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On the Possibility of a Non-Anthropocentric Visuality

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This paper aims to understand if it is possible to speak of a non-anthropocentric visuality. The progressive and continuous increase of information production at a global level has led us to witness a specific set of visual information that, we argue, can be considered to be decentered from anthropocentric ocular optics. If we are in fact able to speak of a non-anthropocentric visuality, as this paper strongly suggests, this means that such concept is distinct from a non-human visuality, and that this scopic regime allows for other forms of sensing that extend beyond human sensory capacities. If we subscribe to this perspective, important consequences arise, specifically concerning the relation between visual information and governance. This analysis reinforces the need to further examine and carefully look at visual information produced outside of ocularcentrism, and its implications for the knowledge that supports itself on it.

Keywords Non-anthropocentric, visuality, non-ocularcentric, image, visual epistemology

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1. Introduction

Visual information structures are not only a subjective visual perception, but also a set of more complex networks, which stem and are organized according to the latter, in order to create information, systems of knowledge, and to actively manage human and natural resources.

However, a set of technological developments and processes of mediation related to the transmission of visual information raises several relevant questions. Taking into account the various actants who actively participate in the production of visual information today, are we able to speak of non-anthropocentric visuality? If so when? How can we define a non-anthropocentric visuality? Why is the concept of a non-anthropocentric visuality relevant and does this change our conception of visual information?

In order to answer these questions, this paper will adopt the following structure. In section 2 we will present our working concept of non-anthropocentric visuality. This section will contextualize the concept of non-anthropocentric, and the concept of visuality, relying directly on Nicholas Mirzoeff's work, which will set up the definition advanced by this paper. Section 3 will focus on the mediation processes underlying a possible non-anthropocentric visuality, and will seek to distinguish between the concepts of anthropocentric, non-anthropocentric and non-human visuality. In section 4 we try to identify in which cases we can refer to a non-anthropocentric visuality. In section 5 we answer the questions that were presented at the beginning of this paper and section 6 presents our conclusions.

The subject of this paper is quite wide in its scope, which we acknowledge. However, we believe that the issues raised here are crucial and contribute to a better understanding of future technological and visual developments, particularly if we take into consideration how visual regimes are fundamental in the constitution of governance policies, social and material organization, and in the production of knowledge. It is also important to mention that this paper follows the fundamental contributions made by the work of Nicholas Mirzoeff (2011) regarding the development of the concept of visuality and Benjamin Bratton (2016) regarding the conception of a global technological-computational network. These are the two aspects this paper will most fundamentally support itself on and try to work through.

Methodologically, this paper follows a qualitative approach and suggests that a non-anthropocentric visuality should motivate a critical consideration regarding the production of visual information, and that such a visuality can come to influence the way we deal with and interact with said information. This paper also suggests that a non-anthropocentric visuality should motivate critical consideration regarding the production of visual information, and that such a visuality can come to influence the way we deal with and interact with said information.

2. Defining a Non-Anthropocentric Visuality

The concept of non-anthropocentric has been extensively debated in the theoretical field over the last decade (Haraway 2016b; Iovino 2010; Latour 2005; Pschera 2016; Svoboda and Haqq-Misra 2018). Often framed within the field of environmental ethics and animal studies, interest in the concept of non-anthropocentric has, however, been expanding beyond these domains (cf. Braidotti 2019; Grusin 2015). Non-anthropocentrism, as well as the non-human, arises in many cases informed by the concept of Anthropocene which has defined the most recent developments within critical theory. Its ecological, political and social contours have often been discussed under the subcategorization of 'non-human turn' (Grusin 2015; Hoły-Łuczaj 2018).

The non-anthropocentric is often characterized as that which opposes an anthropocentric perspective and seeks to move away from a strictly human-focused framing. Non-anthropocentric thinking has underlined an inter- and intra-species link, deriving knowledge from multi-species communities, and bringing into focus how meaningful experiences and relevant information can be constructed from our experience "as sentient beings among a diverse array of other sentient beings" (Frie 2021, 35), while refusing the premise that human beings hold sovereignty over the rest of the world (Braidotti 2019; Hoły-Łuczaj 2018, 170). Throughout this paper the concept of non-anthropocentric will acknowledge this theoretical framework but will not be limited to it. Our use of non-anthropocentric will contemplate non-human agents (living and non-living), technological apparatus and computational processes.

Considering that the perspective advanced here regarding the concept of non-anthropocentric visuality is going to be distinct from the concept of anthropocentric visuality, we will first clarify what is our understanding of the latter. An anthropocentric visuality focuses on the human and is inherently associated with the ocular globe and with an ocularcentric visual domain. An anthropocentric visuality reproduces ocular conditions and is always dependent on a human positioning, scale and perspective (cf. Campos 2011, 18). It can be argued that the anthropocentric domain contributes to a particular optical phenomenology, through this optical preference, and through the devices and technologies that prolong and amplify the human eye (Branco 2013, 298-299). The human eye and the subsequent "omnipresence of optics" became "a source of discursive attraction" (Medeiros 2012, 24, 107), which started to associate vision and the ocular globe with reason and objectivity (Branco 2013; Id. 2022). This way, the mediation of the visual and its representation justified a connection with the idea of truthfulness, fundamental for the knowledge that was constructed out of visual information. As we will see below, there is, on the other hand, visual information that is not focused on the human and that does not seek to reproduce ocular conditions.

As Mirzoeff (2011) refers, visuality is a 19th century term that was first implemented by Thomas Carlyle that does not refer to the totality of images and visual devices, but to the visualization of history (3, 124). For the author, visuality is directly related with authority and harks back to the battlefield and the ability to visualize and strategize from it. By representing a visualization of history, this visuality imposes an authority and sovereignty of its own. Visualized power becomes an "epistemic apparatus" and generates a discourse that, more than vision, is about historical, social and cultural power (Ibid., 132). This visuality is characterized by a social and historical control that requires mastery over the visual, social, economic and topographical fields (Ibid., 295).

The framework from which Mirzoeff conceptualizes visuality and countervisuality is inherently postcolonial and decolonial. This theoretical perspective is fundamental for the systematization of an epistemological framework that contextualizes and systematizes the links of proximity between visuality, authority, law and sovereignty. Informed by Foucauldian thought, this framework defines visuality as "a technique for waging war appropriated as a means to justify authority as the imagining history" (Ibid., 277), and always has as its purpose the enforcement of violence and surveillance. From the plantation complex to the era of "visualized information war", visuality is always a condition of cultural domination, and socio-hierarchical division (Ibid., 57, 62, 295)

Mirzoeff's conceptualization of visuality is correlated with the "sovereign eye of the genius" (Ibid, 124). In this sense, this concept of visuality is always anthropocentric and ocularcentric, since all the devices that reinforce this visuality, like photography or surveillance cameras, reproduce human ocular conditions. But what happens when we consider the process of visualization of history beyond an anthropocentric perspective, integrating in this process the influence of agents which contribute, influence and condition the process of historical constitution and, therefore, epistemic production? If we consider visuality as the process of visualization of history, then history is also about the systems, artifacts and agents that allow for that same visualization and that reinterpret and re-signify it.

In this paper, non-anthropocentric visuality will be understood as a historical visualization that is both *decentered* from an *anthropocentric* position, scale and perspective, and from anthropocentric ocular optics. A non-anthropocentric visuality, in its genesis, does not seek to reproduce ocular conditions and does not focus exclusively on the human. A non-anthropocentric visuality moves out of a human perspective, allowing for a historical visualization structured by non-human actants. It is also important to note, as we will clarify below, that a non-anthropocentric visuality is distinct from a non-human visuality.

This paper does not argue in favor of a substitution or superimposition of a non-anthropocentric visuality to the detriment of an anthropocentric visuality, or in relation to an ocularcentrism. It simply identifies and systematizes a set of

developments, which could constitute what could be considered a parallel visuality – sometimes even convergent – with the dominant ocularcentrism. These considerations aim to clarify how this visuality manifests itself and spell out possible implications in relation to how we implement, organize and report visual information. Likewise, this paper does not intend to make any assertion or axiological consideration regarding the possibilities of a non-anthropocentric visuality.

3. Apparatuses and Mediation

The domain of visual information, which is itself subsumed under processes of transmission of information, is subject to the influence of information technologies that, consequently, shape visualities. The field of visual information is currently conditioned by a set of technologies and devices that precede, shape and organize that same field of information. This means that in all information processing processes there is a fundamental correlation between *techne* and *episteme* (Flyverbom, Madsen and Rasche, 2017; Manovich 2020, 131-132).

Reiterating this same aspect Vial (2019) argues that nothing happens in life without a phenomeno-technological mediation (133). The specific technological system of a specific era defines the phenomenal aspect of the world we experience. Each technological system, assisted by the artifacts and tools that materialize it, creates 'ontophanic' conditions that are always material conditions of a unique and particular phenomenological manifestation (Ibid., 137, 138). That is, each "historico-technological era" creates objectively singular circumstances. The subjective perception of the phenomenological experiencing of the world is always "a technoperceptual birthing before the presence of things. To learn to feel this technopereptual aspect of presence means accessing ontophanic feeling." (Ibid., 139).

The existential quality of our world also depends on our ties with artifacts, which are more than mere passive recipients (Ibid., 127). The apparatus, which is always mediation, therefore occupies a fundamental place in the debate concerning visual information. Apparatuses "as techno-transcendental structures make the world be (factitivity of make-be), as much as they condition the possible experience that we can make of it (factitivity of make-make)." (Ibid., 115). This means that the apparatus is not neutral, but an object that has its own history and integrates the complex process of producing "objective knowledge" (Wark 2016, 160). The apparatus, especially the scientific apparatus, acts upon the world and in the search for objectivity cuts the world "over and over again ... getting comparable results. But the results are always the product of a particular apparatus, which makes the cut in the world in a particular way. What is measured is not the world, it is rather the phenomenally produced in this particular apparatus." (Ibid, 157). Underlining the link between *episteme* and *techne* and how dependent the production of knowledge, or transmission of information, is on the objects and

mechanisms that actually produce it, McKenzie Wark states that "The real is a phenomena that the apparatus produces. An apparatus is not an idea; it is techne, a media." (Ibid., 159). There is an intrinsic relationship between the phenomenological perception of the world, and the information and the devices that materialize it. "It is the apparatus that produces the phenomena ..." (Ibid., 161).

For some authors, this mediation becomes particularly evident in the case of the visual production of science or in what Don Ihde calls "science's visualism". Scientific objects and apparatus, as well as all imaging technologies "transform perceptibility" while maintaining "the obvious analog qualities of ordinary vision" (Ihde 2002, 44).

Even though lensing apparatuses transform a phenomenological perception, the mediations of imaging technologies, as Don Ihde refers, are always grounded in an "embodied vision". Even though the technological or scientific apparatus might displace ocular vision with what Ihde calls a "second sight" it remains perpetually bound to the "anthropomorphic invariant". No matter how complex the technological mediation might be, it is always perceived by a bodily perceiver.

This "invariant" seems to suggest that it might be difficult to speak of a non-human visuality, at least within the framework presented here. If one understands non-human visuality to be a (historical) visualization that takes place outside human visual perception and human scientific apparatus where one only considers the conditions of information production by non-human agents and actants, this would imply that it would be possible to perceive these visualizations without any sort of human mediation, apparatuses or methodologies, that would distort, through this translation, that same visual information. The concept of non-human visuality assumes that we could perceive visualizations outside the human cognitive experience, through mediation processes, that do not alter them. At the moment, it seems difficult to conceive of this possibility. In other words, it would be necessary not only to produce "non-human information", but also a "non-human representation" of this information.

This paper will therefore consider the idea of a non-anthropocentric visuality, which will be distinct from a non-human visuality. The difference resides in the fact that the first one manifests itself from visual information produced displaced from human ocularcentric perception, even though the order of what is measured and the experience of measuring is always invariably human. Even if it is produced outside the human ocular capability, it is almost always organized towards human use. In short, non-anthropocentric visuality conceives a historical visualization beyond an ocularcentrism, but for human knowledge. A non-human visuality, on the other hand, presupposes a visualization of an experience which seems to be impossible to be perceived outside anthropologically conditioned apparatuses. It would only be possible to speak of non-human visuality if the processes of representation of certain visual information were also non-human. Since all our visual information is always represented through

anthropological apparatus and methodologies, presently it only seems possible to speak of a non-anthropocentric visuality.

The next section will demonstrate that the emergence of the accidental computational megastructure to which Bratton (2016) refers to and which begins to structure our visual domain, introduces dynamics of visual information production that do not reproduce ocular conditions. Besides going beyond human visual capability, these dynamics allow for extra-ocular historical visualization and other forms of sensing. Following the question if it is possible to speak of a non-anthropocentric visuality, the next section seeks to identify cases of visual information production that are decentered from the dominant ocularcentrism.

4. Non-Anthropocentric Visuality

As it was mentioned, the non-anthropocentric perspective is commonly inserted in a biotic, animal and ecological framework (Brina et al. 2021; Frie 2021; Grusin 2015; Iovino 2010). The non-human turn and questions regarding the development of fields of knowledge interested in considering a comprehensive concept of ecology, suggest a tendency to incorporate data and information from distinctly non-anthropocentric perspectives.

When we speak of a non-anthropocentric visuality that does not reproduce ocular conditions and does not focus on the human we speak, first of all, of a visualization that takes place outside human positioning. That is, visual information that is produced by non-human biotic agents, synthetic elements, ecosystems and various sets of "bodies, machines and other chemistries signaling to itself about itself" (Bratton 2016, 340).

As Mirzoeff underlined, the aggregate of visual information by which a visuality emerges, does not have to refer strictly to images (2011, 295). Chips, sensors, lasers and non-human actants are fundamental elements of these processes, through which a relational dynamic is established. One of the most recent examples of an expanding network of sensory and informational sharing is the case of the Internet of Animals. In this network, the ocularcentric position is displaced to other non-human species. The broad concept of the Internet of Animals, and more specifically the ICARUS project by Matin Wikelski, resort to the use of bio-logging technological devices in order to capture and sense physiological information, geolocation, topographical information and acoustic tracking. Through this information are generated maps patterns of migratory movements, maps that make visible the reasons why certain species behave as they do, and maps that aggregate biologically relevant data and try to understand the relations of causality and interactivity between species and the environments they occupy (Curry 2018; Wild et al. 2021).

Maps and information systems such as those generated by the *ICARUS* project, or the Internet of Animals more generally, move away from notions of

"embodied vision" (Ihde 2002, 46) or "emplaced vision" (Brantner 2018, 24) that are always inherently linked to a terrestrial, human positioning. These two cases refer to a displaced or decentered (shared) vision, which is now materialized from positions outside our own through various actants, whether non-human species or electronic apparatuses and devices (cf. Latour 2005).

The ocular decentering of which non-anthropocentric visuality can be symptomatic of is not only related to the integration of other non-human positions, but also to the incorporation of scales inaccessible from an individual human experience. The visualization made possible by the *ICARUS* project is conceivable not only thanks to the incorporation of positions outside the human, but also because there is a large computational structure that allows for the aggregation and connection of several sensors, physiological data, geographic data and acoustic tracking into a coherent system.

This large structure is conceptualized through what Benjamin Bratton calls The Stack, defined as a "global technical system" and "geopolitical geography" (Bratton 2016, 19). This multi-layered "accidental megastructure" (Ibid., 8) is one of the most complete and influential theories of the global technological-computational network. Leading theoretical contributions that focus on the influence of electronic computational devices within the anthropological realm, often do so according to an anthropological scale (Brantner, 2018; cf. Floridi 2015). Benjamin Bratton's The Stack conceptualizes beyond these scales and frameworks. As an aggregate of a global technological network, The Stack moves away and decentralizes itself, first and foremost, from a strictly human positioning and scale. On the other hand, as an architecture composed by layers, the model of a global technical system is characterized by an interoperable dynamic.

At this scale the processes of mediation and the information aggregation logistics are illegible and incomprehensible, which means the territory of the visible and the image are fundamental when it comes to consider information produced by this network. One of the main functions required of visual devices is therefore the coalescence, reconversion, description and aggregation of information, into legible and intelligible visual schemes. The language of this specific production of visual information is characteristically diagrammatic, schematic and descriptive (Bratton 2016, 231). Given that what is intended to be described and schematized is, or may be, invisible (obstructed, for example, by underground layers, adverse weather conditions, private ownership) this visual information is made legible, in the very processes of interoperability, translation and mediation of information.

Even though all this information is represented, analyzed and measured according to human methods, apparatuses and agents, the fact that we are able to witness a visual domain being constituted according to assemblages that go beyond the human ocular apparatus and that, in the way it gathers information, does not seek to reproduce these optical conditions, may be

relevant. According to the author, this network is a medium of composition that through actions of measurement, association, location, identification and connection, produces "new creations in their own right" (Bratton 2016, 200). Unlike processes of "digital mapping" (Brantner 2018, 25) or "locative media" (Hjorth and Pink 2013), this network's mode of organization makes it possible to conceive visual information that exceeds human ocular competences, or put differently, enables other forms of seeing and sensing (Bratton 2016, 153).

This mechanism can therefore be understood as part of a knowledge infrastructure dedicated to a "reproduction of the world" (Wark 2016, 167), beyond any ocularcentric capability or simulation. What is particularly important is the fact that this reproduction of the world, which involves more than images, facilitates the assimilation of a set of different technologies that enable a collective "self-understanding", through which both we, as a collective social body, and the world can sense themselves, and thus render and construct our own conditions (Bratton 2016, 153; 2021, 46). The augmented capacity to sense is expanded largely through non-human actants. Since the status of user is open to any living and non-living being or object, it becomes evident that there is a relationship between the ability to sense and visualize the world, and all the agents and elements that are not human. We therefore argue that the possibility to sense the social, geological, topographical, atmospheric and ecological conditions of the world through means other than human physical and sensory capacities seems to be a feature of a non-anthropocentric visuality.

It may be relevant to underline, as Bratton understood, that the global computation network is, for the most part, a set of non-visual systems that nonetheless manage to describe themselves as an image (Ibid., 341). This clarifies its mechanical interoperability and its departure from an ocular logic, its ability to produce and represent visual information, and the attention that must be devoted to this network in order not to assume that the information produced by it is invariably true, in particular, with regard to what concerns governance practices.

Both the last two aspects mentioned referring to a decentering of human position and scale are based on the paradigm of classical computation. Would there be relevant consequences for the topic of a non-anthropocentric visuality, if we developed another type of computation that subjugated or made classical computation nonessential? In this last segment we will try to briefly consider this question, since there is currently another type of computation being developed that could become relevant for the production of visual information: quantum computation.

Quantum computation, as many researchers recognize, is at an early stage of development (Su et al. 2020; Cai et al. 2018), which means that inferences made from the information gathered, will be limited. We can at least refer to the subdiscipline of quantum imaging that aims to develop new techniques that allow for "optical imaging and parallel information processing at the quantum

level" (Gatti et al. 2008, 253), through the exploration of quantum-mechanical phenomena (Yao et al. 2017). As opposed to current computational apparatuses that store their information in bits, quantum computers store information in quantum bits, or qubits, which have distinct properties (entanglement, superposition of quantum states and quantum coherence) and provide this type of computation with superior performance in terms of "information storage and parallel computation" (Su et al. 2020, 214521).

Vision is and will continue to be one of the most important processes of mediation concerning the acquisition of information (Yao et al. 2017) and the complex process of cognition. If quantum computing were to have widespread practical application as classical computing has today, it could have an impact on the way we relate to visual information.

As it happened at the dawn of the internet – which was fundamental for the development of visual theory, and visual information more broadly – the application of information stemming from quantum computing occurs mainly in the scientific and military fields. Quantum image processing algorithms are applied to visualize experimental results related to medical imaging, pattern recognition and quantum radar (Su et al. 2020; Wang et al. 2021). The processes of quantum imaging processing and quantum computing also prove to be useful in terms of how information is transmitted. Researchers have often mentioned the underlying possibilities regarding cryptography, stenography, watermarking and processes of encryption. (Yan et al. 2017; Yao et al. 2017). It is also important to mention that within the scientific community there are already proposed frameworks to represent "films" in quantum computers (Yan et al. 2017), even though we do not yet know how "film" would behave or be represented through a quantum medium. Quantum imaging therefore seems to suggest a change in the current parameters of visuality, specifically in the way information is aggregated and constructed.

Since there is a focus on the encryption process, and since processes such as watermarking are possible, if the information produced by quantum computing becomes viable and disseminated, we might witness a dynamic that favors attitudes of decoding and revelation in relation to visual information, as opposed to contemplation or interpretation. Interaction instead of description.

Operating at a quantum scale and framework, this is possibly the field that most deviates from the conception of visual information, understood in a traditional sense. In any case, we reiterate that the possible inferences to be made are quite limited, and even if all these developments come to fruition, all these processes and information, however complex they may be in relation to classical computing, will continue to depend on human mediation and representations made by human apparatus.

5. Discussion

The conception of a non-anthropocentric visuality suggests the possibility of a historical visualization that is not only human but also contemplates ecological, technological, organic, biotic and synthetic realities.

So, can we speak of a non-anthropocentric visuality? As mentioned earlier, the concept of non-anthropocentric visuality is characterized by a decentering from ocularcentrism through the production of visual information by non-human agents. According to this perspective, a non-anthropocentric visuality is distinct from a "non-human visuality" and an "anthropocentric visuality". In the domain of a non-anthropocentric visuality, we witness visual information that is produced by non-human agents, and that is subsequently translated and mediated by human apparatuses and human cognition.

As science studies, the 'non-human turn' and several studies related to climate science and the Anthropocene demonstrate, the sovereignty of human knowledge and experience over the rest of our planetary reality, has been continuously questioned. A historical visualization is no longer exclusively anthropocentric. Henceforth this visualization is also technological, geological, climatic and pandemic. Although it is difficult to speak of a non-human visuality – which would somehow manage to capture, measure and record information through neutral apparatuses and neutral "bodily perceivers" (Idhe 2022, 48) – we can assert that we observe the capture of data and visual information produced by non-human agents and apparatuses, decentered from a non-anthropocentric position, scale and perspective.

Taking into account that the apparatus is not only an extension of the human but also a "User-subject of and for" other systems, objects, machines and animals, often without human interference, it is also this new cluster of participatory agents (whether they are machines, animals, apparatus, etc) that enables a "decentering of human perspective in describing the potential plurality of deep address haecceities, invoking potential Users across an abyssal spectrum of scalar abstraction and physicalization" (Bratton 2016, 273), or what Rosi Braidotti calls a "multi-scalar relationality" (Braidotti 2019, 46). If the apparatus can be both used as a prosthetic, and as a user that "prostheticizes the human" (Bratton 2016, 273) it is maybe this agency that allows us to consider the idea of a dominion in which the autonomy of a visualization (historical, technological, ...) does not depend exclusively on human power, as we frequently assume.

Although there is always an observation, mediation and representation that is invariably human and inscribes these processes of visualization in an inherently anthropological regime, and which in turn seems to hinder the conceptualization of an objectively non-human visuality, the gradual extension and complexity of these processes through an increasingly diverse network of agents, human,

non-human, biotic and non-biotic, suggest the possibility of visualizing a set of historical processes extrapolated and *decentered* from an ocularcentric reality, outside of an exclusively anthropocentric framework.

If Mirzoeff conceptualized a visuality as a colonial, authoritarian and coercive visual regime – always based on an ocularcentric framework –, the conceptualization that we propose through the concept of "non-anthropocentric visuality" is also an attempt to reformulate and rethink a regime that, through the integration of a planetary reality, can be post-colonial, non-authoritarian and non-coercive. No longer in the hands of the Hero, but constituted outside the dominion of human hegemony, constructed and visualized away from an anthropological epicenter. Beyond a critique of "weak anthropocentrism" (Frigo and Ifanger 2021), the conception of a non-anthropocentric visuality seeks to clarify which conditions, agents and protocols affect the contexts that produce certain information, in order to assess which agents allow and catalyze practices of knowledge and the transmission of visual information.

We therefore argue that the visualization and representation of realities and historical processes outside an ocularcentric perspective, seem to justify the concept of a non-anthropocentric visuality, or at least, of an extra-ocular visual domain.

So, why is the concept of non-anthropocentric visuality relevant and how does it expand our conception of visual information? Visuality is not just about images, but above all about the conditions that allow for or obstruct certain images or visualizations. If the apparatuses and devices of a planetary technological-computational network allow for a collective social body to mediate itself through connections of information, energy and matter, then through these same apparatuses there is a capacity for the world to "sense itself" (Bratton 2021, 41.44, 46). As the present pandemic has shown, measures aimed at public health, social organization, border regulation or external policy are implemented and actively based on a non-anthropocentric planetary-scale visuality, and its subsequent "sensing" capacity, that is only made possible because of this global network. Sensing is here understood as a perceptive capacity that is amplified beyond the scale of what is only optically and ocularly perceptible.

As other authors have mentioned, sensing relates not only to a human capability, but also to a competence of matter, ecosystems and complex technical assemblages (Fuller and Weizman 2021, 28). The construction of new sensors and sensing capabilities through chains of technologies and organisms constitutes new figurations and visualizations of reality (Ibid., 62). The "post-photographic" condition calls attention to these new visualizations, and therefore new realities, which come to constitute a dynamic in which the value of visual information derives not from individual images but from the relationship between them, and the assemblages that these create among themselves (Ibid., 77). Just as recent investigations try to think and act beyond the traditional conception

of what aesthetics are or present themselves to be (Ibid.), this paper also seeks to contribute and add to the question of what processes of historical visualization can be, who can contribute to them, what they can look like, and what kind of criteria should be cultivated within these visual regimes. Mirzoeff identified the relationship that visuality (within an authoritarian and coercive framework) established with modes of governance (Mirzoeff 2011, 125). The sensing capacity we are referring to (Bratton 2021) is, on the other hand, conceptualized towards "positive biopolitics" which aim to animate sensing, reason, care and a concern for how life can be repaired, sustained and preserved through the legitimacy and competence of "(non-policing) social governance" (120-132). Therefore, it seems that in this sensing there is a capacity to understand a human and non-human corporeal materiality, in an integrated way.

On the other hand, the assimilation of physiological information, geolocation, reproduction of satellite images, sensors and computational devices according to scientific mediations and practices, carries with it the notion of precision and truthfulness, of which we must remain aware. The visual information of non-anthropocentric visuality, through the visibilities or invisibilities it produces, through the agents it incorporates or excludes, through the calibration it implements, influences governance practices that are based on (visual) information, which is not always unquestionably objective, true or legitimate. While the framework of a non-anthropocentric visuality could be used to condition specific interpretations, the information it produces, and more importantly the information it represents, should not always be considered inherently true. To consider the idea of a non-anthropocentric visuality also means one should remain attentive as to how such visual information is used to justify or legitimize practices of governance. Visual information assembled through planetary-scale computation is today a constituent element in decision-making regarding the accuracy of geographic boundaries (seen, for example, with the 2010 border dispute between Nicaragua and Costa Rica in relation to the mapping made by Google), enabling or constricting migratory flows (Transborder Immigrant Tool App), domestic and foreign policies (seen with Strava's Global Heatmap that revealed the location of previously unknown American military bases in 2018), or control of natural resources (Bratton 2016, 119, 120, 173).

Lastly, certain aspects of non-anthropocentric visuality may give rise to different attitudes from the ones that prevail today, in relation to how and what we consider visual information. The processes outlined in section 4 suggest active dynamics of decoding and detection of underlying or implicit information that, in case they become viable, will have a clear influence on the processes of visual production and consumption.

Succinctly, this paper conceptualizes a non-anthropocentric visuality as the possibility to visualize a set of historical processes and developments outside a necropolitical framework (Mirzoeff 2011, 300) and outside the sovereignty of

anthropocentric ocularcentrism. We argue that a non-anthropocentric visuality stands as an opportunity to reconfigure and finally set aside the colonial and imperialist legacy of visuality and make use of the visualization of history through positive integrative policies (cf. Lowerre-Barbieri et al. 2019; Bratton 2021, 145) that refrain from restraining, controlling or surveilling. Through a collective approach and an ethical standing, ocularcentric history now holds the possibility to extend and build a more complex visual domain and expand the conception of images and anthropocentric vision.

We conclude with an outline of questions that can and should be considered in the future. First, can the non-anthropocentric visual dominion be considered a development of an anthropocentric visuality? If we assume that a historical visualization has to be a visualization beyond human physical limitations that contemplates synthetic and ecological technological realities, does it make sense to make a distinction between an anthropocentric and a non-anthropocentric visuality? On the other hand, if we assume that a non-anthropocentric visuality manifests a reproduction of planetary conditions, can we speak of a maintenance of such a visuality? Is it possible to say that humans have ceased to be the main agent of its maintenance? And should there be a concern with the maintenance of this visuality and the reproduction of planetary conditions?

6. Conclusion

In short, a non-anthropocentric visuality is the aggregate of visual information produced outside ocularcentric hegemony that promotes other forms of sensing that go beyond the human sensory capability. The global technological-computational system facilitates and enables the perception of this visuality and allows us to perceive that in it there is no reproduction or simulation of ocular conditions, but only subsequent conversions and translations of information into readable formats.

While XIX century visuality was based on the sovereign eye of the Hero which reified the maintenance of authoritarian, colonial and state power, a non-anthropocentric visuality relies on the non-human agents and apparatuses themselves that allow for a biocentric historical visualization and reproduction of the world, including sensing beyond human physicality. If we accept that a historical visualization is no longer merely anthropocentric (and climate science and the Internet of Animals make very strong cases in this regard), it makes sense that we may observe other types of non-anthropocentric visualities and *epistemes* that reflect this shift.

Lastly, as stated before, this paper does not seek to make axiological considerations. But if we can, indeed, speak of a non-anthropocentric visuality, moving forward it will be important to consider in depth the ethical and moral implications of this visuality, and attempt to understand in detail its influence in the fields of biology, political theory, visual theory and data science. Even if

future developments qualify the concept of a non-anthropocentric visuality as flawed or deficient, it will be nonetheless important to thoroughly study and examine the array of visual information that is produced outside of an ocular-centric dominion.

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