

Race and gender of aesthetics and affections: algorithmization of racism and sexism in contemporary digital image databases

A raça e o gênero da estética e dos afetos: algoritmização do racismo e do sexismo em bancos contemporâneos de imagens digitais

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ABSTRACT

This article questions the processes of algorithmization of racism and sexism in digital image banks. Fundamental devices for the maintenance of the media and communication mechanics, these banks help guide the senses about being a woman and being black through subtle modes of subjective construction. The keywords aggressiveness, kindness, beauty and ugliness were analyzed in Getty Images and Shutterstock image banks, covering the aesthetic and affective dimensions of the discriminatory biases impregnated in these mechanisms. The results of this study show the technological opacity that permeates the productive field of these apparatuses and the algorithmization of gender and race inequalities constituted in the social context.

Keywords: Image databases, algorithms, gender, race

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RESUMO

Este artigo questiona os processos de algoritmização do racismo e sexismo em bancos de imagem digitais. Dispositivos essenciais para a manutenção da engrenagem midiática e comunicacional, estes bancos ajudam a guiar os sentidos sobre ser mulher e ser negro por meio de modos sutis de construção de subjetivação. Foram analisadas as palavras-chave *aggressiveness*, *kindness*, *beauty* e *ugliness*, nos bancos de imagem Getty Images e Shutterstock, abrangendo as dimensões estética e afetiva dos vieses discriminatórios impregnados nestes mecanismos. Entende-se que os resultados evidenciam a opacidade tecnológica que permeia o campo produtivo destes aparatos e a algoritmização das desigualdades de gênero e raça constituídas no seio social.

Palavras-chave: Bancos de Imagem, algoritmos, gênero, raça

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MATRIZES

INTRODUCTION

IF IT IS possible to recognize enthusiastic perspectives on the impacts of digital technologies, positioning them in a place of positive disruption, democratic participation, innovation and progressive initiatives (Castells, 2017; De Castro, 2015; Magrani, 2014; Teixeira, 2002), there is an increasing number of studies that aim to point the rigorously opposite behaviors of these materialities: their continuities in comparison to excluding technologies (Malbon, 2016; Osoba & Welser IV, 2017); their discriminatory biases (Larson et al, 2016; Noble, 2018); their directions for maintaining inequalities (Citron & Pasquale, 2014; Datta, Tschantz & Datta, 2015); and their influences for the promotion of conservatism and the far-right politics (Chagas, Modesto & Magalhães, 2019). This study, therefore, is an attempt to enter this last group of studies, by trying to analyze a relevant part of these technologies, represented here by digital image banks and their algorithmic processes of assignment of relevance.

By functioning as online search engines, these image repositories are less expensive and more practical alternatives for media communication in general. They are a source for the advertising market, for digital content spaces, for institutional messages and even for journalistic and government productions. These banks are therefore fundamental for the provision of images that circulate in the public spaces of cities and that also invade the private spaces of homes. These images compose books, newspapers and magazines, affecting the subjects in most of their sociability environments, and these images help define the subjective designs of their existences. However, if the system of composition, storage and circulation that underlies these banks is unknown to most people distant from the professional media market, its power as a constructive cultural agent is also hidden: “Stock photography therefore seems to take a powerful ideological advantage over other sectors producing contemporary visual culture: invisibility” (Frosh, 2013, p. 134).

This invisibility is even evident in the volume of studies on the impacts and productive dynamics of image banks (Aiello, 2016). Although the premise of renting and selling photographs emerged at the beginning of the twentieth century, being built as an industry from 1970 onwards and as a mechanism linked to digital technology in the 1990s, there is still a lack of studies on their structuring, their technological evolution, their commercialization dynamics and, especially, on their robustness as a driving force for social imaginary. However, the historical perspectives of Miller (1999), Wilkinson (1997) and Machin (2004) can be emphasized; the thought of Frosh (2003; 2013) about the large corporations behind these repositories and the formation of a “visual content

industry”; and the qualitative approach of Aiello (2016), who understands these photographs as a structuring “visual genre” of contemporary ways of seeing. In a qualitative analysis of these modes of seeing imbricated in these repositories, therefore, we seek to question: What are the bodies that make up these images put into circulation? What behaviors, places, situations and emotional states are associated with?

Instrumentalized by keywords, these banks store and provide photographs and illustrations for countless image production contexts: is it possible to search for “women,” “men,” “couples,” “people at work,” “friends” etc., and, if these searches and their results can already insert questions relevant to the field of communication and computer programming, what can be inferred from abstract constructs such as happiness, wealth, professional success, beauty, kindness and aggressiveness? What bodies and subjects are imagistic results for these searches? Are there different associations for certain subjects and certain constructs? Are there bodies and subjects that are more commonly excluded from certain results, but over-exposed in others? What are the socio-cultural and technological dynamics that determine these differences?

Often supplied by freelance photographers, these banks also resort to rigorous labeling and selection processes, being responsible for associating keywords with the images made available and for attributing the relevance of some results to others. Thus, they help to form a “double opacity” (Silva, 2019a, p. 4) in their technological materiality, since they add values to their automated processes and are not sufficiently transparent about their operating dynamics. Despite composing an updated technological universe, these image banks may be reinforcing stereotypical processes and strengthening inequalities and oppressive dynamics instead of providing more accurate representations of social reality.

To question and understand this conjuncture, we will discuss the operational dynamics of these image banks as search engines (represented here by Shutterstock and Getty Images)¹ and their algorithmic trainings, their dynamics of attribution of relevance, as well as examine the search results for the affective and aesthetic dimensions seeking to expose discriminatory biases under the cut of gender and race. By analyzing abstract constructs listed by the keywords aggressiveness, kindness, beauty and ugliness, we seek to question if there is a determination of gender and race for some affective reactions and aesthetic definitions, or if these mechanisms present diverse and balanced results for different contexts. Specifically: do white women and men compose the same imagistic results as black women and men? In which keyword research contexts does one social group stand out from the other or can be seen more often? To which affections is the presence of women allowed and which affections are associated with the

¹These banks were chosen because they represent two of the main current paid image search engines. Accessible at: <https://www.shutterstock.com> and <https://www.gettyimages.com>.



male body? Which subjects are allowed to represent the ideal of beauty and what is the gender and race of its counterpoint, ugliness?

THE AFFECTIVE AND AESTHETIC IDEALS OF RACE AND GENDER

Understanding the modes of subjectivation in a given culture means perceiving the reactive processes, both rational and emotional, that underlie the behavior direction of individuals. Although less easily measurable objectively (Vigotski, 2004), the affective dimensions are essential to the processes of construction and assimilation of the social space and the notion of self: “All knowledge responds to a certain affective constellation” (Vieira & de Castro, 2019, p. 213).

If affection, therefore, represents an important slice in the constitution of human subjectivity, since it becomes imbricated to the perception of identity and can often be subtracted from the consciousness of the subject (Peixoto Junior & Arán, 2011, p. 3), its imagistic representation is fundamental to constitute this “cognitive frame” (Atem, 2012, p. 223) that helps to guide the social world. Images and discourses then help to produce the spectrum of affections available for behavioral learning. That is, affections are not essentially biological, but sustained by the pillars of the body, the intellect and, above all, culture (Vigotski, 1999).

Thus, considering that emotions² “are not only said or inferred, but also represented”³ (Rabatel, 2017, p. 310), it is understood that affective reactions such as anger, tenderness, admiration, repulsion, attraction and esteem are not originated from natural impulses and of unknown provenance, but can be apprehended through signs and socio-cultural incitements. In this context, it is admitted here that, in a social environment founded on inequality, ideals of affectivity limited to certain bodies and subjects have been constructed and published throughout history, directing and attributing some affections more commonly to some and excluding certain affective reactions in the constitution of the subjectivity of others.

More specifically, only in the binary demarcation of male and female gender, it is understood that the insignia of toughness and aggressiveness was attributed to men (Cecchetto, 2004; Connel, 1995; Sabino, 2000), whereas the emotional reactions of affability, kindness and candor were attributed to women (Fontes, Borelli & Casotti, 2012; Goffman, 1979; Lindner, 2004). However, these delimitations can be even more complex when inserting the race as an analysis variable. Whereas black men are marked with the sign of violence, anti-intellectualism and the lack of tenderness as the foundations of their masculinity, brought closer to animalization (Davis, 1983; hooks, 2004; Conrado & Ribeiro,

² Here we use the concept of affection following the thought of Peixoto Junior and Arán (2011), in the work “The place of affective experience in the genesis of the processes of subjectivation.” Emotions would be part of the affective whole, “which can refer both to what we are given to experience consciously in certain circumstances, that is, a subjective state that we feel, and can also refer to what we do not feel directly, but which we perceive or infer in the behavior of others and, less easily, in our own” (PEIXOTO JUNIOR and ARÁN, 2011, p. 2). As our study proposes to discuss these emotional states, we have chosen to treat affections and emotions as synonyms.

³ In original: “*Les émotions ne sont pas seulement dites ou inférées, elles sont également représentées*”

2017); black women are not associated with signs of fragility and grace, but, on the contrary, they are related to senses of hostility, strength (Baker, 2005; Carneiro, 2003; McLaughlin & Goulet, 1999) and hyper-sexualization (Collins, 2002; Gonzalez, 1984).

The demarcations of gender and race are understood here under the assumptions of the social sciences, that is, there is no perception of biological realities that define human realities and inequalities. In this sense, as well as behaviors and symbolic associations of gender are discursive and cultural constructions, inserted in the scope of performance (Butler, 1988), race is also a sociological concept, although constituted as a scientific construct around the biologization of injustices and the separation of individuals in favor of maintaining privileges (Guimarães, 1999; Schucman, 2010). It is thus understood that the use of the notion “race” is based on the negation of its biological origin and the necessary perception of its product in question: the racism manifested in contemporary technologies and symbolic apparatuses. Affections, therefore, are one of the vertexes of the demarcation of the differences between subjects, which are cut out by social constraints in gender and race and subjugated to the symbolic logic of the connection between certain bodies to specific experiences and emotional reactions.

In the field of aesthetics, cultural markings of race and gender are also evident in their inequalities. It is understood that vanity and good appearance would be typically female attributes and therefore threats to hegemonic masculinity (Dutra, 2002). The beauty inherent to the female body would be a way to impregnate the woman with the quality of object to be admired by the male subject: “beauty is one of the central elements of the constitution of femininity in the modern Western model, for it is beauty that will allow the woman to feel desired by the man” (Grossi, 2004). Beauty would be then a construct at the service of feminine subalternity: “woman remains inexorably ‘inferior’: all the more so because her beauty is made to ‘delight’ man, or better still, to ‘serve’ him. Created for the other, she remains designed for him” (Vigarello, 2006, p. 27).

However, it is not every woman who is beautiful: there is a racial hierarchy that establishes “white as an aesthetic ideal” (Sovik, 2009, p. 79), that is, a perception circulating in the discourses, images, and orality of an “aesthetic superiority” (Schucman, 2014, p. 90) of whiteness over any other racial identities. Black skin color, specifically, would be the exact opposite of aesthetic fullness; its association with sin, ugliness, and evil (Macedo, 2001; Lippold, 2014) would build the collective unconscious produced by racist culture (Fanon, 2008) that everything that is almost or totally white is beautiful, just as everything that departs from whiteness becomes increasingly disgusting and ugly. Beauty, therefore, would be feminine, but fundamentally white.



Therefore, we seek to analyze whether these discursive manifestations of aesthetic and affective constructs are reproduced and reinforced or deconstructed and questioned by digital image banks based on the availability of images antagonistic to the stereotypes of gender and race. It is believed that, although they are part of the so-called disruptive universe (Adner, 2002) of digital technologies, these banks would try to position themselves, as if it were possible, in a locus of transcendence of race, class and gender (Hobson, 2008, p. 112). By exempting themselves from responsibility for the reproduction of existing dynamics of power and oppression, these banks, in addition to ignoring social demands for gender and race equality in contemporaneity, can help preserve, by the construction of their search algorithms, excluding dominant ideologies.

RACISM AND SEXISM IN CONTEMPORARY ALGORITHMS

In December 2019, at the NeurIPS conference in Vancouver, Abeba Birhane and Fred Cummins, researchers at University College Dublin (UCD), won the award for best paper presented at the Black in AI workshop⁴ for their “Algorithmic Injustices: Towards a Relational Ethics.” In the paper, Birhane and Cummins discuss the dangers of algorithmic predictions about subjects and the necessary ongoing assessment of the “harm of categorization” common in artificial intelligence. The central thesis of the paper is that marginalized individuals are more negatively impacted by automation decisions: “These systems ‘pick up’ social and historical stereotypes” (Birhane & Cummins, 2019, p. 1).

The work cited is part of a range of studies on the biases of artificial intelligence (Osoba & Welser IV, 2017; Noble, 2018), and the dangers of algorithmic training that influence programming in machine learning and chatbots, for example, and bring harmful consequences for the circulation of signs and information about certain social subjects. Virginia Eubanks, in her book “Automating Inequality: how high-tech tools profile, police, and punish the poor,” corroborates this thought by exposing how automated predictions privilege richer individuals, as well as exclude, watch over, and even punish poor people with credit denial or low access to health services, for example. According to the researcher, if an automated prediction model is built by subjective outcome variables, it is obviously already compromised (Eubanks, 2018).

Safiya Noble, in her book “Algorithms of Oppression: How Search Engines Reinforce Racism (2018),” shows the ways of contemporary racism and sexism manifested in Google. Noble evidenced that the programs that define the results of research, often perceived as objective and devoid of moral values (Birhane & Cummins, 2019), actually reproduce and strengthen a racist and

⁴Initiative organized as a space to increase the presence of blacks in the field of Artificial Intelligence, allocated in the year 2019 within the NeurIPS conference. About the Black in AI workshop: blackinai.org

sexist structure: the search for black women commonly results in pornographic content. In exposing the biases and damage caused by these search results, Noble discusses about the necessary regulation of these tools. In this sense, she reverberates the common conclusion in studies on artificial intelligence: the act of ignoring social inequalities in the construction of algorithmic formulas does not solve the problem. On the contrary, neglecting already existing biases is a way to intensify their existence in the next materialities: “when automated decision-making tools are not built to explicitly dismantle structural inequities, their speed and scale intensify them” (Eubanks, 2018, p. 71).

According to researcher Ruha Benjamin, in her book “Race after Technology” (2019), this intensification of discriminatory processes already established within society and reproduced in algorithms and artificial intelligence processes are the result of the perception of their neutrality and technological objectivity: “Algorithmic neutrality reproduces algorithmically sustained discrimination” (Benjamin, 2019, p. 145). In proposing the term “The New Jim Code” to describe the current dynamics of racial discrimination through digital technologies, the author refers to Jim Crow’s laws, which imposed racial segregation in the United States in the late 19th and early 20th centuries, establishing restricted circulation sites for the black population. Justified by the legal doctrine “Separate but equal,” Jim Crow’s laws were founded on the idea of maintaining order by separating individuals, but on the promise of equal rights for whites and blacks (Hasian Jr, Condit & Lucaites, 1996). Within this perspective, the researcher describes the current phenomenon as a similar fallacy: “The New Jim’s Code,” within the contemporary context, represents “the employment of new technologies that reflect and reproduce existing inequities but that are promoted and perceived as more objective or progressive than the discriminatory systems of a previous era” (Benjamin, 2019, p. 11).

This perception of neutrality conceived for digital technologies, in fact, as the researcher Tarcízio Silva states, is a duplicate way of bringing opaqueness to the functioning processes of these automated artifacts. In his article “Critical Racial Theory and Digital Communication: connections against double opacity” (2019a), the author points out that racial discrimination on these platforms is the result of both the non-recognition of the roots of racial inequality, impregnated in the discourses of important individuals to the production of codes, and the invisibility of the relevance of the social aspects of technologies. Such reinforcement of discriminatory dynamics in the racial sphere by these platforms would be the intensification of what the author calls, in his study “Algorithmic Racism in Digital Platforms: microaggressions and code discrimination” (2019), “codified



microaggressions,” that is, racial offenses imbricated in these digital platforms, often subtle and hidden, but which are as harmful and oppressive as those that materialize explicit racism. After all, in the realm of racial discrimination, there are several ways of addressing prejudice and exclusionary actions: “Racism, in short, is not some static ‘thing’ that exists only in one particular form under all circumstances” (Kahn, 2018, p. 46).

Moreover, Silva correctly demonstrates that, although maintained “discursively ideals of freedom and horizontalization of relations, the plataformization of communication and economy means international concentration of data and capital flows” (Silva, 2019b, p. 3). That is, not only do these technological materialities often reproduce dynamics of oppression already crystallized in other social environments, but also generate and manage data that are not made available in a transparent and democratic way. On the contrary, there are countless data on groups and individuals under the tutelage of a few people with interests, including those of exclusive profitability. Discrimination often permeated by technological devices is serving commercial and capitalist efficiency.

By analyzing facial recognition technologies developed by large companies such as Google, IBM and Microsoft, Buolamwini and Gebru (2018) showed the danger of this concentration of data that allows new modes of power, exclusion and surveillance. In the article “Gender Shades: Intersectional Accuracy Disparities in Commercial Gender Classification” (2018), the authors showed how these devices were built to be more accurate on male and white faces, producing deep rates of failure on black women’s faces. With the publication of the results, the companies reviewed their coding processes and, as researchers Raji and Buolamwini later realized in a paper entitled “Actionable auditing: Investigating the impact of publicly naming biased performance results of commercial AI products” (2019), they decreased the inequality of accuracy in facial recognition.

In image banks, this power structure can also be seen in the lack of precision in the representation of certain social groups, but mainly in the invisibilization of individuals in some contexts and overexposure in others. Therefore, algorithmization of contemporary racism and sexism in this article is the reproduction of the dynamics of oppression already existing in other socio-cultural and technological contexts in these digital technology automation codes. Quantitative and concrete data, such as those pointed out by Buolamwini and Gebru (2018), are relevant for the understanding of these forms of invisibility and overexposure impregnated in contemporary technological structures, but they can be complemented by qualitative perspectives that

also point to the modes of representation. That is, besides the erasure of some subjects and the recurrence of others in certain keyword research contexts, there is also the problem of continued uses of stereotypes, unequal and discriminatory narratives, as well as hyper-ritualizations of culturally determined behaviors.

Previous studies showed, for example, that these banks reproduce unequal dynamics regarding profession and income, by presenting as relevant result only women for the keyword “secretary” and absolute majority of men for “boss,” as well as result in female and black majority for “poverty”, whereas give priority to white men in the context of the keyword “wealth.” These results, in addition to quantitative data, drawn attention to modes of representation and tagging processes, which often associate identical image contexts (in addition to race and gender of the subjects leading the scene) with opposing keywords such as boss and secretary or wealth and poverty (Carrera, 2020). Furthermore, they corroborate for the perception of the loneliness of black women, presenting them in a more solitary way than any other social group when researching the keyword “family” (Carrera & Carvalho, 2019).

In this sense, this study proposes to inquire about the relevance attributions of these algorithms in image search engines, which consider some photographs and illustrations as more or less appropriate in the search for certain individuals and conjunctures. In a more specific way, this study seeks to question whether the algorithmic formulas of these banks determine that there is gender and race for abstract constructs that, explicitly, would not present necessary demarcations of this nature. That is, we intend to ask: for these image banks, what is the race and gender of aggressiveness? Or what is the race and gender of their opposites: delicacy and kindness? Is there a definition of gender for beauty and ugliness? Thus, the main objective is to signal these gaps in algorithmic opacity, recognizing that it is these images that contribute to the discursive composition of current and updated modes of racism and sexism.

Moreover, this study proposes to recognize, in addition to the probable algorithmic biases of these devices, the dynamics of production and image creation of digital image banks. These repositories are sites for distribution of photographs and illustrations produced mainly by independent professionals that offer their creations in return for payment by download. Thus, not only do these banks offer a classification of relevance that should be questioned (they should take responsibility for the imaging products and the coding of their space), but the choices of assembly and tagging of these images (by photographers) also seem to employ racist and sexist dynamics, in a process of feeding and feedback of gender and race oppression.



METHODOLOGICAL OUTLINES

⁵The two image banks analyzed here (Shutterstock and Getty Images) are US companies, based in New York and Seattle, respectively. Although their images make up a globally accessible digital collection, they may tend to present representation patterns consistent with Western perceptions of race and gender. Thus, the analysis proposed here understands that image banks created in other locals may show more diversified results.

The analysis presented here is essentially exploratory, seeking to define possible Western⁵ patterns of representation found in digital image banks. However, in some stages of the research, quantifications and percentages are presented as a way to expose increased or decreased exposure of social groups, under the cut of gender and race, in certain image contexts. In the Shutterstock and Getty Images image banks, keywords of abstract constructs aggressiveness, kindness, beauty and ugliness were studied, and their results in the first three search pages. No specific filters were applied, since the purpose of the search is to present the general results found in these banks. Therefore, the standard search process of the sites was used, which consists in exposing all images (photographs, illustrations, vectors, artistic and editorial images), with the filter of relevance (that is, results considered, by the algorithm, more pertinent).

The surveys were conducted in August 2019 and February 2020, as a way to indicate if there was any update in the results. However, little changed in this direction. In addition, the use of English was chosen for keyword research, since it is a language without gender definitions, different from Portuguese. Thus, it is possible to control the performance of the research on the results found. The increase or decrease of a gender in certain results proves the attribution of relevance to these images under the exclusive responsibility of the sites. Although the words analyzed specifically in this study do not present definitions of gender or in Portuguese, this research is part of a larger project, in which this conflict could occur. To standardize and homogenize the study, the study maintained the English language.

Shutterstock presents, in its standard filter, more images on each result page than Getty Images, due to the size of the exposure. In the context of the keyword “aggressiveness”, the search on Shutterstock resulted, in its first three result pages, in 325 images, whereas Getty Images resulted in 180. Since the purpose of the search is to consider them in their entirety as digital image banks, the total number of images presented was considered. In the case of this specific keyword, therefore, 505 images were analyzed. In the case of the keyword kindness, Shutterstock resulted in 360 images, while Getty Images resulted in 180, totaling 540 images. The keyword beauty resulted in 324 images at Shutterstock and 185 at Getty Images, totaling 509 images. And, finally, ugliness resulted in 301 images at Shutterstock and 189 at Getty Images, with a total of 490 images. Thus, in total, 2,044 images were analyzed for the research proposed here.

GENDER AND RACE OF AGGRESSIVENESS AND GENTLENESS

In the context of the keyword “aggressiveness,” image banks and their processes of attributing relevance strongly reinforce the social imaginary of violence connected to masculinity and kindness/goodness connected to the female gender. Analyzing body language and discursive contexts of photographs and illustrations, the quantitative difference between men and women is expressive in both conjunctures. Of the 505 images studied, only 18.61% of the results presented women and girls in aggressive action, tied with animals (dogs, cats, elephants etc.), whereas men and boys represent more than 60% of the results (see figure 1).

In this investigation, no distinctions were made between children and adults, since this study aimed at understanding which bodies and subjects are associated with the constructs of aggressiveness and kindness around gender and race. Although “aggressiveness is constitutive of the subject” (Da Silva, 2004, p. 73), the imaginary of violent masculinity and feminine delicacy is constructed since childhood, corroborated by the images put into circulation. There is, therefore, a bodily learning of masculinity, “cultivated by a complex process of masculinization, starting in early childhood” (Felipe, 2000, p. 123), which associates the aggressive force to men. Thus, images serve boys and girls as sources for understanding the limits of their gender performance.



Figure 1

Men and boys are the majority result as agents of aggressiveness

Sources. Shutterstock and Getty Images.

In general, women that appear in the search results for the keyword “aggressiveness” are positioned as victims of aggressiveness and not as agents. However, the few black women that appear in these results⁶, on the contrary, mostly represent the agent of aggressiveness and not those that suffer with it

⁶Black men and women are minority in almost every search result in these digital image repositories. The exclusion of this group from the images found is already a problem itself; however, it is interesting to understand how they are represented when the exhibition happens, beyond this invisibility.

A

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(Figure 2). Yet again, the image banks seem to reinforce the stereotypes of white female fragility and black female strength/aggressiveness, emphasizing, in their algorithmic formulas, the different experiences of gender oppression and the different points of view “about what it is like to be a woman in an unequal, racist and sexist society” (Bairros, 1995, p. 461).

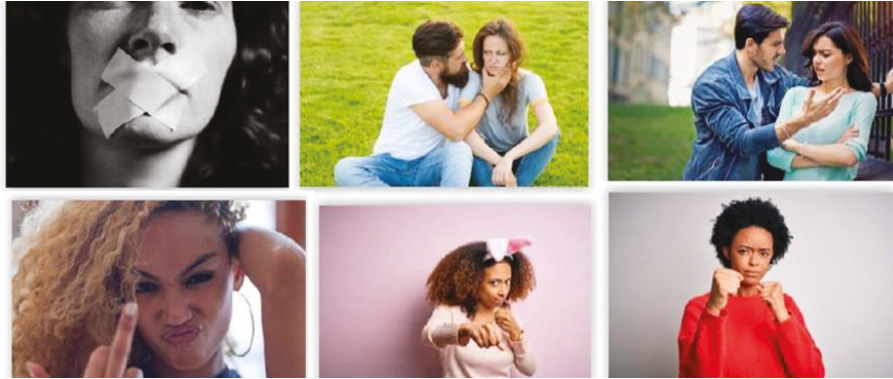


Figure 2

Whereas white women are victims, black women are agents of aggressiveness

Sources. Shutterstock and Getty Images.

In the context of the search for the keyword “kindness” and its relation to genders, the results are exactly opposite to those for the word aggressiveness. Women and girls are the vast majority in the resulting images and men and boys represent only 8.3% of the results as agents of kindness. In racial analysis, although there was a decrease in exposure of black men as agents of kindness, the difference to the context of aggressiveness was not so expressive as to establish a pattern. However, it is necessary to recognize that the meanings of the word kindness can be configured both in relation to goodness/gentleness, and candor/affectivity, as was perceived in the search results. In this context, it can be stated that black subjects, when agents of kindness, seem to compose the scenario of affectivity rather than goodness/gentleness (see figure 3). In the context of the images that represent, in fact, gentle action, Blacks are more the receptors (of a white attitude) than the agents of action. Thus, the images presented only reinforce the belief of the “white-savior complex” (Cole, 2012), which would be the neo-colonial perspective that social injustices need the benevolent intervention of altruistic whites that, in a heroic way, will bring freedom to the oppressed (Adams et al., 2015).

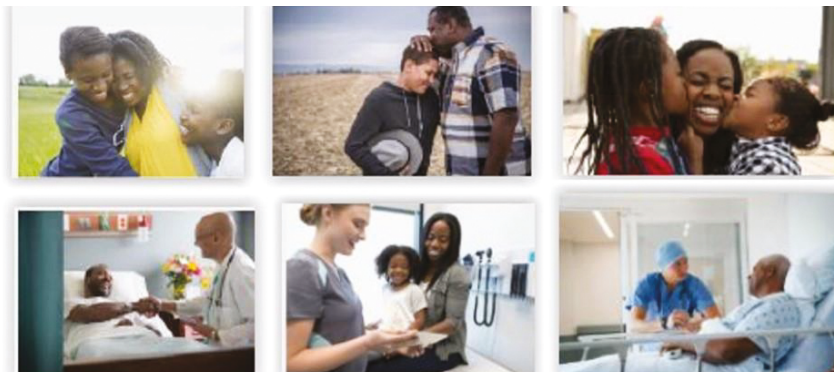


Figure 3

In the results for kindness, black subjects appear in contexts of affectivity and not, in fact, in gentle attitudes. In these contexts of kindness, they are receptors of white action (in general, in the medical context)

Sources. Shutterstock and Getty Images.

Still in the gender context, it is interesting to note that the few men who appear as agents of kindness, whether in the sense of goodness/gentleness or in the sense of affection, almost never have women as the target. That is, men hardly ever appear to be kind to women, but are kind to the elderly, children or other men (see figure 4). Considering that the results are opposite in the context of aggressiveness (in which men appear predominantly as agents of aggression against women), it is evident that this difference contributes to the definitions of affections that men seem to be able and duty to address to women in contemporary culture.

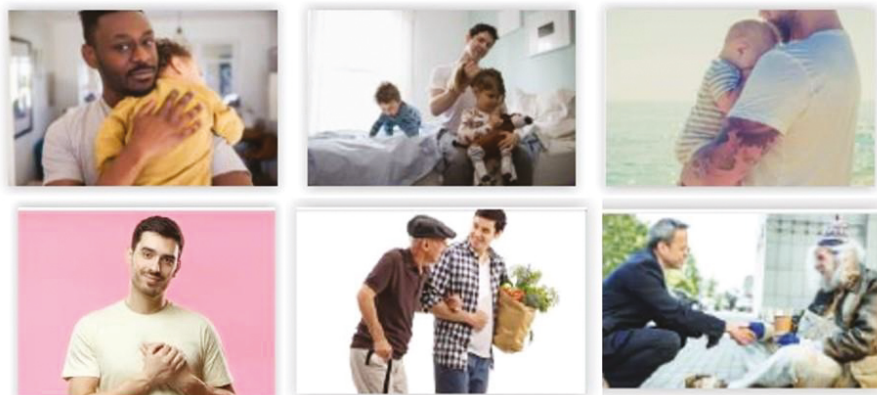


Figure 4

The kindness/affection of men is hardly addressed to women

Sources. Shutterstock and Getty Images.

BEAUTY HAS GENDER, RACE AND WEIGHT

If gender and race differences are evident in search results in the affective context, the images that appear in the context of the keywords “beauty” and “ugliness” are even more powerful in the dynamics of sexist and racist oppression. Women are an absolute majority as a representation of the abstract construct of beauty. Of the 509 images analyzed, only three presented men, alone or in the formation of couples, all white. The male gender is less associated with beauty than landscapes and objects such as brushes, make-up products, mirrors and clothing. In this sense, most images construct the positioning of the woman’s body by the consciousness of the exteriority that perceives and sees her (Figure 5), that is, they are bodies that pose for the other’s gaze and place themselves, aesthetically, as objects of consumption.

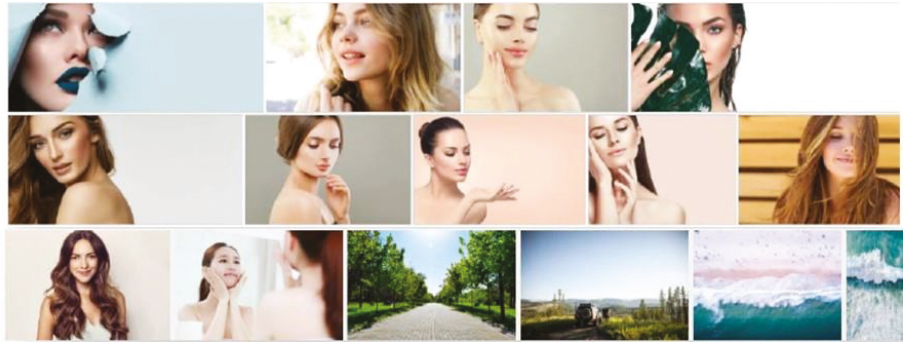


Figure 5

Images that represent the absolute majority of beauty search results: white women and the rituals of delicacy

Sources. Shutterstock and Getty Images.

Mostly female, the results for the word beauty also reinforce the already known racist aesthetic ideals: whiteness prevails as the choice for the pattern of relevance in the image banks analyzed. The resulting images confirm the gender hyper-ritualization to which Erving Goffman refers, since women are presented with the associated “feminine touch” (Goffman, 1979, p. 29). This touch is the one that opposes the masculine, which, in fact, holds, grabs, and often destroys. The feminine touch delicately delineates the contours of some object, as well as serving to expose gently and frailly the woman’s face (Figure 5). It is the touch, therefore, contrary to that of a man because it is not utilitarian; it serves only as an additional prop for the objectification of the woman and her body. However, this feminine touch, as already seen (Baker, 2005; Carneiro, 2003; Mclaughlin & Goulet, 1999), belongs to white femininity.

The few black women (less than 10%) that are presented by these search engine algorithms as relevant results for the keyword beauty are not positioned in the same way as white women (Figure 6). In fact, they are not attributed to this delicate and fragile touch common to white women, but to a strong, confident and stripped down posture. Black women manifest a more confident and adult sexuality. Therefore, there is a strengthening of patterns of feminine existence, under the cut of race, as already pointed out by Sueli Carneiro (2003, p. 1): “When we speak of the myth of feminine fragility, which historically justified the paternalistic protection of men over women, which women are we talking about”?

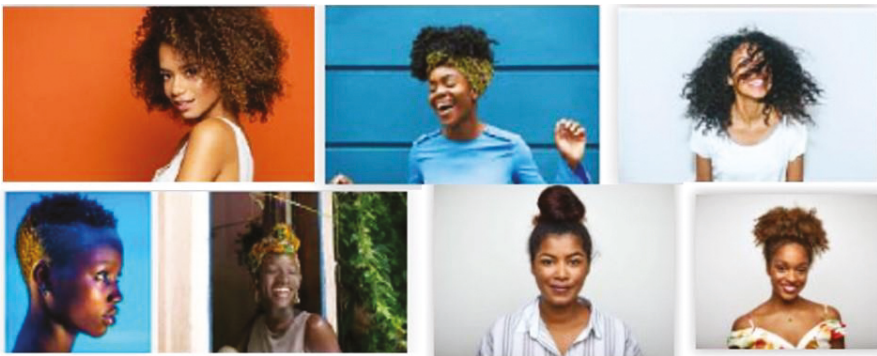


Figure 6

Black women are few and positioned differently from white women

Sources. Shutterstock and Getty Images.

The results for the keyword “ugliness” are different from those that appear for the context of beauty. An expressive increase of the male body can be noticed in the search pages, as well as of non-white people. In humans, a lack of beauty is associated with some alteration in the standardized body, such as malformation of teeth, use of glasses, faces, as well as the use of certain objects and clothes that would not be designated as appropriate for contemporary fashion. Moreover, there is a growth in the older people and in people, especially women, who are fat (Figure 7). The fat body, by the way, is explicitly pointed out as a relevant association to the keyword “ugliness” in Getty Images, which brings suggestions of keywords associated to the term searched for. In ugliness, this bank suggests “overweight” as the first associated term. It is also curious to note that the following two suggestions are “real people,” making clear the lack of accuracy in the representation of people in these banks, and “one woman only,” revealing traces of sexism that associate women loneliness with a lack of beauty.

A

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Figure 7

Ugliness is male, associated with faces, malformations, body fat and aging

Sources. Shutterstock and Getty Images.

In the racial context, the difference between images that represent white bodies as results for the keyword ugliness and non-white bodies, especially blacks, is incisive. To the white body, one perceives that the images inscribe a necessary submission to the sign of ugliness that is external to it. The face, the glasses, the out-of-fashion objects etc. would represent this ugliness that must be coupled, linked, instilled in a subject that is not ugly (Figure 7). Black people in the images in this case, on the contrary, do not make use of these artifices to be considered relevant to ugliness, in the algorithmization of contemporary racism (Figure 8). In the “persistence of the colonial mentality” (Araújo, 2000, p. 33), ugliness is a constitutive part of the black body and belongs to it without the need for great efforts.



Figure 8

Images of black people as relevant to ugliness without explicit association of any sign of lack of beauty

Sources. Shutterstock and Getty Images.

It is understood, therefore, when analyzing images and the coded assignment of relevance in image bank algorithms, that the dynamics of oppression are reproduced and reinforced in both gender and race. Digital technologies, despite perceived as a promise of more democratic and inclusive spaces than mass media, in fact often only reinforce and corroborate for the perspective already crystallized in historically demarcated contexts, as stated by Collins (2002, p. 27): “black and female is pretty high on the list of things not to be.”

CLOSING REMARKS

This study aimed to analyze and expose the search results in digital image banks, represented here by Getty Images and Shutterstock, and their processes of encoding and algorithmization of gender and race oppression dynamics. Often perceived as neutral and objective technologies, these mechanisms can actually help strengthen historically crystallized inequalities. In these images put into circulation, powerful outlines about the ways of existence of women and men, black and white, both in the context of their privileges and in the context of their disadvantages.

Part of an expanded research project aimed at mapping the algorithmization of contemporary modes of racism and sexism in these image banks, this study specifically exposed the limits of affection and aesthetic attributions associated with certain bodies and subjects. It has been realized, in an exploratory way, that there are well marked and unequal ways of existence for men and women, as well as black and white, corroborating for the perspective of the double oppression suffered by black women. Not only were the erasures and overexpositions analyzed in certain contexts of search, but also the dispositions, constructions and senses of images, indicating the often subtle processes of intensifying the gaps and dissimilarities between subjects.

With the study of the keywords aggressiveness, kindness, beauty and ugliness, it was found that images of men are mostly coded in the context of aggressiveness, whereas they are potentially diminished in the context of gentleness/goodness/affectivity. Moreover, men hardly appear to offer gentleness/affectivity to women, but they do so for the benefit of the elderly, children and other men. Black men and women appear more in the imagistic constructions of affection than in those that represent acts of gentleness. In these cases, these subjects are more likely to be objects of the gentle action



of white people. Still in the domain of race, white women appear more as victims of aggressiveness, whereas black women are agents of it.

Regarding the searching for the beauty and ugliness constructs, it was possible to notice that the image bank algorithms attribute greater relevance to images of white women in the context of beauty, and to images of men in the context of ugliness. The beauty of white women is still associated with fragility and delicacy, whereas black women still fall into the stereotype of strength, daring and stripping. Moreover, whereas “ugliness” requires exterior signs in white subjects, the images of black individuals do not present any of these artifices, corroborating the racist perception of the intrinsic beauty of whiteness and its repulsive counterpoint, inherent to the black skin color.

The algorithmization of these gender and race inequality dynamics in these digital image banks are not exactly unknown to these mechanisms. In the midst of initiatives to create more inclusive banks⁷, Shutterstock inserted ethnic filters in its search after the claim of the organization Desabafo Social in 2017⁸; however, nothing was done regarding the generic search, which continues to present the same pattern of bodies and subjects. Shutterstock’s attitude then escapes the double mark of assigning neutrality to certain subjects, that is: a) definition of the difference for all those non-white (since the generic search continues to result in an extreme majority of Caucasians); and b) problematic in relation to race and geolocation: by providing options for ethnic filters, the bank offers a mixture of racial categories (Black and Caucasian, for example) and localities (such as “Brazilian,” “Middle Eastern,” “Chinese” and “Japanese”). In this sense, by not making such a separation between European and Australian Caucasians, for example, the bank corroborates the perception of the idea of a universal race category: white.

In a similar issue, Getty Images recently launched the project #ShowUs⁹, in partnership with Dove and Girlgaze, making available a specific collection of images focused on the diversity of female bodies. However, to have access to these images, the keyword search would need to trigger the campaign hashtag. Considering that the entire image bank collection continues to deliver the same results, it is evident the attribution of neutrality to some bodies to the detriment of others, who carry in themselves the insignia of difference. The bank, then, favors the creation of a library apart from its collection instead of reviewing its technological and political design, neglecting the importance of transforming algorithmic associations that deliver biased results.

In this context, the publication of the results found here not only serves to question the dynamics of oppression that continue to be strengthened by contemporary technological and cultural domains, but also seeks to

⁷ Nappy (<https://www.nappy.co/>), for example, comes up with the promise to fill this gap of race representation in traditional image banks.

⁸ See: <https://www.youtube.com/watch?v=tA7MlICbq00>

⁹ See: <https://www.gettyimages.com/showus>

indicate the necessary accountability of these content companies, which help to maximize inequalities through their images and discriminatory representations of social subjects. Recognizing the need and intention of future research that combines these results, gathered in an exploratory way, with quantitative data, this article seeks to amplify the domain of studies of algorithms and search engines and their problems to the field of communication, society and culture.

The importance of these scientific efforts is based on the continuous imbrication of artificial agents, in all their material manifestations, in the functioning of contemporary society. In this context, often marked by the insignia of neutrality and objectivity, these mechanisms of automation and prediction of relevance can be powerful agents of deepening social contrasts, and image banks at this juncture, specifically, help to produce these rootedness by providing media and communication markets with images that distance themselves from justice and social equity. ■

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