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# America(n)-Nature, conquestual *habitus* and the origins of the “Anthropocene”. Mine, Plantation and their geological (and anthropological) impacts

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## Abstract

Since its irruption, the “Anthropocene” voice has provoked a profound epistemic and political upheaval, revealing the critical radicality of the threats to life on Earth. By placing as a horizon of intellection the devastating balance that the predominant course of human events has printed on the Planet, said concept designates more than a discussion on the nature of the present geological age. It has opened a new dimension in the understanding of the interlinkages between the ecological and the political; a new problematization on the nature of the affections between the anthropological and the geological. On this plane, from our previous research, this article aims to highlight the excluding centrality of America(n)-Nature as the historical-geographical origin and constituent epistemic-political principle of this new Era. After a review of the critical reception that the concept has given rise to in the field of the Social Sciences, the paper invites us to review the “Anthropocene” on the basis of an elementary shift of gaze: from “nature” to history; from the species to social formations; from substances (carbon, uranium, plastics) to practices, ways of life and power relations. By investigating its genealogy from the decolonial critical materialism of the Political Ecology of the South, the environment of the “conquest of America” is explored as a geological-political turning point that gave rise to the emergence of a new geo-sociometabolic regime. This approach visualises the Conquest not only in terms of its immediate catastrophic impact (*Pico Orbis*), but also as a geo-historical ground where a new matrix of relationships (conquestual *habitus*) between humans and non-humans, between the biological and the political, was forged, which would end up disrupting the dynamics of flows and sociometabolic cycles of terrestrial life. It aims to highlight the ontological effects (geological, anthropological and socio-political) of those original practices of extractivist occupation/appropriation of territories and populations. It is postulated that these practices – configured and sedimented through the establishment, expansion and generalization of the Mine and Plantation forms as technologies of power and new means of conception and production of human and terrestrial existence in general – would have most probably been the triggers of the geosocial emergence in which the human species has now become gravely involved.

## Zusammenfassung

Seit seinem Aufkommen hat der Begriff „Anthropozän“ einen tiefgreifenden epistemischen und politischen Umbruch ausgelöst, der die kritische Radikalität der Bedrohungen des Lebens auf der Erde offenbart. Indem das Konzept die verheerende Bilanz, die der vorherrschende Lauf menschlicher Ereignisse auf dem Planeten zur Folge hat, als Erkenntnishorizont setzt, bezeichnet es mehr als eine Diskussion über das Wesen des gegenwärtigen

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gen geologischen Zeitalters. Es hat eine neue Dimension im Verständnis der Verflechtungen zwischen dem Ökologischen und dem Politischen eröffnet; eine neue Problematisierung der Natur der Beziehungen zwischen dem Anthropologischen und dem Geologischen. Auf dieser Ebene zielt dieser Artikel darauf ab, die ausschließende Zentralität der *America(n)-Nature* als historisch-geographischen Ursprung und konstituierendes epistemisch-politisches Prinzip dieser neuen Ära hervorzuheben. Nach einem Überblick über die kritische Rezeption des Konzepts im Bereich der Sozialwissenschaften lädt der Beitrag dazu ein, das „Anthropozän“ anhand einer elementaren Blickverschiebung zu überprüfen: von der „Natur“ zur Geschichte; von den Arten zu sozialen Formationen; von Substanzen (Kohlenstoff, Uran, Plastik) zu Praktiken, Lebensweisen und Machtverhältnissen. Durch die Untersuchung ihrer Genealogie aus dem de-kolonialen kritischen Materialismus der Politischen Ökologie des Südens wird die Umwelt der „Eroberung Amerikas“ als ein geologisch-politischer Wendepunkt erforscht, der die Entstehung eines neuen geo-soziometabolischen Regimes zur Folge hatte. Bei diesem Ansatz wird die Eroberung nicht nur im Hinblick auf ihre unmittelbaren katastrophalen Auswirkungen (*Pico Orbis*) betrachtet, sondern auch als geohistorischer Ort, an dem eine neue Beziehungsmatrix (*conquestual habitus*) zwischen Menschen und Nichtmenschen, zwischen dem Biologischen und dem Politischen entstand, die schließlich die Dynamik der Ströme und soziometabolischen Zyklen des irdischen Lebens unterbrechen sollte. Ziel ist es, die ontologischen (geologischen, anthropologischen und soziopolitischen) Auswirkungen dieser ursprünglichen Praktiken der extraktivistischen Besetzung/Aneignung von Territorien und Bevölkerungen aufzuzeigen. Es wird postuliert, dass diese Praktiken – konfiguriert und sedimentiert durch die Etablierung, Ausdehnung und Verallgemeinerung der Minen- und Plantagenformen als Machttechnologien und neue Konzeptions- und Produktionsmittel der menschlichen und terrestrischen Existenz im Allgemeinen – höchstwahrscheinlich die Auslöser der geosozialen Emergenz waren, in die die menschliche Spezies nun tiefgreifend verwickelt ist.

**Keywords** *America(n)-Nature*, Political Ecology of the South, Capitalocene, decolonizing the Anthropocene

## 1. Introduction: In the search of a name (and meaning) for our Era

In this avenue of the centuries, where the findings of archaeologists constantly extend in the night of the past, we can at least recognize the intimate bond that unites the succession of human facts and the action of the telluric forces, and we are allowed to follow in a timeline each period of the life of the communities based on the change of the means, to observe the combined action of Nature and Man himself reacting on the Earth that has formed him. (*Élisée Reclus, L'Homme et la Terre* 1905)

At the dawn of the present millennium, the concept of the “Anthropocene” (*Crutzen and Störmer* 2000) has created a turmoil, both at the scientific and political levels. Not only does this concept seek to name a new Era, but also opens a debate on the *nature of the epoch* we are living in: its origins, its generating factors, its consequences. Like an alarm, the concept “Anthropocene” demands human attention, from the immediacy of the contemporary, sociological time and the speed of the urgent towards the immensity of geological time. It confronts us with temporality in its vast ex-

istence, as an ontological category, where ecology and politics merge in the immeasurable complexity of terrestrial life.

The epistemic and political relevance of the concept is comparable to that of the scientific findings of the XIX century when the pioneering developments of the “naturalists” of the time began to break with established conceptions related to the ages of the Earth, the origins of species, including, specifically, that of the human species itself. Thus, it poses new questions about the connections between biology and culture, the historicity of matter, the position of the human in “the chain of being”, in “the tree of life”.

At that time, the approaches of *Gottlob Werner* (1749-1817), *Charles Lyell* (1797-1875), *Charles Darwin* (1809-1882), *Thomas Huxley* (1825-1895) and *Alfred Russell Wallace* (1823-1913), among others, caused a profound shock in the prevailing images of the world (in *that* society of the time). Contrary to their deep-seated beliefs, the convergence between the findings of the “heroic age of geology” (*Bowler* 1998) with those of evolutionary biology gave way to a scientific revolution, *stricto sensu* (*Kuhn* 1962). The contemporary publications of “Principles of Geology” (1830-

1833) and “The Geological Evidences of the Antiquity of Man” (Lyell 1863), “The Origin of Species” (Darwin 1859) and “Evidence of Man’s Place in Nature” (Huxley 1863) demolished the creationist doctrines, the representation of “nature” as a faithful reflection of the divine order and its hierarchical will, having at its top the celestial human exceptionalism, alleged end and center of all “creation”.

Ironically, while scientific “discoveries” were advancing under the Baconian mandate to extend the rule of reason over nature, those very findings were beginning to reveal the overflowing complexity of Earth’s biological systems and processes. Descartes’ idea of a *cogito* abstracted from the world, with panoptic, omniscient, and presumably unlimited capacities, was challenged at the time by the evidence of a species whose ancestry came rather from the random sympoietic evolution of molecules, bacteria, organisms, and telluric processes. The human was revealed as a tiny corporeal being, materially surrounded by a surplus tangle of biodiversity, interdependencies, and mutualities in continuous movement.

Even so, the complexity, multiscalar, and multidimensionality of the intertwining and crossing of living matter were elusive for a way of understanding that sought precisely the idea of building certainties and finding simple causalities. The human appeared as something difficult to classify. While for Ritter (1779-1859) geography affirmed itself as a science and revealed the geographical determinants of human behavior, for George Perkins Marsh (“Man and Nature”, 1864), on the contrary, it was a matter of understanding the human as a powerful force capable of transforming the Earth, often with devastating consequences.

The notion of “Anthropocene” echoes those original controversies: is there a nature that determines the behavior of *Homo Sapiens*? How “necessary”, unavoidable, uniform or universalizable are the effects of “human action” on the Earth? Once again, as in early modern science, does the “Anthropocene” evoke a presumed “Civilization” that necessarily makes its way at the expense of “Nature”?

Indeed, the “Anthropocene” takes us back to the industrial effects of a revolutionary and epistemic transformation. The scientific recognition of the thousand-year-old temporality of life on Earth and of it, as well as of the immanent ascendancy of the human, took

place at the same time as the (until now) unstoppable machinery of “creative destruction” (Schumpeter 1942: 81) generated by the *locomotive of progress* began to pick up speed and take flight.

Crutzen and Stoermer (2000) took those geological traces left by that machinery as the main vestige of the “Anthropocene”: the concentration of greenhouse gases in ice cores from glaciers led them to propose as the starting date of the new Era the 1784 emblematic milestone (the year of the invention of the steam engine by James Watt). Along with the change in the chemical composition of the atmosphere, they listed a wide range of collateral “anthropogenic effects”: the exponential growth of the human population, the accelerated expansion of urbanization, the concentration of human use of water and soils; the exponential increase in carrying capacity and the human transformation of landscapes, vis a vis, the staggering decline of wildlife, the increase in the extinction rate of species, the erosion of biodiversity, forests and aquatic biomes; the proliferation of toxic substances and the discharge of polluting effluents into the water, air and soil. In short, the significant deviation and change of the environment for the next 50 thousand years as a consequence of the cumulative burning of fossil fuels since the so-called “Industrial Revolution” (Crutzen and Stoermer 2000).

At first glance, the “anthropogenic footprints” are those of a catastrophe. In contrast to the XIX century, the profoundly disturbing aspect of the “Anthropocene” is the explicit confirmation of the development of a civilization as a deadly (socio)ecological crisis; the “development” of “Humanity” at the expense of the Earth’s decomposition. Beyond controversies, the “Anthropocene” refers to a geological Era marked by the fragility and extreme precariousness of life on Earth, so far, the only known planet with such an attribute. It faces us with the certain and far-off probability of human extinction, whether this is perceived as an overwhelming fact of existential anguish, or as a celebration for ecomodernists (Nordhaus and Shellenberger 2007; Shellenberger and Nordhaus 2011) and accelerationists (Williams and Srnicek 2017; Land 2017). For both sides, the question arises as to whether exterminism would inevitably be “the last stage of civilization” (Thompson 1980).

Today, as in the revolutionary times of Lyell and Darwin, the most recent geological-anthropological findings once again confront the scientific records of

human knowledge with its deepest religious convictions. The “Anthropocene” questions world views petrified in institutions, geographies and practices; the embodiment of beliefs (*Bourdieu* 1980), now, in some millions of living human organisms. It is no longer a question of challenging old medieval theology tenets. This is about how the “Anthropocene” resonates as heresy for the modern faith of progress; the creed of technological omnipotence, infinite growth and its liturgy of efficiency, of instrumental rationality under bureaucratic command.

Science raises questions for which answers are still not solid: how to name this, our Era? What constructions – or would it be more appropriate to say, *destructions* – is it made of? When did we become a “geological force”? Or, who, how, by what means and for what purposes have the “anthropogenic” transformations of the Earth revealed themselves to be so extremely threatening? Who is the *Anthropos* of the “Anthropocene”? Rather than providing closed, specific answers and creating new imperial missions, perhaps science should humbly rethink the nature of the connections between the Earth and (what makes us) human(s).

## 2. Chasing after the (colonial) footsteps of *Anthropos*

The crisis in the use of nature is a crisis in man’s way of life. (*Pierre Gourou, Journal of Tropical Geography* 1971)

Among researchers in the so-called “natural sciences”, there is virtually unanimous agreement that the new state of the Earth is negative, and worryingly so. Their research has focused almost exclusively on finding stratigraphic evidence of widespread and synchronous “human impacts” observable through a global marker in the geological substratum (Global Stratigraphic Section and Point, GSSP, or “Golden Spike”). Without any problematization of the stated agency, the question of the causes of this new Era has been confined to a question of dates and substances.

Anthropic – let us say “pre-industrial” – transformations linked to the use of fire, the development of agricultural technologies and the domestication of species have been dismissed as insufficiently global, synchronized and of long duration. Under such criteria, the most generally accepted dating of the “Anthropocene” within this scientific community has focused

on two possibilities: the initial approach of *Crutzen* and *Stoermer*, focused on the carbonization of the atmosphere (1784) – which would have the advantage of having unequivocal evidence of industrial alteration of the global climate (*Crutzen* 2006; *Kaplan et al.* 2011; *Harden et al.* 2013; *IPCC* 2013) – and the proposal of the Anthropocene Working Group (*Zalasiewicz et al.* 2008), to date its beginnings to around 1950, when other substances are added, mainly radioactivity resulting from the nuclear proliferation of World War II, together with plastics, cement, new chemicals and toxic industrial effluents, emanating on a large scale during the so-called “Great Acceleration” linked to post-war patterns of technology, production and consumption (*Steffen et al.* 2004, 2007, 2011).

In the field of the “social sciences”, on the other hand, the emergence of the “Anthropocene” has sparked prolific debates, mainly around the question of “how this crisis of climate change appeals to our sense of human universals” (*Chakrabarty* 2009: 53). From different perspectives, attention is drawn to the naturalness and naturalizations with which “Anthropocene” approaches reproduce generalizations, universalizations and ontological presuppositions that refer precisely to the socio-political roots of the observed terrestrial impacts. The vague generic meaning of “anthropogenic forces” is evidenced as a mere ideological construction that tends to occlude the vast diversity of practices and ways of life of specific human populations (cultures); ironically, many of them historically subsumed under the rubble of the much-vaunted “civilizational progress” of “humanity”.

Among these assumptions, *Chakrabarty* draws attention to a certain enlightenment naivety that underlies the claims of Earth scientists, prolonging the assumption of the Earth as exteriority that must be subject to “rational administration”. He warns that, in reality, the anthropogenic findings of climate change “imply the collapse of the old humanist [anthropocentric] distinction between natural history and human history” (*Chakrabarty* 2009: 54). Awareness of this would require a critical revision of the civilizational project of modernity/globalization, as well as rethinking the human as a species beyond the global histories of capital, opening ourselves to look at “human history as part of the history of life on this planet” (*ibid.*: 62).

The critical distancing from the ontology implicit in the *naturalists* of the “Anthropocene” opens up perspectives for removing the universalist presupposi-



tions that occlude the abstract figure of Anthropos, and for investigating the “Anthropocene” not only through certain substances, but mainly through historically and geographically concrete, discrete and situated, politically determined human practices, forms and regimes of social relations. Some developments in this sense refer their origins to urban-industrial metabolism (Fernández Durán 2008); to capitalism’s systemic drive for unlimited growth (Altvater 2014; Angus 2016; Foster 2016); to capitalist fossilism (Malm 2016); the commodification and imperialist expansionism of capital (Moore 2016); the proliferation of andro-anthropocentric monocultures (Haraway 2015; Tsing 2015); the very institutional structure and dynamics of capitalist development (Fraser 2021).

All these readings, which depart from conceiving capitalist modernity as the manifest destiny of humanity, challenge the very name proposed or imposed by the “natural scientists”. For Altvater, it is more appropriate to speak of the Capitalocene, because “in the process of capitalist accumulation, nature is irreversibly transformed, always in the direction of an increase in the entropy of the Earth’s geosystems” (Altvater 2014: 08).

In the same vein, Nancy Fraser argues that “capitalism is the main socio-historical driver of global warming [...] this is an empirical, cause-effect statement [...] it does not erroneously blame ‘humanity’ in general, but rather the business class linked to profit which designed the production and transportation systems based on fossil fuels” (Fraser 2021: 105). As to Fraser, it is essential to understand that “there is a systemic and ecological contradiction embedded in the DNA of the capitalist society, anchored in its structure as institution and in its development dynamics” (ibid.: 107). On his part, Andreas Malm reconstructs the origins of the fossil fuel epoch by linking them to the dialectics of class struggle. For the author, “the explosion of emissions is the atmospheric inheritance of class struggle” (2015). The implementation of the steam engine, recognized by Crutzen as the trigger of the new Era, was not a decision of “humanity,” but of a social class. Watermills were replaced not because coal was more abundant or efficient than water, but because this social class could exert greater control and power on the labor force (Malm 2015, 2016, 2018).

Going further back to the roots, for Jason Moore the causes of the current geological transformations must be traced back to 1450, when the tensions and con-

flicts of “feudal Europe” led to a “crucial change in the scale, speed and scope of landscape transformation in the Atlantic world and beyond”, involving “a change in humanity’s relationship with the rest of nature, greater than any since the advent of agriculture and the first cities – and *in relational terms, greater than the advent of the steam engine*” (Moore 2021: 215, *emphasis in the original*). Moore aims at not only highlighting the importance of *commodification* rather than *carbonization* as a key aspect of capitalogenic transformations but also emphasizing the intrinsic connections between capitalism and imperialism. When considering the socio-ecological requirements of the law of value, the growth of the capitalist economy implies a constant movement of expansion of commodification frontiers, basically for the provisioning of “the Four Cheaps of labor power, food, energy and raw materials” (Moore 2013: 13). Hence, since those initial wars of conquest, for North Atlantic elites the rest of the world (and bodies) means only – a Great Frontier of cheap nature (Moore 2021).

Taken together, these perspectives highlight the key role played by the imperialist appropriation of planetary resources in the dynamics of capitalist accumulation and, consequently, in the emergence of the geological impacts labelled “Anthropocene”. In the direction we wish to explore in this paper, several studies have placed the question of racism and white colonialism at the heart of the issues and the diagnosis evoked by the “Anthropocene”, as a foundational detonating force of this new era (Whyte 2016; Vergès 2017; Yusoff 2016, 2018; Davies and Todd 2017; Gómez-Barris 2019).

One of the key devices of colonialism and coloniality (Lander 2000; Quijano 2000) is the erasure of historicity through a flat temporality that occludes the historical roots of the present. In this sense, Whyte points out that the “Anthropocene” signals a continuity rather than a rupture: the advanced capitalism of the present as an extension of colonialism. Thus, for colonized peoples, the “Anthropocene” presents itself as “an experience of *déjà vu*”, for it cannot be omitted that “climate injustice is part of a cyclical history situated within the broader struggle of anthropogenic environmental change catalyzed by colonialism, industrialism and capitalism” (Whyte 2016: 12). Likewise, in positing the need to (re)make “a history of the environment that includes slavery, colonialism, imperialism and racial capitalism”, Françoise Vergès (2017) points out that it is not enough to speak of the Capi-

talocene, but that it is necessary to name it the *racial Capitalocene*.

For her part, *Kathryn Yusoff* proposes to conceive of the origin of the “Anthropocene” in “the birth of the racial subject”, “linked to colonialism, the conquest of space and the codification of geology as property and goods” (*Yusoff* 2018: 58). Her genealogical gaze digs into geology as a racial discourse that petrifies white imperialism in a mystified history of humanism that occludes with the threat of present and future extinctions of the “Anthropocene” the extinctions already suffered by black and indigenous peoples” (*Yusoff* 2018: 51).

In this point, *Donna Haraway* (2015) and *Anna Tsing* (2018) shed light on the understanding of the depth, extent and complexity of imperialist practices as a fundamental factor of capitalogenic transformations. The authors invite us to perceive to what extent these imperialist relations configure the “Anthropos” not only extended as a matrix of intra-species power but also of inter-species, subjecting “non-Western” cultures and the entire planetary biodiversity to the will of privileged human elites. Their developments help to un-cover the deep geological layers in which anthropocentrism has managed to sediment itself as the hardcore of the modern imaginary. Only by ignoring the extent to which human life is entirely dependent on multispecies relations has it been possible to spread a geoculture whose “development” is conceived as an endless race to exploit the planet.

Thus, un-covering the capitalogenic (colonial, patriarchal) roots of the “Anthropocene” allows us to see the contemporary world – both, in its ecological dynamics and within specific political processes – as the result of *an expansive and never-ending trajectory of exploitation*: exploitation of some human beings by others; exploitation of certain human beings over other living beings (co)habiting the planet, all (human and non-human) already considered as mere “resources”. We discover that the act of predation has profound geological consequences.

Thus, the questions that the “Anthropocene” poses shift their focus. When and how did these human practices of exploitation come into existence? In what scenarios and under what circumstances did they begin to occur and become widespread? What types of human beings adopted them and (re)produced themselves based on them? How did these practices

become the legal, institutional and motivational principles of the functioning of human societies?

### 3. About forms, formations and trans-formations: *human labour* and its geo-historical effects

Ever since man has existed, man and nature have affected each other. (*Karl Marx and Friedrich Engels, The German Ideology* 1846)

The main mistake of the “Anthropocene” naturalists is to ascribe what historically and scientifically belongs to a social formation to species. In order to account for it and to warn about its implications, an elementary conceptual revision seems appropriate.

At the beginning of the XIX century, in the first steps of modern geological science, the German naturalist *Gottlob Werner* coined the concept of “geological formation” as a new taxonomic method for rocks. By means of this taxonomy, he postulated that the fundamental differences between rocks were related to the *manner and time of their formation*, rather than their mineralogical composition, uses, extent and location.

By identifying the temporal composition as its determining aspect, *Werner* defined the different *geological formations* that make up the Earth’s crust as “unique historical entities, not as natural species” (*Rachel Laudan*, cited by *Foster* 2000: 187). A few decades later, *Marx and Engels* (1846) laid the foundations for understanding the human from the *social formations* in which its subsistence takes place, emphasizing the historical-geographical (ecological-political) ways in which human populations produce their conditions of existence.

In both geological and socio-anthropological terms, the concept of *formation* accounts for specific and particular forms that shape distinguishable historical entities. The concept refers to a genealogy, an ontogenetic process; historicity that materializes itself, spatially and temporally, in concrete states that, at the same time, are in continuous mutation; in a constant movement of contingent changes. The geological and social formations are open systems: indefinite and autopoietic. The *mode of production* – of Earth and of human societies – acquires its specific *forms* through time-space. As we know today, the ontogenetic dynamics of geological and social formations are not

independent processes; they are intrinsically and reciprocally related: “Societies and their ecosystems, all the biotopes and physical environments in which they are integrated and from which they draw resources, form living, interactive and mobile units” (Deléage and Hémerly 2021: 54).

Historical materialism not only bequeathed a clear awareness of the complex unity of natural and social history, but also provided a framework for understanding and analysing how this co-evolutionary dialectic is produced, by conceiving life as inseparably ecological and political social production, and by identifying human labour as a key link between the geological and the anthropological.

Already in the mid-XIX century, *Marx* foresees the determining relevance of human social labour as a powerful geological force which, by determining the mode of sustenance, the meaning and form(s) of social existence, transforms the entirety of the Earth – in its most intimately anthropological and most comprehensively biospheric dimensions – in its entirety. As an expression of the dialectical becoming of matter, human labour emerges as a key vector of the co-implications (affections) between *generic nature* – Earth – and *specifically human nature* (Machado Araújo 2016a). As a terrestrial socio-historical being, the species *Homo sapiens* is what it (becomes) by and through its actions, in the production of its means of subsistence and the meaning of its existence. These ways of being, of producing oneself, are inexorably embodied both in a certain territoriality (the raw form of anthropogenic geological traces), and in specific historical types of subjectivity-sociability (ways of feeling oneself as a human being). Therefore, the meaning of labour and the historical-concrete forms that materialize its social organization (mode of production) emerge as the central aspects in the determination of the historical course that successively and reciprocally acquire the transformations, both geological and socio-political (and, ultimately, anthropological).

In this framework, the notion of social metabolism (Marx 1867; Foster 2000) – as a biophysical equation of energy-material exchanges between human populations and territories – allows us to analyze and understand the historical-biological-political evolution of the planet, as a compendium resulting from the concrete dialectic between “natural history” and “social history”, thus integrated into the same ecological-political history. The concrete ecopolitical trajec-

ries traced by the different social formations, through their respective and specific social metabolisms, are imprinted on the geological state of planetary life. It is these socio-metabolic regimes that influence the transformations of life on and in the earth, both at the geological and biospheric level, and at the sociological, political and anthropological levels.

In relation to the “Anthropocene”, this implies that, in order to find elements that allow us to understand the current state of decomposition of life on Earth, we must look, not in “Nature”, but in history; more specifically, in the history of the geopolitically dominant social formation of the last centuries, and in the particularities of its socio-metabolic regime. If we do not want to fall into an unacceptable naturalization (*Homo sapiens* as a predatory species “by nature”), we must inquire more precisely into the ontogenesis of the social formation imbricated in this new geological era; how it was constituted; what were its conditions of emergence and con-formation; and what were the particularities of its metabolic regime.

In this sense, it is important to date its beginning whether in 1776 or 1950, in 1450, in 1492, or even to go back to the beginnings of agriculture. This is not just a historiographical disquisition, but an eminently ontological-political question. Different meanings proposed as critical alternatives to the “Anthropocene” – Capitalocene, Plantationocene, Phalocene or others – mark, in fact, nuances on what are considered the primordial forms here in question. It is not the same to point to industrialism, carbonization, commodification, imperialist expansionism, the *dominating habitus* of modern patriarchal subjectivities, the proliferation of simplifying ecologies, etc. Although these possible answers are not necessarily exclusive, the ways of constructing their possible articulations evoke different ways of understanding or defining capitalism (in its links with industrialism, militarism, colonialism, patriarchy).

#### 4. The *Pico Orbis*, or the Golden Spike impaled in the flesh: the Conquest of “America” and the origins of the Capitalocene

The modern world-system was born in the long XVI century. The Americas as a geosocial construct were born in the long XVI century. The creation of this geosocial entity, the Americas, was the constitutive act of the modern world-system.

The Americas were not incorporated into an already existing capitalist world economy. There could not have been a capitalist world economy without the Americas. (*Aníbal Quijano and Immanuel Wallerstein 1992*)

In referring to “America”, *Quijano and Wallerstein (1992)* defined it as a geosocial entity; more precisely, as the first geosocial formation whose creation triggered the subsequent process of shaping the modern world-system of capital (its “constitutive act”). Although, by the way, at that time the debates on the “Anthropocene” had not yet been raised (in the terms and with the implications of the present), already then, this analysis was indicating that such a historical event constituted, in fact, the beginning of *a new era in the history of humanity*; therefore, correlatively, *a new era in the history of the Earth*.

*Quijano’s and Wallerstein’s* seminal statement not only constitutes a radical epistemic turn away from white colonial historiography (of Modernity, the State, Science, the Market and Civility, Reason, as intra-European phenomena of the eighteenth century), but also, with it, establishes the centrality and ontological-political transcendence of the creation of America. With this creative act (we should say, creative destruction), a new form of territorialization emerges, now global in scope and which would end up standardizing the entire human species under the same pattern of power (*Quijano 2000*) and the same geo-sociometabolic regime (*Machado Aráoz 2016b, 2018*).

Historicizing this process (determining who created it, with what motivations, with what ends and means, under what conditions and circumstances, with what results and effects) is fundamental to discovering the figure of the Conqueror – as a new regime of subjectivity – as the author and exclusive protagonist of the “Anthropocene”.

If we stick to the facts, the “discovery of America” was the first great act of global military conquest, epigone of the escalation of mercantilism, wars of conquest and tributary pressures that “overflowed” the Mediterranean economy towards the Atlantic (*Wallerstein 1974; Moore 2003; Wolf 1984*), opening up to the world, now conceived as spoils of war; founding an episteme and a practice that made “Nature” (Earth – Bodies) a Great Frontier of commodification (*Moore 2013*). In this race of conquest, in which “Portugal and Castile” excelled as “predatory states”, specializing –

at the expense of the Muslim populations of the Iberian South – in “seizing external resources by military means” (*Wolf 1987: 138*), the origins of the geo-social emergence that concerns us today can be located.

Incidentally, the “arrival” in the “West Indies” was not that of *Homo sapiens*, but of humans particularly motivated and trained in these predatory practices. Historically and scientifically, the *Anthropos* goes back originally to those white men, armed, imbued with a Christianity of war, greedy for riches (signs of distinction and means of power), adventurous in the search for appropriable treasures all over the world, unbound from all moral and social ties with regard to the effects of their acts; one-dimensionally directed towards conquest as the end of all existential fulfillment; who on 12 October 1492 would nail the cross and the sword to the lands of the “Santo Domingo” Island.

Under the protagonism of such subjects, with such motivations and such practices, “the conquest was above all a tremendous butchery” (*Mariátegui 2005: 42*). There, such practices gave rise to an absolutely novel method of territorial production: the *extractivist occupation/appropriation* of the “discovered” territories and populations. *Gligo and Morello (1980)* refer to these extractive practices as the specific form of the conqueror’s political economy<sup>1</sup>. This method doesn’t turn the territory into a habitat but into a plunder zone. Thus, its economy is not focused on production but on looting. The matrix of social interactions emerging from this method of occupation as a product and a means of production is inextricably linked to: an oligarchic pattern of land appropriation and concentration; the implementation of an economy primarily structured on the basis of monocultural production of goods with the highest immediate income destined to, and dependent on, exogenous centers of decision, valuation and consumption, and, therefore, correlatively detached from the support of local populations; and the systematic use of violence as a technology of power and a means of exploitation and control over colonized populations and territories.

The peoples and human groups historically oppressed and subsumed under this geo-sociometabolic regime have long known and are fully aware of its lethal geological-anthropological scope. They know firsthand the exterminist dynamics of racism, colonialism, and the patriarchal-industrial violence of capital as a devastating economic power. These indigenous, black,



feminist epistemes, this knowledge of the South (Santos 2009), have long been denouncing (and rebelling against) the “Anthropocene”; long before the Earth sciences managed to formalize such a finding under the protocols of geology and modern stratigraphy.

In this regard, recent research has provided a robust construction of indicators and empirical references in this geological-stratigraphic record to consolidate this understanding of the “Conquest” (Lewis and Maslin 2015). The authors label it the Great Mortality, as it triggered the largest displacement and “replacement of human populations in the last 13,000 years”, with the death of over 56 million original inhabitants of the “Americas” and the trafficking of 12 million enslaved Africans (Lewis and Maslin 2015: 174). This was the largest human mortality event in proportional terms in the entire history of the species, involving the elimination of 90 % of the American population, equivalent to 10 % of the world’s population at the time. In absolute terms, this mortality was only surpassed by the number of victims of World War II (80 million people; 3 % of the population at the time) (Maslin and Lewis 2020).

Large-scale trade – not only in relation to its global character and the intensification of flows and volumes, but also to the socio-cultural, economic and political relevance of this practice – led in turn to the irruption of a great transcontinental movement of animal and plant species, the proliferation of viruses and pathogens resulting from the abrupt contact between previously isolated biotas, as well as the initial global dynamics of homogenisation of landscapes and standardisation of ecosystems, diets and human practices. “This reconnection of continents and ocean basins for the first time in 200 million years set the Earth on a new developmental trajectory” (Maslin and Lewis 2020).

The great demographic catastrophe certainly had environmental effects: “The accompanying near-cessation of farming and reduction in fire use resulted in the regeneration of over 50 million hectares of forest, woody savanna and grassland with a carbon uptake by vegetation and soils estimated at 5–40 Pg within around 100 years. The approximate magnitude and timing of carbon sequestration suggest that this event significantly contributed to the observed decline in atmospheric CO<sub>2</sub> of 7–10 p.p.m. (1 p.p.m. CO<sub>2</sub> = 2.1 Pg of carbon) between 1570 and 1620 documented in two high-resolution Antarctic ice core records. This

dip in atmospheric CO<sub>2</sub> is the most prominent feature, in terms of both rate of change and magnitude, in pre-industrial atmospheric CO<sub>2</sub> records over the past 2,000 years.” (Lewis and Maslin 2015: 175).

1610, the date of the *Pico Orbis*, thus marks the stratigraphic record of the foundational genocide of the new Age. The Conqueror’s violence left its mark on the climate and atmosphere; it provoked the planet’s first major geomatabolic upheaval event, triggering a drastic disruption of agriculture, followed by famines, flares, intensified warfare and disputes over food and survival around the world (Blom 2019). With its epicentre in ‘America’, the wave of conquest violence spread across the globe not only during the Little Ice Age period (1570-1700), but in a spiral of violence that continues to escalate to the present day.

This great “Golden Spike” is the first of a succession of subsequent spikes, which beyond leaving records in the immemorial ice, are “impaled in the flesh, as sites of violence exercised on the integrity of subjectivity, corporeality and territoriality” (Yusoff 2018: 67). A golden spike that consigns not only the disruption of the climate and the wave of mass extinctions of the present, but even then, the extinction of entire peoples, with their respective biota and ecosystems, their languages, their cultures, their knowledge and ways of life. The end of their worlds. Genocide, ecocide, epistemicide are not three distinct or separable phenomena; they are only analytically distinguishable dimensions of the same catastrophic, apocalyptic event. This is why, even if it was imprinted on the stratigraphic traces of the Earth in 1610, its origin was unleashed in 1492. Since then, “the West fell upon all civilizations like an apocalypse that put an end to their existence. Believing ourselves to be the bearers of salvation, we became the apocalypse for others” (Latour 2017: 232).

Since 1492, life on Earth has begun to function under a different sociometabolic regime. In economic terms, the hydro-energetic flows, the cycles of matter and the creative energy of human social work are no longer oriented primarily to ensure and reproduce the conditions for supplying the producing populations with their vital needs. Since then, all biogeological flows and processes, i.e., life itself, will be subject to the maximum valuation principle. In political terms, the new sociometabolic dynamic implies a social interactions regime based on the “Conqueror’s” dominion; that is, the emergence of an ethical and political

standard that establishes the supremacy of the “Individual.” This triggers an accelerated erosion of consciousness (ethical and political; philosophical and practical), of life dependency on its dynamics of reciprocity, mutuality, diversity and complementarity, and of the communitarian and necessarily collective character of life. The metaphysical economy and the politics of the “Individual” are two of the most lethal aspects of the “Anthropocene.”

Although even then many of the exosomatic energies consumed by human activities came from “renewable” sources (wind, water, and solar heat), and even when the machines and means of production were basically “human-powered” (Fraser 2021: 120), mainly from human slaves, a fundamental change had already been verified at the endosomatic level of human domination. There is a change in the *biopolitical energies* that motivate the subjects, who are now affected by the fuel of mercantilization, domination and valuation of all living beings. Starting with certain humans, money begins to disrupt the Earth’s climate.

##### 5. Forms of occupation and technologies of power: Mine, Plantation and the capitalocene becoming of the world

Never as in the XVI century has the role of precious metals seemed so important. Contemporaries do not hesitate to assign them first place, and XVII century economists are even more emphatic. (Braudel, *The Mediterranean and the Mediterranean World in the Age of Philip II* 1987)

The Conquest was a Great Catastrophe; the first major socio-environmental catastrophe of truly global scope. Its geological relevance does not arise, however, from its drastic direct and immediate impacts, but from the social structuring effects of the extractivist practices that nested there. Sedimented as a new way of conceiving and producing human existence, they would give rise to the emergence of a new geosocial formation, already global in scope.

The extractivist appropriation of Nature America(na) would crystallise in a whole new institutionality: modern forms of warfare, the modern territorial state, the international system of nation-states and their notion of “sovereignty”; the geographical and racial division of populations and territories; “international treaties” and the demarcation lines of partition (from

the Treaty of Tordesillas, to the Berlin Conference and beyond); property laws, and property as supreme law; the global market as the epicentre of wealth and power patterns; the traffic in commodities, bodies and living beings as a function of mere profitability equations; science as knowledge in the service of the appropriation, control and commodification of the world. And also, a new form of subjectivity: the conquering *habitus*, the *homo depredator*, portrayed in Hobbesian-Smithian anthropology as the “natural” form of the “universally” human.

Extractivism as a new geometabolic regime has its general epistemic-ontological mould in the practice of conquest (Segato 2018) (i.e. conquest not as a circumscribed act, as a temporally limited event, but as a systematic practice and rule of life; as a way of acting transformed into a continuous present). And it has its specific technologies in the Mine and Plantation forms. Referring to its production technologies, this new geological Era may well be called Mineralocene (Machado Aráoz 2014, 2020) and/or Plantationocene (Tsing 2015).

*Mining* and *Plantation* were the two main ecological-political methods of (re)production through which the Conqueror designed his territoriality of domination<sup>2</sup>; that is to say, the geography of capital (Harvey 1975). Being placed in the heights of the great Andean mountains and the plains of the tropical South American and Caribbean coast, the silver deposits and sugarcane plantations and mills were the great extractivist infrastructures through which “the satanic mill” of accumulation was set in motion (Polanyi 1944). Both methods are forms of *mining exploitation* of lands and human bodies.

*Mining* and *Plantation* forms condense a regime of property and power by means of which there was a convergence of the owners of lands and water, the serfdom and slavery, the simplification and biological standardization of ecosystems, the systematic rape of female bodies as the dominator’s pedagogy of cruelty (Segato 2018), and the social discipline by means of terror (Taussig 1987). The use of land was not only for supporting the population, but as a means for producing goods subject to the willingness of a so-called “owner”. Mining and Plantation constitute the biopolitical geography of the sovereign power that assumes the authority to “turn the land at its mercy” and to control its inhabitants at their will. These are the first creations of the new sovereignty: private property

and the modern territorial state.

Following *Anna Tsing* (2015, 2018), it can be said that they were the first two forms of “imperial disruption” of the Earth; that is, the destructive disruption of the proper symbiotic organization and multi-species assemblies of habitable landscapes. Disturbances not conceived to build habitability, but already profitability<sup>3</sup>. Technologies of power designed under an instrumental rationality, efficient, directed to the exclusive purpose of maximizing the rate of extraction of abstract wealth from the appropriated lands.

For this purpose, Mining and Plantation inseparably combine and coordinate human and land exploitation. Modern technologies of exploitation were born, created, perfected and proliferated in and through Mines and Plantations. Then, in and through them, certain humans were trained in the abysmal and unscrupulous use of violence, which was already justified as a method and means of a presumably “superior” civilizing project.

Such violence produces *enclaves*; it operates through fragmentation and isolation. Fragmentation of territories; isolation of bodies and living beings. Mine and Plantation are, par excellence, *enclaves*, i.e., spaces devoid of diversity. Sociobiological relations are broken as an effect and condition of the imposition of the extractive monocultural logic. From the mine, only gold and silver are important; from the plantation, only sugar canes. These are the products/commodities demanded by the market. This fragmentation and isolation applies both at the biological level (thus altering the hydrological, edaphological, ecological and nutrient cycles and flows that occur between species through food chains and sympoietic relationships) and sociological level: commandeering and slavery functioned not only as mechanisms to forcibly recruit labor forces, but also as a political technology of control and domination of human bodies, thus, separating them from their environments and relationship frameworks, and depriving them of their collective capacities for resistance.

As emblematic forms of enclave, *Mining* and *Plantation* became the links of a vertical territorial chain typical of dominance acquired by the logic of the world market over the destiny of the occupied places (*Santos* 1996). Due to their geo-sociometabolic dynamic, dispossession is dialectically connected with accumulation. Naturalized inferiorization/subalternity and

superiority/supremacy are effects of the same matrix of verticalities that exercise dominion, that is, the capacity of disposition over the colonized territories/populations.

In both Mining and Plantations, commandeering and slavery give rise to the invention of the *race* as a naturalized code for political domination and a mechanism for economic exploitation (*Quijano* 2000). Since 1492, Mining and Plantation involve an imperial hierarchical organization of the world, i. e. forms that (re)create not only the subaltern sacrificial zones as suppliers of strategic raw materials for the development of the metropolis, but also populations that are objects of conquest.

Finally, in order to connect the forms with their effects, it is worth considering that the products of the enclave are fundamental inputs for structuring the imperial power; therefore, for shaping the matrix of oligarchic domination. Through Mining, immense volumes of silver were extracted, which would radically transform the world and its Era<sup>4</sup>. The Potosí Mineral Revolution properly marks the end of the Old World and the beginning of the New World (*Machado Aráoz* 2014). In its monetary function as a value of global exchange, not only did silver play a fundamental role in the formation of the rising world market, but also as a means for financing the creation of the first modern states as bureaucratic devices designed for war and for security control of populations/territories (*Flynn* 1984; *Bakewell* 1990; *Tilly* 1990).

From the Plantation: sugar. Silver represents the political economy of purchasing power; sugar stands for privileged consumption. A luxury good par excellence, the consumption of sugar expressed, in its origins, the geometry of power and the differential positions of the enslaved, racialized, genericized bodies. As products of forms of occupation concentrated in a few hands, silver and sugar reveal the oligarchic matrix of the imperial economy: evident luxury goods, produced for the privileged enjoyment of the few at the cost of the dispossession and exploitation of vast sacrificial majorities. Such are the characteristics and conditions of production of a metabolic regime that has drastically transformed the Earth and that is suffocating life on Earth.

**6. Some conclusions and new openings: denaturalizing the Holocene, decolonizing the “Anthropocene”, in order to survive it**

In a very real way, we are called upon to reinvent ourselves as a species. (*Hathaway and Boff, The Tao of Liberation* 2014)

The “Anthropocene” draws attention to humans as a geological force. However, this generic condition of *Homo sapiens* has been recognized since the end of the 19th century, almost at the same time that the scientific community of the time accepted *Charles Lyell’s* geological periodization and his Holocene proposal. Indeed, *Antonio Stoppani*, noting human activities as “a new telluric force which, in its power and universality, could be compared to the greatest forces of the Earth”, referred to the “Holocene” as the new Anthropozoic Era. And earlier, in the 18th century, *Buffon* noted that “the whole face of the earth bears the imprint of human power” (*Leclerc* 1778: 237).

At the beginning of the last century, the great Russian ecologist *Vladimir Vernadsky* warned about what this implied in terms of species responsibility. Following the extraordinary lucidity of *Reclus*, who proposed to think of humankind as “the Earth itself becoming aware of itself,” *Vernadsky* pointed out: “Humanity as a whole becomes a powerful geological force. Human civilization, its thought and its work, is posed with the problem of the transformation of the biosphere in the interest of the free thought of humanity as an indivisible unity. Noosphere is this new condition of the biosphere, which we are approaching without realizing it” (*Vernadsky* 2007 [1926]: 187).

Thus, as unacceptable as assuming the “Western-modern” (capitalist-colonial-patriarchal) form as the universal of the human, is to adopt the assumption that only the “Western” geoculture would have been the only concrete-historical modality through which humans would have “achieved” the capacity to produce transformations on Earth. In reality, all peoples – and not only the “Western” ones – have generated earth transformations. Their own ways of existing have caused innumerable geological impacts and effects. This means that there is no single “Anthropocene”. Rather, from the moment the spatio-temporal stabilization and sedimentation of certain geocultures can be recorded, we can identify the creation of different types of *Anthropocenes*<sup>5</sup>.

The novelty, then, of the “Anthropocene” is not the anthropogenic transformation of the Earth, but the ruinous, eminently destructive character of such interventions. The question of the origins of the “Anthropocene” is not a question of the beginnings of the geological impact of the human species, but of the beginnings of a catastrophic disruption of the climate and the biosphere in general. The “Anthropocene” findings do indeed warn us of the critical threshold of life on the planet and of the planet. Human survival – along with millions of other species on which it depends – is at stake. If subsistence is the goal, radical changes are needed; we cannot continue on this same civilizational course. This makes the “Anthropocene” the great “concept-diagnosis” of our time (*Svampa* 2018); it points to the most pressing and urgent political problem facing and challenging all of contemporary humanity. However, it is not a problem created by the species.

Following the processes of historicization carried out by the social sciences, we have tried to realize that under the garb of *Anthropos* there are, in reality, the practical patterns of the Modern Subject; what is presented as the unfolding of Civilization is nothing more than the political trajectory of the hegemonic globalization of the West. In seeking to identify what kind of practices, what dominant social forms and agentialities produced the specific traumatic transformations of the Earth, we have shifted the gaze from “Nature” to history; from species to peoples/geocultures; from substances (coal, oil, uranium) to practices, dominant ways of life and power relations; from binary ontologies, anthropocentric assumptions and evolutionary narratives, to a gaze that tries to be respectful of the complexity of the symbiotic becoming of (con-)living matter, of the co-imbrications between biology and culture, geological formations and social formations.

This perspective allows us to understand the upheavals of our time as the result of a geosocial emergency; a geosocial entity emerging from a context of extreme violence. There are sound reasons and solid evidence to consider the “Conquest” of “America” as the geo-historical environment where the shaping of such an emergency took place. In those circumstances, under the Conquistador’s motives and practices, a new matrix of power was configured; a new regime of subjectivity and truth.



Since 1492, a new geo-sociometabolic regime has been expanding, taking over the earth’s socio-biodiversity. A new fuel mobilizes human subjectivities; successive new energy sources required by an industrial machinery of geophagic voracity, exponentially increasing the entropy of Earth’s life systems. From then until today, we do not witness the “development” of “Humanity”, but the deployment of the Conqueror, who advanced rampantly over the world of life, whether plundering treasures and works of other cultures, exploiting their mineral deposits, or clearing forests to implant monocultures; or trafficking enslaved human bodies; or burning coal, and later oil and even radioactive minerals; already usurping lands and dictating creeds, laws and currencies to the ends, in the name of the “progress of Humanity”; haughtily imposing names and drawing maps to the “new geographies” “discovered” by them; now, also, (im) naming the new geological Era and offering geoengineering “solutions” for their own disasters or even more, projecting new enterprises of conquest over outer space and colonization of planets.

The anthropocenes of Abya Yala were extinguished under the catastrophe of the Conquest. The expansion of mining and plantation zones consolidated a matrix of socio-ecological relationships marked by the oligarchic appropriation of livelihoods and the systematic exploitation of (con-)living beings. Under the rule of such forms, a growing dynamic of objectification, standardization, concentration and hierarchization transformed the history of the Earth into a successive series of apocalypses. The transformation of living beings into “resources”; the extractivist occupation of territories, the racialization and enslavement of populations; the legalization of the Conqueror’s *habitus* as the prototype of the human; in other words, the institutionalization of violence, the generalization of war and the rationalization of exploitation on every scale.

Ultimately, this view aims to highlight conquestual violence as the anthropogenic force of the Capitalocene; the distinctive feature of such a geometabolic regime. This allows us to warn about the centrality of exploitation as a foundational and intrinsically constitutive social practice of this new Era and about a geometabolism that generates value at the cost of the depredation of the sources of life.

This perspective shows commodification as dehumanization, and dehumanization as decomposition of

the Life-Earth System. The logic of profitability that drives this new metabolic regime is what underlies the systemic crisis of the “Anthropocene”. A crisis not only of the habitability of the Earth, but also, correlatively, of the coexistence of the Earth; not only of reproduction and subsistence, but also of peace and justice, of autonomy and diversity, of reciprocity and mutuality.

If the Mine and Plantation forms are at the root of this crisis, mitigating their effects, mitigating and seeking to reverse their impacts would necessarily require starting by de-escalating and dismantling such forms and means of production. Even more concerned with inventing large-scale “carbon capture” mechanisms, we should be concerned with removing the psychosocial and economic-political devices that enable exploitation as a widespread social practice. The challenges of the “Anthropocene” imply more than seeing the climate as a “field of intervention”, but visualizing the imperative need to rethink the human as members of the Earth’s community of life. This would be to reconsider and deconstruct *Anthropos* as a fundamental step in undertaking the task of re-humanizing the human; re-imagining and re-creating another project of life as a species; a process of re-humanization. More than decarbonizing, we need to demercantilise, decolonise, depatriarchalise imaginaries and practices.

Rather than revising or rethinking the milestones that distinguish and separate the geological ages, this perspective invites us to rethink the frontier between civilization(s) and barbarism; between the human and the in-human; between what makes us human and what de-humanizes us. Because, as we have known from within Western reason, at least for a couple of centuries, what we do to the Earth is what we do to ourselves.

### Notes

<sup>1</sup> “The term ‘loot’ is intimately linked to the post-Columbian history of Latin America. [...] Columbus arrival marks a contrast between the cultures that had learned to lead ecologically healthy lives before his arrival and the ‘mining,’ extractive, and deteriorating development that did not care about the conservation of resources after his arrival. [...] In the conquest and colonization period, America’s occupation by its ‘new owners’ was based on two fundamental fallacies: the belief that both the culture and the technology of the subjugated peoples were inferior and

outdated with respect to Europe; and the belief that the resources of the new continent were practically unlimited. Thus, the destruction and eradication of preexisting forms and systems was fully justified. Moreover, since the resources were considered unlimited, there was no major concern for the rate of extraction.” (*Gligo and Morello* 1980: 112-122).

<sup>2</sup> In a previous work, we developed in depth the analysis on the functioning of mines as forms of colonial exploitation and its long-term effects (*Machado Araújo* 2014, 2020). These analyses can also be extended to the case of sugar plantations and complemented by the historical and ecological-political studies of *Galeano* (1971), *Wolf* (1987), and *Moore* (2000; 2010). As regards plantations, there is an extensive literature on the economic history and the Latin American sociology and anthropologies, including *Furtado* (1959; 1969), *Florescano* (1975), *Cardoso and Pérez Brignoli* (1984), among others.

<sup>3</sup> These new forms show how habitability and profitability are two antagonistic principles. On the one hand, inhabitability requires diversity, complementarity, mutuality, and contingency. Besides, value and productivity lie in the relationship of the unique qualitative attributes of the diverse. Profitability, on the other hand, requires monochromy and uniformity. Here, productivity demands regularity, serialization, interchangeability, and scalability, and the value is in the equal quantity of the uniform. This is precisely what *commodity* is.

<sup>4</sup> “Never as in the XVI century has the role of precious metals seemed so important. Contemporaries do not hesitate in assigning them the first place and XVI century economists are even more emphatic” (*Braudel* 1987: 612).

<sup>5</sup> A particularly remarkable case of *anthropocene* still perceptible today – although seriously threatened by the “Anthropos” – would be that of the peoples that inhabited the Amazon basin, who, by their specific ways of producing habitat, their culturally, economically and politically concrete ways of working, of conceiving the territory and of producing habitable-territoriality, caused the geological conformation of what is the great Amazon biome; that immense and dazzlingly complex “tropical humid cultural forest” shaped as a great forest of biodiversity and immeasurable richness for human nutrition (*Posey* 2002; *Varese et al.* 2013; *Porto-Goncalves* 2017). Thus, if we can still breathe today, it is due, to a large extent, to the geological effects of the social work of habitat production that the Amazonian peoples have bequeathed to us unexpectedly and freely. It is remarkable how this *anthropocene-Amazonian* has gone practically unnoticed.

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