

*Perspective*

# Documents for the Nonhuman

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## ABSTRACT

As the Anthropocene advances, questions about what life on earth will look like in the geological short term are varied and difficult to answer with much specificity. What the Anthropocene has made clear though is that the ongoing existence of life, or life as it is currently understood, is not at all a given. Memory institutions face a challenge on an unprecedented scale - how does one continue the ongoing work of documenting the human record, while at the same time considering how those documents, metadata, and ephemera can be used by the readers of the Anthropocene? How does one document for the nonhuman? While an understandably bleak situation, the Anthropocene allows for realistic questions about the nature of work in libraries, archives, and museums to be asked, and what it means to continue creating records and documentation when they are for entities humans may never encounter. Further, what does documenting for the long term and unknown mean about how we document for humans now? This paper explores the idea of the nonanthropocentric document to illuminate assumptions about the frameworks in which meaning can be communicated and codified and how, or if, this can be used to assess what would otherwise be a problem of endless context.

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## INTRODUCTION

The Anthropocene and its undeniable immediacy have forced provocative and difficult questions surrounding the future and legacy of its namesake. What life will look like on Earth in the geological short term is, apart from some recognized trends, difficult to know with certainty. Yet one factor that is not in question is that the continued existence of life, one in which humans continue to act in a central role, or one in which we are even recognizable as ourselves, is not at all a given. That at some point there will exist a time in which humans are no longer present is without question, but the current climatic crisis suggests that said future may be swiftly advancing. As such, there exists a tension for libraries, archives, museums, and other memory institutions in which their work to preserve and document the human record takes on a new significance and temporal scope. Has their work become a futile endeavor? While there are many important questions these institutions must address in the near term, this article will explore one on a different time scale: how does one continue the ongoing work of documenting the human record, while at the same time considering how those documents may be interpreted by beings in the post-Anthropocene? Many of these concerns are parallel to considerations about how information changes on the level of deep time, or time understood on an expanded or geological scale. However, the current situation effectively positions these concerns on an accelerated time track. In order to synthesize the effects deep time has on information with the Anthropocene's temporal intensity, it becomes important to question certain aspects of documentary projects. How do the aims of memory institutions change given planetary upheaval, or have they become by default a presentist endeavor attempting to keep up with technology? If their scope can, and I argue, should, be broadened on a temporal level, how does one document for those in the post-Anthropocene?

The nonhuman is an ontological category that has grown in significance with the shift away from anthropocentric worldviews. When the nonhuman are considered as potential interpreters of human records, it allows humans to rethink how, and if, our work and legacy may be interpreted by beings we may possibly never know. Further, what does documenting for the long term and unknown mean about how we document for humans now? This paper explores questions around the materiality, signifying properties, and ontological situatedness of the document to assess directions about where the document may head to prepare for both humans in the near future, and for the nonhumans we can only anticipate. As speculation about the unknown can only carve artificial structures into a picture of what documents on the other side of the Anthropocene would look like, this essay will address a potential path by drawing on three key points. First are Western conceptions of the document and how those definitions are impacted by the presence of the nonhuman. Second, this essay draws parallels between colonialism and the Anthropocene, demonstrating what might happen to documents during annihilative acts, and how they do or do not survive them. Third is the already existing presence of the

nonhuman in nature and its role in the conceptualization, description, and transmission of information. From here it will become possible to trace a trajectory from current understandings of the document to how it might change given certain undeniable realities of the Anthropocene and the role of humans in that project.

## DOCUMENTS/HUMANS

Why is the document the unit of examination? From computer code to archives, documents and the language of documentation are common, yet the forms they take in various contexts can be quite different. If recorded information is to exist in and after the Anthropocene, it is necessary to examine their material dimensions and their ability to persist and signify. As a type of semiotic event, the document has important pragmatic implications as it outlines the boundaries of what is materially possible. Subsequently one must examine what constitutes a document as one's approach will situate how they may be contextualized and possibly decoded in the future. That is, as documents are contextualized through relations to other documents, and considering the planetary scale of the Anthropocene, it is important to understand the spectrum of "things" that may be considered as documents. Current understandings about the qualities of documents may no longer be totally relevant when considering nonhuman interpreters—a document could be anything from a sheet of paper to infrastructures. And while I will be starting from Western conceptions of the document, as I address what this means in the context of both colonial and geological perspectives, this orientation will begin to shift as new considerations are folded into its boundaries.

Buckland's overview of several 20th century document theorists provides two important threads for the current discussion.<sup>1</sup> The first is Paul Otlet's claim that objects can be documents if one is informed by observing them. That is, one need not be limited by the document as a traditional textual resource. Instead, they can consist of a variety of different types of objects, e.g. games, artwork, artifacts. Particularly relevant for the current discussion are natural objects: if they inform an individual, they are documents. Suzanne Briet's interpretation contrasts slightly, offering that a document is "any physical or symbolic sign, preserved or recorded, intended to represent, to reconstruct, or to demonstrate a physical or conceptual phenomenon." Buckland categorizes her determinations of documents into four areas, explaining that a document has materiality, expresses intentionality on the part of its creator, has been processed, and has been perceived as a document.<sup>2</sup> Important here is the notion of processing: a natural object in its original setting would not be a document, but that same object in a museum would

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<sup>1</sup> Michael K. Buckland, "What Is a 'Document'?" *Journal of the American Society for Information Science* 48, no. 9 (1997): 804–9.

<sup>2</sup> Buckland, "What is a 'Document'?" 806.

be. The role of the human in demarcating the document as such is a necessary component of documentation.

Acknowledging that there is much more to each of these theories, for the current discussion the question of what makes a document comes to one of process. For Otlet, a document is processually realized as such, i.e., when one realizes something acting as a document by being informed by it. For Briet, an object must be processed into a document, i.e., they do not exist without some form of human processing. As we will see, these two views are not necessarily at odds when understanding the question of what may constitute a document for the post-Anthropocene.

However, Frohmann questions the use and motives behind defining documents.<sup>3</sup> While defining them can aid towards shaping a field of application, he asks if there is value in avoiding a definition: "...there are other approaches to documentation, which have as their aims not so much the precision and accuracy of scientific representation of what documents and documentation might be, but...with more concern for what they do than for what they mean or represent." We should feel ready to test definitions by extending them. Synthesizing these opposing tactics leads to an interesting tension: defining documents can broaden their scope, but any definition necessarily limits material possibilities. In any case, both views presuppose an anthropocentric model that can instead be expanded by including the nonhuman as an interpreter of documents. In his discussion on agents in the context of semiotics, Sharov notes that agents, or systems oriented towards achieving certain goals, are not always identifiable as such.<sup>4</sup> They often act, for example, on different time scales. And while I am going to broaden this definition of agent, it serves as a useful starting point for the contours of the nonhuman.

Speculation about how to make documents for the nonhuman in the post-Anthropocene requires a broadening of how we understand documents. Two questions emerge: first, how do we understand what those documents already look like, and second, what are the implications for how we currently make documents. Here I would like to resolve the tension between defining and not defining documents by instead grounding the question on a material basis. Specifically, I am claiming that for purposes of reorienting the document we can understand them as hinging on an axis of being a materially inscriptive event. As documents are contextualized in relation to other documents, it becomes important to ask if there is a document that can serve as a contextual ground for all others. While there is no human document that could serve for all others in that role, an expansion of our understanding of documents that includes documents mediated by nonhumans facilitates the emergence of different possibilities.

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<sup>3</sup> Bernd Frohmann, "Revisiting 'What Is a Document?'" *Journal of Documentation* 65, no. 2 (2009): 301.

<sup>4</sup> Alexei Sharov, "Functional Information: Towards Synthesis of Biosemiotics and Cybernetics." *Entropy* 12, no. 5 (2010): 4.

If we proceed with the document as a materially inscriptive event, we can take Otllet's view that any informing object can be a document to a much larger scale and see how this could be true for entire planets. My argument is that the Earth serves as a document that contextualizes other documents. The impact humans have had on the life of the planet is being inscribed into its biological and geological structures. These inscriptions are, quite literally, writing back into our own futures as the Anthropocene continues to shape the direction of life on the planet. Indeed, Briet's necessity for "processing" is applicable here; humans contribute to the document, for example, through the disembowelment of natural resources, and as those driving the sixth great extinction of life on Earth.<sup>5</sup> Further, these inscriptions are woven deeper into the planet in ways that are not even fully understandable to humans and at a scale that is difficult to grasp.<sup>6</sup> As Parikka explains, "...memory is always a remediated material event: memory is always a monument and inscription whether that happens on the random-access principles of magnetic storage media...or in the still experimental modes of storage in biological material..."<sup>7</sup> And while using the Earth to demarcate a semiotic field is an artificial designation, I do so here pragmatically to outline the main arena in which documents are to be found.

Accepting the Earth as the document from which all documentary projects will be contextualized, the possibility of decoding must necessarily be evaluated—is it even possible to plan for what will signify to the nonhuman? As Jameson explains, any attempt to define or prepare for the Other necessarily runs up against the walls of the anthropic—our situatedness ensures we will only find ourselves.<sup>8</sup> However, considering Earth as a contextual ground, it becomes possible to direct away from pure speculation towards the reality that any decoding that we may hope to take place will necessarily rely on the connotative properties of surrounding signifiers. Indeed, memory institutions should strongly consider broadening their scope to incorporate the perspectives of geologists, biologists, and other related producers of documents. The distance between the calcium carbonate in paper and that in limestone is not far.

The nonhuman on Earth can serve as a critical reference for how we shape documentary projects. But who are nonhumans? As I have been referring to those in the present as well as those in the post-Anthropocene, I would like to propose that for my argument there is no distinction. Nonhumans are those entities existing outside of the category of humans. Under this rubric we can include trees, dolphins, mountains, branes,

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<sup>5</sup> Bethany Nowviskie, "Digital Humanities in the Anthropocene," *Bethany Nowviskie* (blog), July 10, 2014. Accessed August 02, 2018, <http://nowviskie.org/2014/Anthropocene/>.

<sup>6</sup> Claire Colebrook, "We have Always Been Post-Anthropocene: The Anthropocene Counterfactual," in *Anthropocene Feminism*, ed. Richard Grusin (Minneapolis, MN: University of Minnesota Press, 2017), 6.

<sup>7</sup> Jussi Parikka, *A Geology of Media* (Minneapolis, MN: University of Minnesota Press, 2015), 122.

<sup>8</sup> Fredric Jameson, *Archaeologies of the Future: The Desire Called Utopia and Other Science Fictions* (London, UK: Verso, 2005), 111.

etc. However, from a historical perspective, this category has often been debated. For example, the Valladolid Debate (1550–1551) is an instance where the humanity of colonized Indigenous people of the American continent was under discussion.<sup>9</sup> Given that definitions of the nonhuman have changed over time, and that we cannot say what the nonhuman will look like in the post-Anthropocene—or humans for that matter—we can resort to referring to them as entities that may exist alongside the documents humans produced. Indeed, just as we can find value in not prescribing what a document is and examine how they materially come into existence, likewise for the nonhuman it would be a misstep to try and articulate them (e.g. machines, aliens, viruses) and introduce anthropic conditions by which we frame the current discussion. As large portions of humanity throughout history would have been considered nonhuman, we can see that most definitions are largely contingent and ultimately unsustainable. By not defining them, we are allowed to bring present conditions into focus. And while we cannot know anything about the nonhumans in the post-Anthropocene, we can examine the nonhumans currently with us to inform the directions the document takes.

It could be leveraged that trying to accommodate or theorize for the nonhuman at all reinforces an anthropocentric orientation. There is no guarantee that the nonhuman will care about human documents, but making any determination about what the nonhuman will care about is inherently hubristic as well. We can embrace that uncertainty without making a determination. However, we do know that humans care about their own documents and make efforts towards maintaining them. We can know what kinds of documents persist and why. We can also observe documentary projects aimed at recovering acts of erasure against groups and ideas, again in a part of revising what counts as human to resist dehumanizing rhetorics. Since the nonhuman in the distant future is an unknown, we can still make efforts towards a future in which human documents may matter. We cannot know that the nonhuman will care, only that we do.

## BIFURCATION AND EXPLOITATION

There can be no equivocating: the Anthropocene is an annihilative event. Before we can articulate how to document for the post-Anthropocene and for the nonhuman, it is important to look for historical examples of other annihilative events during which the future of information objects was likewise endangered. One does not need to look far. As a driver of modernity, colonial projects can be viewed as disasters with parallels to the current ecological crisis. Indeed, the motivations of both projects involve the exploitation of Otherness. While there are many reasons that were used to support colonial projects, for the current discussion we can look to some defining traits of modernity which, while

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<sup>9</sup> Juan Ginés de Sepúlveda (trans. Marcelino Menendez y Pelayo and Manuel Garcia-Pelayo) (1941). *Tratado Sobre las Justas Causas de la Guerra Contra los Indios* (Mexico D.F.: Fondo de Cultura Económica, 1941), 155.

existent before the modern era, were elevated and amplified during its formative moments.

According to Whitehead, the bifurcation of nature was Western thought's fundamental blunder.<sup>10</sup> By this he is referring to the divorcing of sensory experiences from the physical actualities that create those experiences.<sup>11</sup> The implications of this bifurcation are not immediately obvious but can be seen as providing the shape for what would later be codified, for example, in Cartesian duality. Specifically, by separating experiences in the mind with their source in the world, an in/out dichotomy emerges; a rift that allows for a new type of objectification instead of taking in the world as a totality of relations. Indeed, one can see how this creates the necessary conditions for the invention of "Society" and "Nature" in the 17th century as distinct entities.<sup>12</sup> Or as Braidotti explains, "...the assumption that subjectivity as a discursive and material practice is equated with rational, universal consciousness and self-regulating moral behavior, whereas Otherness is defined as its negative opposite."<sup>13</sup> The Other as an ontological category is not far away and with it come the conditions for exploitation.

However, this is not to say that this change in Western thought suddenly allowed for other humans to be exploited or natural resources to be collected in destructive ways. Certain groups of humans were, at this point, already classified as part of nature. Instead what was different around the dawn of modernity was the emergence of new economic model, capitalism, that allowed one to reinvest in surplus in order to maximize production, in addition to the scientific revolution that allowed for resources to be acquired in more efficient ways than before.<sup>14</sup> Concomitant with an epistemological model that emphasized the Otherness of nature, it is not difficult to draw the line to the exploitation not only of nature, but of any Other. As Mignolo keenly observes, "...hidden behind the rhetoric of modernity, economic practices dispensed with human lives, and knowledge justified racism and the inferiority of human lives that were naturally considered dispensable."<sup>15</sup>

It is possible to see how the domination of the environment and of non-European peoples by the West share a common classificatory thread rationalizing both endeavors. And while the exploitation of the environment, itself nonhuman, may not initially read as a colonial project, its trajectory demonstrates many of the same impulses and strategies,

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<sup>10</sup> Alfred North Whitehead, *The Concept of Nature* (Amherst, NY: Prometheus Books, 2004), 30.

<sup>11</sup> Steven Shavero, *The Universe of Things* (Minneapolis, MN: University of Minnesota Press, 2014), 114.

<sup>12</sup> Bruno Latour, *Reassembling the Social. An Introduction to Actor-Network Theory* (Oxford, UK: Oxford University Press, 2005), 110.

<sup>13</sup> Rosi Braidotti, "Four Theses on Posthuman Feminism," in *Anthropocene Feminism*, ed. Richard Grusin (Minneapolis, MN: University of Minnesota Press, 2017), 24.

<sup>14</sup> Walter D. Mignolo, *The Darker Side of Western Modernity: Global Futures, Decolonial Options* (Durham, NC: Duke University Press, 2011), 6.

<sup>15</sup> Mignolo, *The Darker Side of Western Modernity*.

and consequently can illuminate how one thinks through the Anthropocene in parallel. It does not seem outlandish to assert that the ecological crisis represents the basest and most ambitious project undertaken by modernity, and one that is poised to entirely undo it.

The question turns to what can be learned from colonial projects about how information objects survive such annihilative acts. One can observe similarities among the tactics employed by colonial powers to destroy Indigenous knowledge. Kenyan writer Ngũgĩ wa Thiong'o references the "cultural bomb" as a means of controlling a society's ability to define itself in order to "...annihilate a people's belief in their names, in their languages, in their environment, in their heritage of struggle, in their unity, in their capacities and ultimately in themselves."<sup>16</sup> Writing from the perspective of the colonization of North America, Leanne Simpson describes a parallel operation: "Our knowledge comes from the land, and the destruction of the environment is a colonial manifestation and a direct attack on Indigenous Knowledge and Indigenous nationhood."<sup>17</sup> The role of the environment, specifically its destruction, is key in both of these accounts and draws on the critical role it plays in shaping knowledge in these contexts. One could even go so far as to say that its importance in knowledge creation stems from a different perspective. As Arturo Escobar (2010) explains, "The defense of relational worldviews can be seen at play in a number of contemporary struggles, increasingly common in the Andes and the Amazon, that mobilize non-humans (e.g. mountains, water, soil, even oil) as sentient entities, that is, as actors in the political arena..."<sup>18</sup>

Indeed, much of this action is taking place in post-colonial environments, and the recovery of ontologies that take into account the environment as a key actor stand in stark contrast to modernist frameworks. Escobar writes: "Dualist ontologies, we propose, are being challenged by the emergent relational ontologies in which there only exist subjects in relation, including the relations between humans and non-humans."<sup>19</sup> And while surfacing the relationality is a necessary action for extricating the roles both nonhumans and humans play in climate change's advance, we should be careful here. As Malm has observed, extending agency to all objects does not necessarily lead to their politicization.<sup>20</sup> Further, Noys explains that granting agency comes with the inability to

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<sup>16</sup> Ngũgĩ wa Thiong'o, *Decolonising the Mind: The Politics of Language in African Literature*. (Oxford, UK: James Currey, 1986), 3.

<sup>17</sup> Leanne R. Simpson, "Anticolonial Strategies for the Recovery and Maintenance of Indigenous Knowledge," *American Indian Quarterly* 28, nos.3-4 (2004): 377.

<sup>18</sup> Arturo Escobar, "Latin America at a Crossroads," *Cultural Studies*, 24 no. 1 (2010): 40.

<sup>19</sup> Escobar, "Latin America at a Crossroads": 39.

<sup>20</sup> Andreas Malm, *The Progress of this Storm* (London, UK: Verso, 2018), 154.

challenge existing political formations.<sup>21</sup> Objects may have causal effects, but granting them agency allows humans to disavow agency for their own actions enacted through them. Climate change may seem agential in the intensity of its effects and in our inability to comprehend them. But with the Earth as a document it is important here to emphasize again the role of humans as the inscribers of the coming storms. It is necessary to own our agency because at the time of this writing, we have shown no indication of stopping.

It is clear that the destruction of the environment has played a key role in the annihilation of Indigenous knowledge and their associated information objects. But having lost most or all of their context, what can we learn about information objects' capacity for decoding that can be translated to concerns about their utility in the post-Anthropocene? Examples such as the Dresden Codex have allowed for decoding because of naturalistic representations and common references to astronomical event.<sup>22</sup> Similarly, while iconography plays a key role in decoding the relation of the planet Venus to Governor's Palace at Uxmal in Yucatan, the physical orientation of the building, or rather its orientation in contrast to other buildings, aids in its decoding as being in alignment with Venus; its situatedness plays a key role in its deciphering.<sup>23</sup> As we will see the iconic sign must necessarily play a key role in initial decodings within the context of the Earth as a document.

The aspect of situatedness plays a deep role. For example, the Incan quipus are information objects consisting of knotted thread that, according to Urton, were used primarily to record administrative data for state purposes.<sup>24</sup> However, they remain relatively obscure as texts because they can no longer be fully deciphered.<sup>25</sup> Part of this may be related to quipus being articulated in a three-dimensional, multimodal, semiotic space, i.e. they contain depth in contrast to text: "The manner in which they were read seems to have been nonlinear, simultaneously tactile and visual, and organized according to a decimal principle in which information was organized and read in a mathematical fashion..."<sup>26</sup> This has at least allowed for some level of decoding, though not a full one.

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<sup>21</sup> Benjamin Noys, "The Discreet Charm of Bruno Latour," in *(Mis)readings of Marx in Continental Philosophy*, eds. Jernej Habjan and Jessica Whyte (Basingstoke, UK: Palgrave Macmillan, 2014), 203.

<sup>22</sup> Timothy Knowlton, "Seasonal Implications of Maya Eclipse and Rain Iconography in the Dresden Codex," *Journal for the History of Astronomy* 34, no. 3 (2003): 301.

<sup>23</sup> Harvey M. Bricker and Victoria R. Bricker, "Astronomical References in the Throne Inscription of the Palace of the Governor at Uxmal," *Cambridge Archeological Journal* 6, no. 2 (1996): 198.

<sup>24</sup> Gary Urton, "Tying the Archive in Knots, or: Dying to Get into the Archive in Ancient Peru," *Journal of the Society of Archivists* 32, no.1 (2011): 17.

<sup>25</sup> Birgit Brander Rasmussen, "The Manuscript, the *Quipu*, and the Early American Book: Don Felipe Guaman Poma de Ayala's *Nueva Corónica y Buen Gobierno*," in *Colonial Mediascapes: Sensory Worlds of the Early Americas*, eds. Matt Cohen and Jeffrey Glover (Lincoln, NE: University of Nebraska Press, 2014): 69.

<sup>26</sup> Rasmussen, "The Manuscript," 70.

Yet one cannot help but ask if some of the decoding problem may stem from the situatedness of the quipus, and the lens applied. Urton's problematic analysis of the quipus equates them with the trappings of the Western 'classical' archive, even using the language of administrators and record keepers. This is not to say that non-Western cultures didn't keep records, but representing a knowledge system within the colonial archival framework does not serve as a contextual aid. Perhaps, as Urton even indicates, more can be learned about the quipus from the context in which they were found, or what the connotative properties of the mausoleums in which they were taken might add to their decoding.

It is unsurprising that decoding becomes easier when there are common frames of reference. As in the case of the Dresden codex, the presence of eclipse iconography allows for decodability as a phenomenon common to terrestrial existence. But as the question has to do with the possibility of any nonhuman interpreter in the post-Anthropocene's ability to read human documents, it is not possible to say with certainty that the same frames of reference will be either experientially common or semiotically iconic. On the contrary, it is not possible to build endless context into documents to fill the gaps of planetary signifiers. The argument then is that if one is to attempt to document for the nonhuman, and knowing that any document will be read in the context of the Earth-document, then it is necessary to use connotative properties of iconic signs of the planet to build signifying capacities within which documents can be decoded. Further, one should take into account the presence of the nonhuman already on Earth as models for which these activities can be examined. Fortunately, both of these issues share Nature as a common referent.

## LENSES ON THE DOCUMENT AS EVENT

It has been shown that environmental destruction was a key strategy in colonial projects that significantly contributed to eliminating indigenous knowledge. It has also been shown that to varying degrees environmental signifiers have allowed for some decodability of information objects. And while there are many examples of information objects that did not use the environment to aid in their decoding, the luxury of assuming human readers in these cases suggests that any post-anthropocenic documentation may make full capacity of nonhuman signifiers to aid in this process. That is, documents cannot rely on the assumptive contexts that humans use being similarly available for the nonhuman. Instead the connotative properties of environmental signifiers should be reflected in the structure of documents to aid possible decoding. However, one should avoid being prescriptive in articulating what exactly this looks like in every context and tempt universalizing errors. Instead, it is more important to draw the contours of another bifurcation that disrupts the ability to successfully document in the current moment--that between the conceptualization of the document as split into conditions of form and

content. Moreover, I would argue that we can iterate on Peirce's triadic sign-model to view the document instead as a semiotic event with three synoptical lenses - structure, materiality as an object, and information. Further, while we may investigate the document on these three levels, it must be explicitly stated that they are inseparable and cannot be understood in isolation except as a means to foreground their relationality. Finally, the walls of the anthropocentric rise here too, for there is no way to predict what the act of semiosis can be for the nonhuman, though the field of biosemiotics offers potential outlets for further exploration of that particular question.

The structure of information is one lens that sheds light on how it is interpreted. The idea of nature is already present in the language of information: Tree of Knowledge and XML trees. However, it does not take much analysis to observe that these terms are usually superficial at best. For example, there is nothing hierarchical about a physical tree. The root is not the beginning of the tree, nor are leaves any less important than the branches that hold them. On a diachronous level, there might be more nuance, but this is part of the problem. The forms information objects take, at least in the Western context, do not have deep reflections to anything one might find in nature. Note here that the dialectical tension between the human and nonhuman is purposefully being maintained for a good reason, in order to highlight the distance by which modernity has separated itself from conditions of relation it exists in. The accompanying problem of using structures that incorrectly encapsulate information is undeniably a feature of the current information landscape as there are mismatches between the ontological nature of the structure and the information it contains. To give an unusual example, one would not print binary code into a print manuscript and expect it to be functionally useful; the structure does not support the argument of computation. But these sorts of mismatches are quite common. For example, the Resource Description Framework has serializations in XML, and while trees are technically graphs, their enunciations are not identical. Rather, I argue that they cannot be understood in isolation. But what is critical here is that information objects have ontological and often ideological implications that either complement or obstruct the semiotic event. For example, the subtext of a hierarchically formed document is exactly that--that this enunciation signifies an order and class relation. I argue here then that the formal structure of the document should reflect the ontological semantics of its information and that allow for its fullest expression. It is necessary to critically evaluate whether the implicit forms a document uses share the same ontological conditions of the information that is inscribed in it. Further, it is important to consider the strategy of incorporating environmental signifiers into these structures for connotative decoding. In other words, if we are going to use a "tree", the form should support its nonhuman correlate beyond just nomenclature. However, what this may look like need not be identical from one locality to the next. Rather the affordances of natural signifiers in a particular area should inform the structuring of documents from contextual perspectives.

The second lens to examine is the materiality of the document as there are clear ideological ramifications for how this affects its interpretation. The materiality of the semiotic event serves as the arena for the negotiation and control of meaning and power relations.<sup>27</sup> Parikka, summarizing Kittler, explains how the archive of life is more than just in documents, but exists in the relations that documents have to technology networks and the conditions in which they can emerge.<sup>28</sup> The environment, as part of this network, cannot be ignored. As Yusoff describes, ancient cave paintings were created with the aid of bacteria and fungi on the walls of the cave which refreshed themselves over millennia.<sup>29</sup> Currently we have invasive mining practices required for the bones of digital technology.<sup>30</sup> It is tempting to reduce the question into which material medium has the most sustainable impact. However, Chowdhury's shortsighted analysis of the question demonstrates the fundamental flaw in the question itself.<sup>31</sup> He finds that paper produces more of a carbon footprint than digital, making moving to digital an obviously preferable and sustainable decision. Yet even if this were true, this thinking falls into the same trap of Colebrook's "Good Anthropocene" in an understanding that there can be creation without expense, and that we can continue to technologize ourselves out of any situation.<sup>32</sup> It is a question not of whether we can outthink or design our way out of environmental impacts, but that we need to understand ourselves and our documentary projects as being inseparable from the environment in their material conditions. Because our presence on the earth is always impactful, if not inscriptive, what do our actions signify? Or rather, what does a scar on the Earth signify as a part of the semiotic event? This is not to advocate the unfettered use of destructive forces to provide the material conditions upon which documents are made, but to understand the question in this light in order to fold it into overall considerations for the semiotic events we are creating. What this entails necessarily depends on the situatedness of the semiotic event, and whether there can be a documentary event that does not further fissure the metabolic rift rent open in the Earth by capital.

The final lens on the document involves the nature of the information that is being inscribed. I have argued that ecological considerations should be folded into both the structures and materiality of our documents. These factors contribute reflexively towards the quiet framing of the environment in both material and signficatory ways. For example, the silicon on which the cloud is inscribed is itself a message. These jointly

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<sup>27</sup> Elizabeth DeMarrais, Luis Jaime Castillo, and Timothy Earle, "Ideology, Materialization, and Power Strategies," *Current Anthropology* 37, no. 1 (1996): 16.

<sup>28</sup> Parikka, "A Geology of Media," 2.

<sup>29</sup> Kathryn Yusoff, "Geologic Life: Prehistory, Climate, Futures in the Anthropocene," *Environment and Planning D: Society and Space* 31, no.5 (2013): 387.

<sup>30</sup> Parikka, "A Geology of Media," 92.

<sup>31</sup> Gobinda Chowdhury, "Carbon Footprint of the Knowledge Sector: What's the Future?" *Journal of Documentation* 66, no. 6 (2010): 943.

<sup>32</sup> Colebrook, "Post-Anthropocene," 17.

produce the conditions for which the ecological, and its political dimensions, can be articulated in information. In order to escape modernist bifurcations it is necessary to foreground the politics of the nonhuman by distancing it from the anthropic, embracing the relational aspects of the document in the world.<sup>33</sup> As Braidotti observes, this requires a break that can be deeply painful on an identitarian level as it calls into question centuries of anthropocentric practices. As Colebrook observes, it was through systems of archival inscription and memory that the conditions for empire and technology to barrel towards the current hypercapitalist landscape and its consequences were made possible.<sup>34</sup> Considering that these same practices have also brought us to an existential ledge, it becomes clear that unless the document is divorced from anthropocentric models it will continue to reproduce and reinforce those same ideologies. Whether nonhumans will care that we took this step cannot be answered. But a decentering of the human may provide the potential for a different narrative to emerge in the present by which this lens is applied.

## DOCUMENTS/NONHUMANS

It could be leveraged that we have only begun to talk about approaches for creating documents that survive the Anthropocene and contain the possibility for decoding by maintaining a different critical bifurcation—human/nonhuman. It is necessary now to go beyond that relation in order to address the way in which the question “how do we make documents for the nonhuman” has evolved into “what is a nonhuman document?” Following Latour we can begin answering this question by establishing that the human/nonhuman distinction is in essence a stylism intended to demarcate spheres of action/inaction.<sup>35</sup> We can see this clearly when analyzing the name “Anthropocene,” as it signifies an age in which the wreckage enacted by humans on the “inert” Earth has begun to mete out its consequences. It is this centering that has led theorists like Donna Haraway to seek out alternative names for the era that do not reproduce the obvious centering of Man. If anything, the new geohistorical period requires a dissolution of the modernist idea of “Man” to most effectively engage humans in the totality of relations with the planet. So too with documents.

To prepare documents for the post-Anthropocene requires humans to consider themselves as part of the nonhuman network in which they are already enmeshed. We have seen this in the previous exploration of the synoptic lenses of the semiotic event that is the document, and the necessary recentering of the eco-political into it. But how do humans fit into this new picture? It is my argument that to reorient the document on a nonhuman basis, it must sever modernist teleological fetters that premise its existence

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<sup>33</sup> Braidotti, “Four Theses,” 30.

<sup>34</sup> Colebrook, “Post-Anthropocene,” 15.

<sup>35</sup> Bruno Latour, *Facing Gaia* (Cambridge, UK: Polity, 2017), 68.

on capitalistic and anthropocentric goals. Though there are more, I will address what I see as two important points of departure: abandoning the classificatory project, and embracing absence as a strategic mode of discourse.

The classificatory project I am referring to is that which has served as the dominant organizational paradigm in libraries, archives, and museums. Organizing information is a necessary activity, but what I am rejecting here is the modernist orientation of knowledge organization as a totalizing enterprise, and its realization in the classificatory project as the consequent prefiguring of information into existing epistemologies with a distinctly hierarchical framing. As I have explored elsewhere, the dangers of reification in these endeavors is difficult to avoid and have served as active tools to modernist narratives.<sup>36</sup> Even considering a document as a nonhuman mediant, one can observe the same exploitative tendencies employed here as in other modernist projects.<sup>37</sup> Instead, following Adorno, we should investigate pursuing constellational models over classification, centering the inexhaustible nature of the document and its consequent mediations as a method of opening rather than framing them. In other words, we would need to interpret the constellation as an organizational model in alignment with its real-world properties.

It is necessary to first acknowledge that constellations do not exist in themselves. There is no directionality between stars, and their sign-properties change based on the perspective of the interpreter. Like any knowledge organization system, they are a construct designed to create meaning. That said, there is relationality between stars in a system - Orion's belt, for example, is for us a proximal affinity. Which is to say there are tangible connections that can be drawn between stars, or documents, but those relations need not be rigid. This is not to promote isolating people into their own views, or say that every interpretation be equally valid, but to allow for the signifying idea to exist concomitantly with other possibilities, and furthermore, to highlight disjunctures between possibilities as a grounds by which their ideological components are laid bare.<sup>38</sup>

The final direction I would like to discuss regards absence. Here we can follow Cohen in rejecting what she calls the "information-processing imperative," or the idea that the presence of information is necessarily a positive thing. This notion can be equated to a paradigm of liberalism: information as truth.<sup>39</sup> Likewise, there are parallels here with the drive for universal access and openness that are at clear odds with

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<sup>36</sup> Erik Radio, "Abstraction, Concrecence, and Identity in Descriptive Metadata," *Journal of Library Metadata* 18, no. 1 (2018): 40.

<sup>37</sup> Arjun Appadurai, "Mediants, Materiality, Normativity," *Public Culture* 27, no. 2 (2015): 234.

<sup>38</sup> Steven Helmling, "Constellation and Critique: Adorno's Constellation, Benjamin's Dialectical Image," *Postmodern Culture* 14, no. 1 (2003).

<sup>39</sup> Julie E. Cohen, *Configuring the Networked Self* (New Haven, CT: Yale University Press, 2012), 249.

divergent, and particularly non-Western, approaches for information access.<sup>40</sup> In liberal contexts, it is easy to suggest that more information would always be better than less, and such a view easily fits into the classificatory project previously mentioned. Instead, I argue that as a part of the decentering of the human, it is necessary to engage with absence as a key feature of the nonhuman document. At least as important as the formation of the semiotic event and its relation to the environment is the role of what is signified, not signified, or signified by absence. As Dworkin notes, omissions allow other elements in a system to be more readily apprehended.<sup>41</sup> Again, as more information is not necessarily better, absencing information allows for different lenses to emerge on the inexhaustibility of the document. However, this is not to advocate for erasure from the record, but to essentially lower the tenor of dominant and reifying voices. Particularly relevant for the discussion of decentering, absence can be leveraged to allow the nonhuman to be more explicitly foregrounded, situating the anthropocentric into a nonprimary relation in the document constellation. Indeed, as Dworkin explains, language only works as an act of negation, as in “erasing the word in order to summon the concept.”<sup>42</sup> Such a change in direction will necessarily require a further examination into the semiotics of absence and its material dimension. For the document, which has been historically focused on a “bringing out” of information through inscription, this is a challenge to explicitness in favor of the document as proteus. That is, to embrace the nonhuman, it will be necessary to leave spaces in the documentary endeavor as a means for decentering the human but also the narrative. Through absence, different contours around an event will allow for possibilities to unfold in conjunction with the constellational approach, the spaces between points being as important as the points themselves. As a part of this endeavor, it will be necessary to consider absence alongside erasure and negation in order to articulate more concretely the conditions under which the document signifies. In an era of uncertainty, it may be necessary for the human to embrace the absent, the tacit, and the amorphous, not only as an aid to interpreting the world, but in documenting their role in it.

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<sup>40</sup> Kimberly Christen, “Does Information Really Want to be Free? Indigenous Knowledge Systems and the Question of Openness,” *International Journal of Communications* 6 (2012): 2878.

<sup>41</sup> Craig Dworkin, *No Medium*, (Cambridge, MA: MIT Press, 2015): 9.

<sup>42</sup> Dworkin, *No Medium*, 49.

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