deny. Research conducted currently by psychologists using the Big Data provide a good example of the risks for digital humanities in appropriating the typical tools of the current digital culture. They indicate to us concretely in what sense the current digital culture approaches the cultural industry.

Tracking behaviors and personal traits

In an article presenting the possibilities of the use of Facebook as a tool for social sciences, Kosinski, Matz, Gosling, Popov & Stillwell (2015) argue that use of this site enables overcoming traditional limitations of participant samples in Psychology research, accessing people in a "natural environment," cross-examining personal, behavioral and demographic data with ease, since the site stores this information, among other benefits. That is because, as pointed out by Mayer-Schönberger and Cukier (2013), on Facebook

> more than 10 million new pictures are uploaded every hour. Its users click the "like" button or enter a comment almost 3 billion times every day, leaving a digital footprint that the company exploits to find out their preferences.[9] (p. 19)

The difficulties pointed out by the authors concern the need to know the interfaces of web design. The justification for using sites of social networks like Facebook, rather than accosting the participants

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8   In the original: "parte de su obsesión por la causalidad a cambio de meras correlaciones".

9   In the original: "se suben más de diez millones de fotos nuevas cada hora. Sus usuarios hacen clic en el botón de 'me gusta' o insertan un comentario casi tres mil millones de veces diarias, dejando un rastro digital que la compañía explota para descubrir sus preferencias".

in the physical world, is that currently: "A growing proportion of human activities, such as social interactions, entertainment, shopping, and gathering information, are now mediated by digital services and devices."[10] (Lambiotte & Kosinski, 2014, p. 1). According to the authors, this enables observing the behaviors of millions of individuals at the time they happen; instead of seeking statistical regularities and underlying principles, Big Data analysis seeks simply to recognize patterns.

The objective established by the researchers led by Kosinski et al. (2015) was to develop a tool to enable the prediction of personality traits based on the "digital footprints" left by Facebook users. These pieces of information, provided by regular users in a consented, but not deliberate manner, are stored by the site composing a set of data about the profiles, preferences, habits, etc., which are available for collection and use by researchers or advertisers. In the case of researchers in Psychology, they used a model of personality widely disseminated and commonly accepted by the American scientific community, called the five-factor model of personality (FFM), to develop an algorithm that can trace the personality profile of users of this network based on their "likes" (Lambiotte & Kosinski, 2014; Kosinski et al., 2015).

In "Private traits and attributes are predictable from digital records of human behavior", Kosinski, Stillwell and Graeple (2013) present how traces left by social network users, such as their "likes" on *Facebook*, can be used, automatically and accurately – through a dimensionality reduction model for preprocessing of data related to likes – to predict a series of personal attributes, such as sexual orientation, gender, political views, religion, ethnicity, intelligence, happiness, use of psychoactive substances, etc. The authors, cunningly, observe that a large part of daily activities today are mediated digitally and that these digitally-mediated behaviors are recorded in the network and foster the emergence of computational social sciences, side by side with digital marketing. Analysis of data from the networks, from the perspective of the authors, seems to have at least two major advantages: 1) dispenses with the active participation of people to answer questionnaires; and 2) can predict information that people may wish to hide – such as age, gender, and pregnancy, for example. Aside from the issues related to ethics and invasion of privacy that these "advantages" entail, there is a more fundamental assumption about individual and personality characteristics that needs to be revealed.

For example, the FFM claims to represent, through five traits, the fundamental structure underlying the variations of behavior of humans, providing a conceptual framework that enables uniting under these characteristics the diversity of conducts. The traits described by the

model are: a): openness: related to imagination, creativity, tolerance, appreciation of culture, good aesthetic sense and liberal political association; b) conscientiousness: tendency to prefer a ruled and thoroughly planned life, in contrast to an openness to that which is spontaneous and new; c): extroversion: tendency to be stimulated by the exterior world, to be communicative and express positive emotions; d) convenience: tendency to focus on positive social relationships, to be friendly, compassionate and cooperative; and e) emotional stability: tendency to not experience major and sudden changes in emotions (Kosinski et al. 2015).

This type of trait-based personality theory presents an ideological character both for having been developed through researches with subjects whose profile is named, somewhat ironically, WEIRD (Western, educated, industrialized, rich and democratic) and for having as premise a kind of psychometric reason that translates the subjects through quantitatively established traits, which ultimately focuses on characteristics that produce better adjustment of people to a Western, capitalist society, developed and recognized as a democracy. Founded on a model, adjusted, healthy and integrated citizen, the parameters tend to reproduce and reinforce this pattern and, on the other hand, to pathologize alternative conducts and profiles. This type of generalized criterion increases the forces of integration of subjects, confirms the collapse of the individual and, on the other hand, of a Psychology that can criticize its object.

The tool most commonly used by researchers is named myPersonality, and was developed by David Stillwell, professor of Big Data analysis and Quantitative Social Science at the Business School of the University of Cambridge. The application enables Facebook users to access 25 psychological tests and receive immediate feedback on their results, while they may voluntarily offer their profiles to research and share their private information with their virtual friends. More than 2 million users, among those who did the tests, consented to the use of their data (Kosinski et al., 2015). Facebook has an identification number for each participant and, with the access granted to the researcher, it is possible to observe both the type of course (browsing) and obtain longitudinal data, demographic data, etc.

The set of accessible data varies as the platform extends or alters its parameters and policies. In the article discussing the use of these data for research (Kosinski et al., 2015), the authors report that are available: a) demographic profiles; b) content produced by users; c) structure of the social networks of users; d) preferences and most common activities; e) information about friends; f) private messages. This information set enables tracing, based on digital footprints, a user profile in relation to various behavioral and demographic parameters. The use of this data is explained by the researchers themselves in the following terms:

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10 In the original: "A growing proportion of human activities, such as social interactions, entertainment, shopping, and gathering information, are now mediated by digital services and devices".

"A recent paper based on the myPersonality database and using relatively straightforward methods (singular value decomposition and linear regression) showed that Facebook likes are highly predictive of personality and number of other psychodemographic traits, such as age, gender, intelligence, political and religious views, and sexual orientation."[11] (Lambiotte & Kosinski, 2014, p. 1936)

Similar results are possible through analysis of fragments of texts or posts made by users by observing variations in the use of language that indicate age, gender and personality profiles. In addition, there is increasing generation of digital data from activities carried out in the physical world, through the capture of information from smartphones, often using voice-recognition software, albeit unknown to users, that have their conversations recorded at random times during the day[12]. In short, this tool enables, according to the authors, the improvement of numerous products and services, which would be offered to users according to their demographic profiles, their preferences being continuously deducted based on their personality traits. The idea of the authors is that this tool enables a more individualized service to consumers, which can offer them exactly and only what would be of their interest. A benefit both for trade in goods and services, which does not waste time and resources offering products to people that are not interested, and for consumers, who would have access to all they desire based on their unique and individual characteristics. More than that,

> Ultimately, Amazon can recommend the ideal book, Google can indicate the most relevant web page, Facebook knows our tastes, and LinkedIn guesses who we know. The same technologies will be applied to diagnose diseases, recommend treatment, maybe even identify "criminals" before they in fact commit a crime.[13] (Mayer-Schönberger & Cukier, 2013, p. 24)

The ethical cares imagined by the researchers concern obtaining informed consent and the information about the uses and purposes of the data. Evidently, this kind of care is innocuous in relation to the sense that this practice acquires in relation to the whole, that is, to the systemic pressures that lead users to give up, one way or

another, their privacy and to be bombarded ubiquitously with advertising, this time targeted thorough and precisely, based on their personality profiles. In fact, this care seems to relate more with ensuring access to the data without future legal problems, than with the protection/preservation of any rights of those who provide them – again it is worth remembering that which was previously pointed out by Adorno (1994): "the consumer is no King, as the cultural industry would like us to believe" (p. 288). The fact a tool like myPersonality has been developed by a professor of a business school does not seem to be mere coincidence; the so-called digital culture is oriented by the same criteria that bewitched culture when Horkheimer and Adorno termed it cultural industry: on everything that appears on screens of the digital data network blinks the form of merchandise.

However, researchers admit that the degree of reliability of the results, while achieving the same levels of tests applied in the physical world, still needs to be optimized to produce exactly the expected effect of predictability. In fact, it is expected a level of control over behaviors that is unprecedented in human history. Whenever there was some power, there was also more or less explicit and effective forms of resistance. But perhaps the most remarkable characteristic of this new tool is its subtle and covert operation, especially in its political dimension.

Big Data as political instrument

The claim of advocates of digital culture that its intrinsic characteristics would promote an environment of limitless freedom and full access to all of human cultural productions reveals to be – by observing the way it is used by those who actually operate the system – a deception. Far beyond the panopticon, through the worldwide web of computers and the new mediations conducted by algorithms and programs are developed new surveillance regimes that make privacy impossible, eroding the social practices that sustained the cultural development, which is actually the main element that enables some kind of expanded control over behaviors. Bruno (2013) presented the notion of distributed surveillance in an attempt to answer what he considered the reinscription of surveillance in the present, which still has its power games and production of specific knowledge. According to the author,

> a complex network of knowledge about the daily life of individuals, their habits, behaviors, preferences, social relations, has been constituted based on the monitoring of personal data, especially in cyberspace. The knowledge derived from there has power effects that interfere significantly with the choices and actions of individuals and populations. (Bruno, 2013, p. 22)

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11 In the original: "A recent paper based on the myPersonality database and using relatively straightforward methods (singular value decomposition and linear regression) showed that Facebook likes are highly predictive of personality and number of other psychodemographic traits, such as age, gender, intelligence, political and religious views, and sexual orientation".

12 See: <https://goo.gl/fRbHRF>.

13 In the original: "Al fin y al cabo, Amazon puede recomendar el libro ideal, Google puede indicar la página web más relevante, Facebook conoce nuestros gustos, y LinkedIn adivina a quién conocemos. Las mismas tecnologías se aplicarán al diagnóstico de enfermedades, la recomendación de tratamientos, tal vez incluso a la identificación de 'delincuentes' antes de que cometan de hecho un delito".

Big Data, as well as the clouds where big data are stored, "are engines that boost information capitalism since they enable an increasingly dominant form of knowledge"[14] (Mosco, 2014, p. 12). In short, Big Data produces an increasingly accurate and ubiquitous control that has the tendency to expand rapidly, since the growth of circulating capital, in the sphere of the global capitalist economy, is organized through that imperative, despite the constant and inevitable crises.

The control that is developed through this form of knowledge based on massive data, moreover, is configured differently from the disciplinary regimes that impose constraints and coercions; now users themselves provide the information, as they imagine that they obtain free information, diversion and recreation, but it is an asymmetric game in which users do not know they are being monitored, cannot choose which data will be provided, and much less what will be done with their information (Cianconi & Lott, 2016). According to Han (2015), transparency, which is required subtly and imperatively from users, turns into a neoliberal device for total monitoring and control. More information circulating means more capital circulating, since the system operates based on advertising. In short: when browsing users produce information that has monetary value, as that information is captured by the system operators. These, in turn, organize such data through algorithms and profit, mobilizing users to speed up their consumption behaviors – whether of physical goods or data – and to produce more and more information about themselves, which enables, in principle, the targeted advertising to exercise greater control.

Accordingly, there is no novelty in relation to the Cultural Industry described by Horkheimer and Adorno. Broadcast television, in turn, since the 1950s, produced programs that had the primary function of keeping the eyes of the audience riveted to the screen, in order to sell the viewers' attention to advertisers. The new global digital network has the same intention, and operates with the same purpose, but the novelty is that now it is aware, based on the Big Data provided by users themselves, of their profiles, preferences, tastes, and desires. Thus, they develop the so-called microtargeting, advertisement directed to a specific target, precisely showing advertisement in relation to the characteristics of users.

Evidently, behavior patterns and political ideas are both monitored and disseminated through the same strategy. O'Neil (2017), in *Weapons of math destruction: how Big Data increases inequality and threatens democracy*, analyzes how the creation of programs and algorithms based on subjective problem-solving models bear the so-called "blind spots," which reveal a whole load of prejudices, judgments and priorities of their own

creators, related to their own experiences of life in their culture, their goals and ideology. Values and desires influence the choices of which data to collect and which questions to ask. The mathematical models that support the collection of Big Data are opinions transformed into mathematics. The major question raised here is that, as opinions, ideologies and prejudices are transformed in mathematics, they acquire a degree of reliability and naturalization able to suppress the questioning about what they provide, about how they operate, and about the effects they produce. With that, the very opinions and ways of thinking are mathematized, unable to go beyond the model that not only collects information, but shapes perceptions and ideologies.

Accordingly, the possibility the market and the State converge to a ubiquitous surveillance of consumers and citizens becomes not only plausible, but indicative of the degree of refinement in the administration of society. Moreover, the tendency to a radicalization of the exploitation of value through the collection and targeted use of data erases the difference between consumer and citizen, strengthening the trend that already existed at the time of the cultural industry criticized by Adorno of dealing with political issues as choices of products. If, as indicated by Cianconi and Lott (2016), we are transitioning from the panopticon to the panspectron, that is, to the possibility of locating and identifying everyone at any time, that occurs aiming at reproduction of the same. The power of outreach, whether of the State or the market, which through the large network and its online services and digital interfaces collect comprehensive information, indirectly and constantly reveals an asymmetry of the digital transparency correlated with the asymmetry found by Chamayou (2015) at the beginning of a war that replaces the battle with hunting with drones. At the time drones have the power to operate anywhere in the world through remote monitoring, using precisely ubiquitous surveillance and algorithms to choose the targets (Chamayou, 2015), the critical theory that intends to live up to the challenges of digital culture needs to consider radically the significance of abolishing privacy and, at the limit, of the subject capable of understanding the reality critically.

It is important to take into account that the trend, considered the economic driving force of the Big Data, is to radicalize the exploitation of users, since there is no aspect of life that cannot be used to generate value if it is connected all the time to a global digital network. All the time that a particular subject spends connected to the digital world exposes him to the possibility of a ubiquitous exploitation, as inevitably he provides, produces and circulates data and these are valuable. Thus, if the subjects' activities become mediated by the presence of digital devices all the time, this results in a ubiquitous exploitation, because from their activity value is extracted continuously, and this speeds up the exploitation and intensifies the control. The Cultural industry of the

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14 In the original: "son motores que impulsan el capitalismo de la información a la vez que permiten una forma de saber cada vez más dominante".

digital age creates conditions for ubiquitous exploitation, radicalizing the systemic aspect of the cultural industry, such as the association of every object of culture with the sphere of capitalist exchange. If, at the time of writing *The dialectic of enlightenment*, Horkheimer and Adorno (1985) indicated the trends on the administration of society of that which they named cultural industry, today, with the digital technological development, we see the materialization of a fully administrated society.

False hopes and real dangers

The dream of the businessmen who operate the Big Data is to develop algorithms capable not only of prospecting meaningful data about users of the World Wide Web, but mainly to predict and control the behavior of these people and so produce the future according to their wish. However, that requires nothing less than a continuing effort of all those involved to act as if they were things, nullifying the possibilities of thinking negatively. This is not exactly an easy task.

Adherence to behavioral models and nullification of self are not achieved at once, and the fanatical behavior of the *jitterbugs* described by Adorno and Simpson (1986) in their analyses of popular music denounce that there is always disruption and dissonance that expose the deception involved in the consumption of cultural goods and the effort necessary from the individual to subject. The intention of large corporations in the neoliberal context is to monitor behaviors and continuously accelerate consumption, but that is also hindered by natural limits and by the contradictions of capitalism itself that, in its recent crisis, demonstrated again how radical is the irrationality of the whole.

Nevertheless, the new forms of control are insidious exactly because they tend to act silently, permissively, offering pleasure and enticing the senses. The subject feels free while yielding to the siren song of digital culture. The resistance implies a type of asceticism in relation to the seduction of the very reified image reflected in targeted advertisements, but also insertion in the digital media in order to break their monolithic pretensions. It implies, therefore, being able to signify the world based on references external to the digital environment and, at the same time, becoming intimate with its language, its uses and risks. As at the time of the 20th century Cultural industry, a certain caution in using the digital environment is desirable as that preserves the subject from being thrown into the maelstrom of the acceleration of data circulation, but there is no place completely protected from the scope of this new cultural order.

Discussions on dynamics that centralize less the information flows on the internet (Parra & Abdo, 2016) demonstrate that it is possible to think not only about alternative uses to those that prevail today, but diverse forms of organization from the structure of the network itself, opening up spaces for cultural heterogeneity, to the

resignification of the very Big Data and to the questioning of ubiquitous surveillance. Critical knowledge of the tools, algorithms and software that manage data is also desirable to understand and to some extent promote alternatives – as emphasized by Andrew Feenberg and his Critical Theory of Technology.

According to Feenberg (2010), democratization of society depends on radical technical changes only achievable if we have active voice in the process of technical and industrial decisions. To that end, it is essential to understand the choices and determinants of the current technological designs – the key to understand both their effectiveness, today, and the basis of the current hegemonies. As the technological development is shaped by cultural norms that originate in the multiplicity of economy, of ideology, of politics, of science, etc., the design and operation of the machines reflect the social factors underway in the predominant rationality or, as he says, inspired by Herbert Marcuse, "technology policy depends on contingent aspects of technical design determined by a project of civilization" (Feenberg, 2004, p. 2).

Accordingly, Feenberg (2010) argues that the technical apparatuses, their designs and shapes are selected based on interests between many possible configurations – and, therefore, they can be redesigned, modified, transformed. The creation and selection of these designs and shapes are oriented by social codes that come from the political and cultural struggles defining their horizon of action. On the other hand, the effectiveness and the legitimacy of technology are dependent on the state of consciousness/false consciousness of the political-cultural horizon within which it is conceived.

The pretension of total dominance over men through a knowledge of their wishes, desires, habits, etc. is not a new pretension. It is at the core of the project of enlightenment, as highlighted by Horkheimer and Adorno. This pretension seems too convenient for the system operators, who rely on it to sell their products. Although a greater efficiency of manipulation through microtargeting is plausible, is difficult for subjects to keep away from consciousness the deception. The greatest problem may be the increasing closure of the cultural sphere within a logic of identity, which tends to become ubiquitous and intensify the exploitation. The trend to the acceleration toward a superexploitation of all spheres of life, subjected to the capitalist imperative of producing more value, radicalizes the feeling of closure of the alienated world on itself, and can result in blind resentment and hatred, with social results to some extent predictable: intensification of barbarism.

The immersion of subjects in the environment of a manipulative digital culture, in addition, deprives the subjectivities from the mediations that constitute self-reflection and criticism, making it essential to consider what arises from the weakening of subjectivity by decline of "historical" thought (Flusser, 2017) and its replacement with the logic of "surface." Schematism has always

been a service provided to its customers by the cultural industry: "For the consumer, there is nothing more to classify that has not been anticipated in the schematism of production" (Adorno & Horkheimer, 1985, p. 117), and the use of cliches appears as the solution for an orientation in a chaotic world for those who, within the continuous process of semiformation (Adorno, 1992), are unable to recognize the social processes underway, but seem to know very well how to act before them. Accordingly, the reflections of Adorno, Frenkel-Brunswik, Levinson and Sandford (1969) in *The authoritarian personality* are still up to date, because, unable to understand the world in a historical sense, subjects have only resentment and blind hatred toward a society that does not let itself be seen, despite showing itself through an avalanche of images. The persistence and resurgence – in broad daylight and without mincing words – of xenophobic, sexist, racist discourses, etc., may be a significant symptom of the new configuration of the cultural industry.[15]

Thus, although the mobilization of algorithms to control behaviors is worrying, the most critical aspect is the always recurring possibility of explosion of blind hatred, of irrationality mediated by constellations of destructive affects, culminating in raw and direct barbarism. According to a critical theory of society, the false hope of the new harbingers of instrumental reason and their new procedures require a new effort to again unveil how in the dialectic of enlightenment, at this time disguised as digital culture, is manifested the current barbarism, while still survives the hope of overcoming it. In short, the always recurring need of technical progress to produce new forms of manipulation is more related with its possibility of ruin than with its strength; if the domination were total and guaranteed, the effort on the part of the system, always more qualified, to maintain everyone increasingly more technologically integrated would not be necessary. The myth of the invincibility of technology generates passivity, and the purpose of criticism is exactly the opposite, as it points out the still possible use of reason to know the existing and its contradictions and, based on that, to reorient history – the fruit of human action – in the direction of freedom.

Big Data, exploração ubíqua e propaganda dirigida: novas facetas da indústria cultural

Resumo: A emergência da cultura digital a partir do desenvolvimento de novas tecnologias de informação e comunicação levou a críticas ao conceito de indústria cultural elaborado por Horkheimer e Adorno nos anos 1940, definindo a nova configuração a partir da interatividade, comunicação aberta e maior liberdade entre usuários. Entretanto, a um olhar crítico, a nova configuração se revela mais totalitária que a anterior. Todas as ações dos usuários no ambiente digital geram informações que podem ser compiladas e organizadas de acordo com algoritmos matemáticos, configurando o chamado Big Data; essas informações incluem dados sobre preferências, tendências políticas, gênero e perfis de personalidade, e levam a tentativas de vigilância ubíqua e manipulação por meio de propaganda dirigida, sendo política e economicamente muito mais eficaz do que na era da indústria cultural descrita por Adorno. A atualização da teoria crítica da sociedade implica compreender essa nova configuração, suas pretensões e contradições. Nesse sentido, este artigo objetiva tanto atualizar o conceito de indústria cultural, denunciando, assim, as novas formas de manipulação, quanto criticar a ideia de que a liberdade é imanente à Cultura Digital, presente em seus defensores.

Palavras chave: indústria cultural, teoria crítica da sociedade, Big Data, cultura digital.

Big Data, exploration omniprésente et publicité ciblée: nouvelles facettes de l'industrie culturelle

Résumé: L'émergence de la culture dite numérique du développement des nouvelles technologies de l'information et de la communication a conduit à critiquer le concept d'industrie culturelle élaboré par Horkheimer et Adorno dans les années 1940, définissant la nouvelle configuration de l'interactivité, de la communication ouverte et plus grande liberté parmi les utilisateurs. Cependant, d'un oeil critique, la nouvelle configuration est encore plus totalitaire que la précédente. Toutes les actions des utilisateurs dans l'environnement numérique génèrent des informations qui peuvent être compilées et organisées selon des algorithmes mathématiques, en configurant les Big Data; ces informations comprennent des données sur les préférences, les tendances politiques, le genre et même les profils de personnalité, et mènent à des tentatives de surveillance et de manipulation omniprésentes par des publicités ciblées, politiquement et économiquement beaucoup plus efficaces qu'à l'ère de l'industrie culturelle décrite par Adorno. L'actualisation de la théorie critique de la société implique de comprendre cette nouvelle configuration, ses prétentions et ses contradictions. En ce sens, le présent article vise à la fois à actualiser le concept d'industrie

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15 Han (2016) points out that is expressive the difference between the man integrated into the traditional masses described since Le Bon, and what he characterized as "digital swarms"–if in the first one no longer had own profile/individuality when participating in crowds, in swarms there is the persistence of an "anonymous someone" ready to participate in volatile "waves of indignation" against targets that do not lead to any social change, but rather to the persistence of hatred for hatred's sake. The characteristic configuration of social networks establishes a time of isolation in which the sensation that one can attack any target while being safe sustains the unbridled and fast propagation of fascist thought.

culturelle dénonçant, ainsi, les nouvelles formes de manipulation, et à critiquer l'idée que la liberté est immanente à la culture numérique, présente chez ses défenseurs.

Mots-clés: industrie culturelle, théorie critique de la société, Big Data, culture numérique.

Big Data, explotación ubicua y propaganda dirigida: nuevas facetas de la industria cultural

Resumen: La emergencia de la llamada cultura digital a partir del desarrollo de nuevas tecnologías de información y comunicación llevó a críticas al concepto de industria cultural elaborado por Horkheimer y Adorno en los años cuarenta del siglo pasado, definiendo la nueva configuración a partir de la interactividad, comunicación abierta y mayor libertad entre los usuarios. Sin embargo, a una mirada crítica, la nueva configuración se revela aún más totalitaria que la anterior. Todas las acciones de los usuarios en el entorno digital generan informaciones que pueden ser compiladas y organizadas de acuerdo con algoritmos matemáticos, configurando el llamado Big Data; estas informaciones incluyen datos sobre preferencias personales, tendencias políticas, género e, incluso, perfiles de personalidad, y llevan a intentos de vigilancia ubicua y manipulación por medio de propaganda dirigida, siendo política y económicamente mucho más eficaz que en la era de la industria cultural descrita por Adorno. La actualización de la teoría crítica de la sociedad implica comprender esta nueva configuración, sus pretensiones y sus contradicciones. En este sentido, el presente artículo objetiva tanto actualizar el concepto de industria cultural denunciando así las nuevas formas de manipulación, como criticar la idea de que la libertad es inmanente a la Cultura Digital, presente en sus defensores.

Palabras clave: industria cultural, teoría crítica de la sociedad, Grandes Datos, cultura digital.

References

Adorno, T. W. (1992). Teoria da semicultura. In Ramos-de-Oliveira, N. (Org), *Quatro textos seletos*. Araraquara, SP: Unimep, São Carlos, SP: UFSCar.

Adorno, T. W. (1994). A indústria cultural. In G. Cohn (Org.), *Theodor W. Adorno*. São Paulo, SP: Ática. (Trabalho original publicado em 1967)

Adorno, T. W., Frenkel-Brunswik, E., Levinson, D. J., & Sandford, R. N. (1969). *The authoritarian personality*. New York, NY: WW Norton. (Trabalho original publicado em 1950)

Adorno, T. W., & Horkheimer, M. (1985). *Dialética do esclarecimento: fragmentos filosóficos*. Rio de Janeiro, RJ: Zahar. (Trabalho original publicado em 1947)

Adorno, T. W., & Simpson, G. (1986). Sobre música popular. In G. Cohn (Org.), *Theodor Adorno* (Coleção Grandes Cientistas Sociais). São Paulo: Ática. (Trabalho original publicado em 1941)

Bruno, F. (2013). *Máquinas de ver, modos de ser: vigilância, tecnologia e subjetividade*. Porto Alegre, RS: Sulina.

Chamayou, G. (2015). *Teoria do drone* (C. Euvaldo, trad.). São Paulo, SP: Cosac Naify.

Cianconi, R. B., & Lott, Y. M. (2016). Do panopticon ao panspectron: uma reflexão sobre as mediações de poder e a materialidade da informação. *Liinc em Revista*, *12*(2), 243-257. doi: 10.18617/liinc.v12i2.903

Costa, R. (2003). *A cultura digital*. São Paulo, SP: PubliFolha.

Feenberg, A. (2004). Teoria crítica da tecnologia. In *Colóquio Internacional Teoria Crítica e Educação*. Piracicaba, SP: Universidade Metodista de Piracicaba. Recuperado de https://bit.ly/2lkDm6o

Feenberg, A. (2010). Racionalização subversiva: tecnologia, poder e democracia. In R. T. Neder (Org.), *A teoria crítica de Andrew Feenberg: racionalização democrática, poder e tecnologia*. Brasília, DF: Observatório do Movimento pela Tecnologia Social na América Latina.

Flusser, V. (2017). *O mundo codificado: por uma filosofia do design e da comunicação*. São Paulo, SP: Ubu.

Han, B. C. (2015). *Psicopolítica: neoliberalismo e novas técnicas de poder*. Lisboa, Portugal: Relógio D'Água.

Han, B. C. (2016). *No enxame*: reflexões sobre o digital. Lisboa, Portugal: Relógio D'Água.

Horkheimer, M. (1941). Art and mass culture. *Zeitschrift für Sozialforschung: Studies in Philosophy and Social Sciences*, *9*, 290-304.

Hullot-Kentor, R. (2008). Em que sentido exatamente a indústria cultural não mais existe. In F. A. Durão, A. S. Zuin, & A. F. Vaz (Orgs.), *A indústria cultural hoje* (pp. 17-28). São Paulo, SP: Boitempo.

Kosinski, M., Stillwell, D., & Graepel, T. (2013). Private traits and attributes are predictable from digital records of human behavior. *Proceedings of the National Academy of Sciences of United States of America*, *110*(15), 5802-5805. doi: 10.1073/pnas.1218772110. Epub 2013 Mar 11

Kosinski, M., Matz, S. C., Gosling, S. D., Popov, V., & Stillwell D. (2015). Facebook as a research tool for the social sciences: opportunities, challenges, ethical considerations, and practical guidelines. *American Psychologist*, *70*(6), 543-56. doi: 10.1037/a0039210

Lambiotte, R., & Kosinski, M. (2014). Tracking the digital footprints of personality. *Proceedings of the*

IEEE, *102*(12), 1934 -1939. doi: 10.1109/JPROC. 2014.2359054

Maar, W. L. (2000). A produção da sociedade pela indústria cultural. *Olhar*, *2*(3), 84-107.

Maar, W. L. (2006). *O que é política?* São Paulo, SP: Brasiliense.

Marques, F. (2017). A realidade que emerge da avalanche de dados. *Revista Pesquisa Fapesp*, (255), 19-25.

Mayer-Schönberger, V., & Cukier, K. (2013). *Big data: la revolución de los datos masivos*. Madrid, España: Turner.

Mosco, V. (2014). *La nube: big data em um mundo turbulento*. Barcelona, España: Biblioteca Buridán.

Mostafa, S. P., Cruz, D. V. N., & Amorim, I. S. (2015). Primavera nos dentes: fuga e resistência na era digital. *Liinc em Revista*, *11*(2), 360-374. doi: 10.18617/liinc.v11i2.831

O'Neil, C. (2017). *Weapons of math destruction: how Big Data increases inequality and threatens democracy*. New York, NY: Broadway Books.

Parra, H. Z. M., & Abdo, A. H. (2016). Tendências democráticas e autoritárias, arquiteturas distribuídas e centralizadas. *Liinc em Revista*, *12*(2), 334-349. doi: 10.18617/liinc.v12i2.918

Sodré, M. (2010). *Antropológica do espelho: uma teoria da comunicação linear e em rede* (5a ed.). Petrópolis, RJ: Vozes.