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Materialism in the Anthropocene: A Critique of the 'Domination of Nature' in the Frankfurt School.

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Introduction.

The term “Anthropocene” has been coined at the turn of this century by the geologists Paul Crutzen and Will Steffen to characterise the massive changes occurring in the conditions of life on Earth.¹ The idea contains two important aspects: “there is clear evidence for fundamental shifts in the state and functioning of the Earth System that are (1) beyond the range of variability of the Holocene, and (2) driven by human activities and not by natural variability.” (Steffen et al. 2015: 93). In other words, human activity has become such a tremendous power that it has created a new geological epoch in the long history of the Earth. Following that hypothesis, we may have passed beyond the Holocene: the last 11,000 years of relative climate stability in which all of human history has taken place. As Crutzen puts it, we are now “treading on *terra incognita*.” (2002).²

Surely this event is significant enough to challenge our most established beliefs and categories. Whether it is our understanding of nature, of history, of politics, of our being-in-the-world—to name just a few—all these dimensions of existence are turned upside down by an event which is so gigantic that our ideas seem, in some way, to lag behind.³ Nevertheless, critical theory seems to be an adequate resource to address this predicament. The Anthropocene, by its very name, points to human responsibility for the catastrophic state of the earth, which in turn—if we want to avoid reifying humanity into an abstract global agent—points to a certain form of social organisation. Thus, a critical theory of society is needed. But is critical theory prepared for this event?

In what follows, I challenge the assumption that the Frankfurt School critique of the “domination of nature” is a relevant argument to bring forth in the

¹ See for instance Crutzen 2002. For a summary of the science, see Hamilton 2017, and for a critical history, Bonneuil and Fressoz 2016.

² As Crutzen and Steffen (2003: 253) write: “The Earth currently operates in a state without previous analogy.”

³ See Latour 2017, including the first lecture where he discusses how ecology drives us “crazy”. See also the introduction in Charbonnier 2021.

Anthropocene. My argument focuses on the first generation of the Frankfurt School,⁴ but I suggest that any resuscitation of such critique should raise suspicion. This is because the “domination of nature” is an ambiguous expression from a materialist standpoint. Moreover, looking at Max Horkheimer, Theodor Adorno and Herbert Marcuse’s theories, I show that their critique counts on the productive achievements of modern society—the very ones whose ecological destructiveness have been revealed in the Anthropocene. In other words, not only are they not helpful allies for the Anthropocene, but their critical take is challenged by our ecological predicament. The “nature” that is dominated, in the Frankfurt School, is arbitrarily separated from the productive processes on which the theory still relies. Hence my aim is not only to show the inadequacy of this critique for today’s problems, it is also to identify an idealist tendency in this idea of nature.

In doing so, I challenge the main way ecological politics and critical theory have been put together. Because of its intuitive connotations, the critique of the “domination of nature” has been interpreted as the sign of the Frankfurt School’s relevance for the ecological crisis. This is visible in two collective books aiming at connecting ecology and critical theory.⁵ In the introduction to *Ecology: Key Concepts in Critical Theory*, Carolyn Merchant sees “domination” as “one of humanity’s most fruitful concepts for understanding human-human and human-nature relationships.” (2008: 15). Frankfurt School critical theory is invoked because, with the concept of domination, it points to the conjunction of the two relations: “When the domination of nonhuman nature is integrated with the domination of human beings and the call for environmental justice, critical theory instills the environmental movement with ethical

⁴ The critique of the “domination of nature” only concerns the first generation of the Frankfurt School. For convenience, I henceforth write “Frankfurt School” to mean the first generation of the Frankfurt School. By this I do not imply that an adequate ecological critique can be found in Jürgen Habermas’s theory or among his followers, but this would require a discussion of its own.

⁵ A third example can be seen in the recent work *Critical Theory and New Materialisms*, edited by Hartmut Rosa, Christoph Henning, and Arthur Bueno (2021). In that case the domination of nature is put in dialogue with new materialism. I for my part will stick to “old” materialism, but in a new world.

fervor.” (2008: 15).⁶ For Merchant this is particularly the case with Adorno and Horkheimer who, in the *Dialectic of Enlightenment*, target the “concept of enlightenment that epitomized the ideology of the modern world”. They identify the “domination of nature” at the heart of Enlightenment and point to its dehumanising tendencies, including the “destruction of the environment.” (2008: 16).⁷ Similarly, in the introduction to *Critical Ecologies: the Frankfurt School and Contemporary Environmental Crises*, Andrew Biro writes: “At the most general level, ‘critical theory’ can be described as knowledge that aims at reducing domination.” (2011: 3). The urgency to address the environmental crisis is therefore interpreted through Frankfurt School lenses, and the “domination of nature” is put forward to make sense of the perverse logic whereby “increased power over nature can yield increased vulnerability.” (2011: 10).

Horkheimer, Adorno and Marcuse are the main figures being called forth in that domain, because of the insights they provide on the problem of humanity’s relationship with nature. It is with Horkheimer and Adorno’s *Dialectic of Enlightenment*, most notably, that nature is part of a critical take in the first place. Whereas Marxists count on the forces of production to lead the way out of capitalism, Adorno and Horkheimer diagnose destructive tendencies in modern rationality itself, and in its technological application. This important work, as well as the treatment of nature in Adorno’s later writings, has motivated the contemporary application of his philosophy. The most systematic attempt in that regard is Deborah Cook’s *Adorno on Nature*. The book begins: “Decades before the environmental movement emerged in the 1960s, Theodor W. Adorno criticized our destructive and self-destructive relation to nature with the ultimate aim of reshaping that relationship in more mutually beneficial ways.” (2014: 1). The link with ecology is postulated from the start, and

⁶ See also Gunderson (2015: 226): “A central and consistent thesis of [Frankfurt School] critical theory declared that humanity’s attempt to dominate (control, master) external, nonhuman nature is intimately and necessarily linked to the domination of other humans and internal human nature.”

⁷ “Rather than seeing the progressive aspects of modernity in which science, technology, and capitalism increasingly improve on the human condition, they emphasized modernity’s dehumanizing tendencies, its destruction of the environment, its potential for totalitarian politics, and its inability to control technology.”

Adorno's philosophy is then deployed to enlighten our predicament and remedy some deficiencies in the environmental movement. (2014: Chapter 5).

This assumption is even more prevalent in Marcuse's legacy, if only because he himself defended the environmental movement in which he saw a potent emancipatory force. (Marcuse 1972). Because of this explicit endorsement, as well as the recurring theme of the "domination of nature" in his works, Marcuse is taken to be the most ecological author of the Frankfurt School. According to Merchant, "he saw ecology as a revolutionary force of life against which the counter-revolutionary forces of ecocide were destroying 'the sources and resources of life itself' in the service of monopoly capital." (2008: 19). In the *Domination of Nature*, William Leiss also relies on Marcuse to reread Francis Bacon's ideal in a critical and ecological light. (1994: xxvi). Similarly, Andrew Biro, although skeptical about the idea of nature as such for ecology, is also inspired by Marcuse when addressing what he calls the "alienation" from nature. (2005). Overall, Marcuse has a solid reputation for addressing the problem of our dealings with nature.

Other examples abound. (Cassegard 2021, Dobson 1995, Malm 2018, Luke 1994 and 2019, Vetlesen 2015, Vuillerod 2021, Yates 2018). Each time the "domination of nature" is taken to be a relevant ecological critique, as if our environmental problems were illustrating what the authors meant by that expression.⁸ A problematic syllogism is at play here. Contemporary authors who use this critique seem to reason as follows: i) The climate crisis is the sign that something is wrong in our treatment of nature; ii) Frankfurt School authors have criticised the "domination of nature"; iii) Hence, these authors are relevant for ecological problems.

I think that this syllogism is wrong. It is very unclear how speaking of the "domination of nature" could be helpful beyond a metaphorical use which itself can create confusion. First, to speak of domination seems to entail that nature is a subject, which is dubious—especially, as I will argue, if we start from materialist premises, which is the case in the Frankfurt School. Second, whether we metaphorically subjectify nature or not, the Anthropocene seems to show the opposite situation. Rather than the domination of a powerful humanity over nature—a

⁸ This can also be the case when contrasted with Habermas's theory. Because he shifted the critique away from the problem of nature, the first generation of the Frankfurt School is sometimes reassessed in light of Habermas's shortcomings for ecological problems. The assumption remains that the critique of the domination of nature would be the right task. See Cook 2006, Eckersley 1992, Nelson 2011.

nature entirely subjugated to human purposes—, what we have is a nature awakened by humanity and striking back.⁹

Perhaps local natures, e.g. fauna and flora, can be “dominated” in that they can be brutally altered or destroyed by human activity. But if we look at the nature of the Anthropocene, we have rather new material conditions which endanger humanity. This in itself should cast doubt on the suitability of this critique for the Anthropocene. The argument seems to turn nature into a subject while simultaneously condemning a mastery that is lacking today.

Materialism in the Anthropocene.

I propose to take a materialist perspective to examine nature in the Anthropocene. My starting point is Marx and Engels’s *German Ideology*. In contrast with Feuerbach and other Left-Hegelians who understand liberation in philosophical terms,—as if freeing people from wrong ideas was enough to liberate them in real life —, Marx and Engels focus on the real practice of men and women in history. In that context, nature appears as the primal material reality in which history takes place:

The first premise of all human history is, of course, the existence of living human individuals. Thus the first fact to be established is the physical organisation of these individuals and their consequent relation to the rest of nature. Of course, we cannot here go either into the actual physical nature of man, or into the natural conditions in which man finds himself – geological, hydrographical, climatic and so on. The writing of history must always set out from these natural bases and their modification in the course of history through the action of men. (1970: 42).

Materialism here is not the philosophy which asserts that only that which is material is real. (Horkheimer 1972: 14). Surely Marx and Engels’s materialism is related to that sort of philosophy, inasmuch as the realm of ideas is explained from material

⁹ The “domination of nature” argument implies that nature is not following its own course but is impeded in its development by humanity: “To dominate a being, for the Frankfurt School generally, is to ‘prescribe’ to it ‘goals and purposes and means of striving for and attaining them’ which differ from those that the being would spontaneously adopt.” (Stone 2006: 233). She is quoting from Marcuse’s *Five Lectures*.

reality rather than the other way around: “In direct contrast to German philosophy which descends from heaven to earth, here we ascend from earth to heaven.” (1970: 47). But it would be misguided to merely replace the former metaphysics with an ontology of matter. The object of inquiry is history and society.¹⁰ Marx and Engels start from men and women in their real life-process in order to explain the ideological expressions which arise from these material conditions. Hence “material” refers to the concrete forms of existence inherited and perpetuated by different societies. In other words, nature is the material basis of society, the real existing world in which humans have to produce their means of subsistence.

Interestingly, Marx and Engels mention from the start the “natural basis” of history as well as its “modification in the course of history through the action of men.” Nature does not stay still, it is modified by *praxis*, i.e. the human practical transformation of the world. In fact, the world we encounter on a daily basis is almost not “nature” at all, it is nature mediated by human activity. This motivates a famous critique of Feuerbach, whose reference to “nature” betrays a contemplative stance on the world. To quote the First Thesis on Feuerbach, in this sort of materialism, “the thing, reality, sensuousness, is conceived only in the form of the *object or of contemplation*.” (Marx 1969). Since the world is also what humans have made of it, Marx and Engels mock Feuerbach’s “nature”, a nature which no longer exists anywhere, “except perhaps on a few Australian coral-islands of recent origin.” (1970: 63).

This does not mean that nature disappears however, it remains the material basis of life with which humans have to permanently engage to sustain their life.¹¹ Since humans have to produce their means of subsistence, they actively interact with their environment, which is made of extra-human autonomous processes. In *Capital* this is asserted repeatedly: “Technology discloses man’s mode of dealing with nature, the process of production by which he sustains his life.” (Quoted in Schmidt 1971: 30). Hence the materialist emphasis on the transhistorical necessity of *labour*, the “eternal nature-imposed necessity, through which is mediated the metabolic

¹⁰ Alfred Schmidt stresses that nature for Marx should be prevented “from receiving a metaphysical consecration or indeed ossifying into a final ontological principle.” (1971: 29). Materialism is rather “a theory oriented primarily towards history and society” (19).

¹¹ On the “end of nature” argument, see McKibben 1989.

interaction between man and nature, i.e. human life itself.” (Quoted in Schmidt 1971: 71). This metabolic interaction makes human life as such possible. Nature is not an ontological or normative principle, nor is it an abstract entity facing humanity and deserving ethical consideration. First and foremost, nature is the world of which humans are part, and which forces them to organise their subsistence.¹²

The Anthropocene is a materialist event *par excellence*, since the natural basis of history is going through tremendous change because of humans. The problem is of course that Marx and Engels did not expect this type of change. When criticising Feuerbach for referring to a nature that precedes humanity, they call this nature “nature which has not yet been subdued by men.” (1970: 61). Obviously, they expect nature to be conquered: “every new invention, every advance made by industry, detaches another piece from this domain.” (1970: 61). Feuerbach’s contemplative philosophy is criticised from a praxis-oriented perspective, but this praxis is triumphant. Nature is to be made hospitable through the active mediation of humans who are themselves natural beings. They transform nature from within, making it serve their ends. In other words, the nature of materialism is brought forth to make sense of the ever-lasting necessity to produce the means of subsistence, but from the start this necessity is believed to be continuously alleviated by the progress of the productive forces. The *Communist Manifesto* is the clearest expression of this belief, since the communist revolution is supposed to supersede the contradictions borne out of the gigantic productive powers unleashed by bourgeois society. It is on the basis of material abundance that capitalism creates the conditions of its downfall. (Marx and Engels 1969).

This is the paradox we inherit for a materialist philosophy in the Anthropocene. While Marx and Engels believe that industry turns nature into a mastered sphere of peaceful existence, the Anthropocene is rather the disaster caused by humans on the basis of life on Earth. Today we no longer share the triumphant nineteenth century vision of a total conquest of the outer world, we no longer believe in the progressive taming of natural forces. On the contrary, we live in fear of the

¹² In her reading of the “inorganic body” in the early Marx, Judith Butler (2019) proposes the word “persistence” to refer to the same basic material condition.

“uninhabitable earth” of the Anthropocene. (Wallace-Wells 2019).¹³ Humanity has unleashed new forces in nature which make it a hostile territory.

But in describing those changes we remain in a materialist paradigm: we deal with nature as the material basis of life. The Anthropocene is a change in the material conditions of life on Earth. Not only is it provoked by the way a certain society has produced, but it is in turn putting pressure on the capacity to ensure the material reproduction of society in the future (even more so for the societies that have *not* caused it in the first place). In other words, both to explain the causes of the Anthropocene and to warn about its consequences, we bring forth the “eternal nature-imposed necessity” that Marx points to. But unlike Marx, we do not expect the dialectic of humanity and nature to be gradually resolved in the triumphant mediation of industry—quite the contrary.¹⁴

From this point of view, the idea of the “domination of nature” can only raise suspicion. If we see nature from the materialist standpoint I just outlined, there cannot be any “domination” going on.¹⁵ Nature is the material basis of life in which humans have to survive, not a subject in its own right which should be respected as such. To speak of a “domination” toward nature betrays the forgetfulness of our primordial dependency towards the material world, a dependency only made invisible (in our case anyway) by hidden technical and physical processes. The critique of the “domination of nature”, therefore, is idealistic. It requires a romantic notion of nature,

¹³ I leave aside the author’s questionable interpretation of the event, my intention is just to mention the title of one of the most popular books on this issue.

¹⁴ This is a difficulty often overlooked in the eco-Marxist literature. It is perfectly legitimate to use Marx for ecological purposes, but one should not forget the historical horizon which animates his thinking and is embedded in his philosophy. If one pushes Marx’s idea of a “metabolic rift” all the way to the current ecological crisis, like John Bellamy Foster does (see also Saito 2017), then other aspects of Marx’s theory need to be abandoned along the way (see Charbonnier 2021: 142-156). Jason Moore’s response (the “metabolic shift”), also bears optimistic features, with its focus on Capital’s intrinsic limits supposedly leading to its downfall. In both Foster and Moore, the ecological crisis is seen as a further reason to overcome capitalism, as if it did not also jeopardise the Marxist belief in a material basis for communism. For their debate see Foster (2013, 2016) and Moore (2011, 2015). Another perspective can be found in the earlier debate between Ted Benton (1989) and Reiner Grundmann (1991) in the *New Left Review*. See also Andreas Malm’s reconsideration of Foster and Paul Burkett’s overly apologetic reading of Marx (2017).

¹⁵ For a similar argument see Grundmann 1991.

i.e. a nature completely detached from the problem of subsistence. To be dominated, nature needs to be considered as a subject, an abstract “other”, a partner in a dialectic of domination and reconciliation.

This is not to deny that ethical questions arise out of the practices by which humanity ensures its subsistence. But to speak of an ethical relationship with “nature” as such is problematic. In fact, ethical problems can be felt out of our relationship with concrete elements of nature, whether it is animals, nonhuman living beings, local ecosystems or landscapes (but they are landscapes only for a passive observer, i.e. someone who neither works the land nor secures subsistence through this work).¹⁶ Moreover, these ethical considerations cannot be dissociated from the production of the means of subsistence. A community which subsists on fishing, for instance, will not be assessed by ethicists in the same manner as members of a capitalist society who go fishing in their leisure time. The ethical discussion is underpinned by the necessity to use nature to secure basic needs, and with this starting point there cannot be any “domination” of the totality of extra-human reality.¹⁷

I take the Frankfurt School as a case in point to show that the “domination of nature” is a problematic take on ecology. I contend that the inadequacy of this critique is not only a matter of principle (strictly speaking there cannot be any “domination of nature”) or of obsolescence (the Anthropocene shows that we have not “dominated” nature but are rather subjugated to it). What is more important, for the purposes of critical theory today, is that this critique is specifically concerned with a “nature” that is not the object of the productive practices by which we sustain our lives. In the end, despite a change of tone, Adorno, Horkheimer and Marcuse maintain Marx and Engels’s productive optimism. It is simply concealed by a rhetoric

¹⁶ See William Cronon’s critique of wilderness: “The dream of an unworked natural landscape is very much the fantasy of people who have never themselves had to work the land to make a living—urban folk for whom food comes from a supermarket or a restaurant instead of a field, and for whom the wooden houses in which they live and work apparently have no meaningful connection to the forests in which trees grow and die. Only people whose relation to the land was already alienated could hold up wilderness as a model for human life in nature, for the romantic ideology of wilderness leaves precisely nowhere for human beings actually to make their living from the land.” (1995: 80).

¹⁷ I focus on ethics but the same goes with politics. Surely the production and distribution of the means of subsistence are political questions, but they cannot be reduced to the attribution or denial of rights to “nature”.

of domination and liberation towards a nature which, in the meantime, has been idealised. I first go through the intricacies of the concept of nature in *Dialectic of Enlightenment*, before studying the development of the same themes in Marcuse's philosophy.

The *Dialectic of Enlightenment* and the Obsolescence of Self-Preservation.

It is with *Dialectic of Enlightenment* that the critique of the "domination of nature" makes its entrance in critical theory. The starting point of the book is the contrast between Enlightenment's promise and its barbaric result in the twentieth century: "Enlightenment, understood in the widest sense as the advance of thought, has always aimed at liberating human beings from fear and installing them as masters. Yet the wholly enlightened earth is radiant with triumphant calamity." (Adorno and Horkheimer 2002: 1). Adorno and Horkheimer write in the context of unprecedented political regression, as they themselves had to flee Nazi Germany and were witnessing the bloodshed of World War II. Fascism reveals the failure of bourgeois society, which individualistic principles turn into their opposite: the surrender of mind to the criminal instinct of masses manipulated by dictators. They also target Stalinism, in which they see a reversal of socialist ideals into totalitarian power. Even the West shows marks of regression, as they diagnose the adverse effects of state capitalism, the "culture industry" and consumer culture. In short, the *impetus* of the *Dialectic of Enlightenment* is the contrast between the promise of a rational society and the reality that modernity is giving birth to. Adorno and Horkheimer seek in the "concept" of Enlightenment itself the origin of these failures. It is in enlightenment reason that the authors find a perverse logic of domination. This domination is threefold: the domination of external nature, the domination of inner nature (i.e. the repression of instincts, the denial of the somatic aspects of life), and the domination of other humans. As my focus here is on the subject of ecology and the Anthropocene, I will limit my focus to the domination of external nature. However, the logic of the argument will draw us towards the domination of inner nature.

a) *The Domination of Nature.*

From the very beginning of the chapter “On the Concept of Enlightenment”, Francis Bacon’s idea of knowledge is mentioned to shed light on the “domination of nature”. Bacon defends “the happy match between the mind of man and the nature of things”, his ideal is a systematic use of knowledge that “would establish man as the master of nature.” (2002: 1). According to Adorno and Horkheimer, this “happy match” between mind and things is in fact domination: “What human beings seek to learn from nature is how to use it to dominate wholly both it and human beings.” (2002: 2). What preoccupies them is not only social domination—the usual focus of Marxism—, but also the type of rationality animating our conquest of the world. As opposed to Marx and Engels, Adorno and Horkheimer identify a pathological compulsion in our dealings with nature, which goes hand in hand with social domination. Technology is said to be the essence of the “knowledge, which is power [...] it aims to produce neither concepts nor images, nor the joy of understanding, but method, exploitation of the labor of others, capital.” (2002: 2). Hence domination is at the heart of enlightenment reason, and legitimises the violence done to humans and nonhumans alike.

Adorno and Horkheimer trace this compulsion in myth, which motivates the *dictum* that “Myth is already enlightenment, and enlightenment reverts to mythology.” (2002: xviii). They believe that both myth and enlightenment are drawn by the primal *fear* in the face of “*mana*”, i.e. the overwhelming forces of nature. Because mythology is already an attempt at making sense of such traumatic forces, it is already a way of naming, distancing and objectifying, i.e. already enlightenment: “Myth sought to report, to name, to tell of origins—but therefore also to narrate, record, explain.” (2002: 5). Moreover, the attempt is made at controlling these forces, since nature is experienced as a threat. In this, we see a proto-rationality in which truth is revealed by the clearer mastery achieved in Enlightenment. As Alison Stone puts it, “myth already tries to understand nature with a view to control: it offers ‘presentation, confirmation, explanation.’” (2006: 235). Hence in the “enchanted” world of mythology there is still meaning and agency in nature, but some form of objectification is already utilised to try to ward off the threats facing humans.

Enlightenment, for Adorno and Horkheimer, is “mythical fear radicalized.” (2002: 11). It is drawn by that same motive but pushes it to another level by disenchanting nature, i.e. extirpating any meaning out of the world and reducing it to an abstract realm. This abstract realm only beckons quantification and manipulative use. Instrumental reason prevails because no meaning can be drawn out of the mute processes witnessed by the subject: “On their way toward modern science human beings have discarded meaning [...] From now on matter was finally to be controlled without the illusion of immanent powers or hidden properties.” (2002: 3). While removing mythical illusions, Enlightenment repeats at the same time the original purpose of mythology. Fear of the outside world is still the secret *telos* of this type of knowledge: “Humans believe themselves free of fear when there is no longer anything unknown.” (2002: 11). Thus Enlightenment is still in the grip of mythical fear, it advances by conquering nature in which it cannot help but see the spectre of former trauma. As Carl Cassegard puts it, enlightenment reason is “self-preservative reason rooted in an archaic fear of nature.” (2021: 64). Enlightened thinking perpetuates this hostile reaction; it makes a “hunting ground” out of the “unified cosmos [...] in which nothing exists but prey.” (Adorno and Horkheimer 2002: 6).¹⁸ The “unity of nature” is achieved through this process: “the essence of things is revealed as always the same, a substrate of domination.” (2002: 6).

This context gives us a sense of what the “domination of nature” means in the Frankfurt School: “Nature, stripped of qualities, becomes the chaotic stuff of mere classification.” (2002: 6). Whether it is the material used for industry or the animal sacrificed in the scientific experiment—“a mere exemplar” of the species (2002: 7)—, nature is interpreted and manipulated for human ends. Since meaning has been “discarded” (2002: 3), the only end driving human activity is *self-preservation*. Nature has been disenchanting to carry out the task of self-preservation even more effectively. Hence nature is dominated by technical means which have reached stupendous proportions, but this brute force is its own justification, since instrumental reason has taken over. The end for which preservation should have been a means (a life free from fear) has been forgotten in the process, replaced by mere self-

¹⁸ “To dominate nature boundlessly, to turn the cosmos into an endless hunting ground, has been the dream of millennia.” (Adorno and Horkheimer 2002: 266).

preservation.¹⁹ At first Enlightenment did have the ideals of equality, justice or freedom, which were to challenge the heteronomous powers of monarchy and the Church. These ideals, however, fall one by one in the ever-going march of instrumental reason, where mere adaptation to the given is the only *motto*. Enlightenment as domination becomes the source of heteronomy, it does not subvert the given powers but establishes its own.

The paradoxical end of this whole process is that Enlightenment “reverts to myth” by being submitted to its own heteronomous force. Instead of freedom, then, Enlightenment produces its own irrational path akin to mythology. One of the main targets of the book is positivism, “the myth of that which is the case” (2002: xii), which embodies the paradox of Enlightenment, because it falls back to some kind of “myth” by the very means supposed to eradicate it. Since “anthropomorphism” is seen as the eternal defect of all mythical story, positivism forbids any subjective projection of meaning on the mute processes of the world. In doing so, however, it is reduced to the passive reflection of social reality. It thereby mirrors the given without transcending it, reifying society into a “second nature” as inescapable as the first. Enlightenment reason amounts to the simple assertion of that which is the case, thus it becomes complicit with power and gives up on the initial project of liberation. It reverts to myth by producing its own inescapable framework: “The actual is validated, knowledge confines itself to repeating it, thought makes itself mere tautology.” (2002: 20). In that sense we see that Adorno and Horkheimer’s concern is not a substantial theory of history, but a polemic against the type of reason prevalent in their time. The fatalism which transpires from their picture is not assumed as the actual necessity of history, but attacked. The aim is to free reason from its current spell, to liberate the emancipatory potential of Enlightenment. (Cassegard 2021: 51).

To break the spell of domination, then, Enlightenment needs to reflect on itself. Interestingly, Adorno and Horkheimer call this the “remembrance of nature”. Enlightenment, if it wants to break its bond with myth and domination, needs to understand itself as nature.

¹⁹ In *Eclipse of Reason* (1947) Horkheimer develops this idea with the concepts of subjective and objective reason. Subjective reason, which is only concerned with the most efficient means to achieve an end, has taken over objective reason, which is actually concerned with humanity’s ends.

In the mastery of nature, without which mind does not exist, enslavement to nature persists. By modestly confessing itself to be power and thus being taken back into nature, mind rids itself of the very claim to mastery which had enslaved it to nature. (2002: 31).

Enlightenment gives up on domination the moment it recognises itself as nature. By seeing nature as a hostile “other” to be conquered, it perpetuates the irrational pattern which only enslaves it to the heteronomous force which it tries to escape in the first place. Only after realising itself as nature can it liberate itself from fear and reconcile with its “other”—which is in fact not its other, but its repressed origin with which it finally finds peace.

b) The Obsolescence of Domination.

It is clear that there is nothing ecological in this picture. If it were so, it would correspond to a change in our uses of the earth motivated by current destructive patterns. What Adorno and Horkheimer advocate, however, is a dialectical reconciliation between mind and matter: the mind frees itself from its compulsive attack on nature by recognising its own naturalness. In the assertion that “in the mastery of nature [...] the enslavement to nature persists”, we see that “nature” has an ambiguous meaning. It is not only the material world dominated by humans, but also the compulsion which takes its revenge on the humanity trying to escape it: “Any attempt to break the compulsion of nature by breaking nature only succumbs more deeply to that compulsion.” (2002: 9).²⁰ Hence nature seems to be the counterpart to reason and freedom, a repressed origin which needs to be recognised and accepted in order to reach true freedom. (O’Connor 2013).

For Adorno and Horkheimer the nature we reconcile with is, first and foremost, *inner nature*.²¹ Remember that there are three dominations in their theory of Enlightenment. The domination of other humans is the traditional focus of Marxism

²⁰ On the ambiguous role of nature in *Dialectic of Enlightenment*, see Vogel 1996: 61.

²¹ Conversely it is interesting to note that the “revenge of nature” in the Frankfurt School only refers to the revenge of *inner nature*. See Vetlesen (2015: 80) and Alford (1985: 7). In Horkheimer’s case, see the chapter “The Revolt of Nature” in *Eclipse of Reason* (1947). This can be contrasted with Engels who, in *Dialectics of Nature*, referred to the “revenge of nature” in terms of the material conditions of life (1976: 180). However, Engels did not expect the “revenge of nature” to strike our modern capitalist society (1976: 180-181).

and critical theory. The domination of external nature is the new type of critique introduced by the Frankfurt School, which identifies a pathological drive in enlightenment's knowledge and its physical manifestations. The domination of inner nature, inherited from Freud, refers to the sacrifice of natural desires that individuals inflict on themselves. This compulsion is borne out of the process of civilisation, which has extricated subjects out of nature by toil, hence by the sacrifice of enjoyment. But this process need not be carried on in contemporary society; only an irrational organisation of labour maintains it. Thus in capitalism the ideal of work prevails over pleasure. Even the bourgeois "[deny] themselves happiness the closer it [draws] to them with the increase in their own power." (2002: 26). The domination of inner nature is the constant repression of the happiness that could be attained considering the wealth already secured by society. For Adorno and Horkheimer, reconciling with inner nature will stop our obsolete conquest of the world, as we will learn to finally satisfy our natural impulses. The end for which self-preservation should be a means, happiness, will be attained.

It is thus noteworthy that the critique does not stem from the impact of Enlightenment on external nature. The destructive impact on the environment does not strike back against humanity. Nature, in other words, is only a victim. In that sense, the pacification of the outside world is only hinted at and depends on the previous pacification in human affairs. In *Aesthetic Theory*, Adorno writes, on the one hand, that "progress, deformed by utilitarianism, does violence to the surface of the earth," (2002: 64) but also states that things could be different with another technology: "technique is said to have ravished nature, yet under transformed relations of production it would just as easily be able to assist nature and on this sad earth help it to attain what perhaps it wants." (2002: 68). The outside world will be set free by a reconciled humanity under new relations of production. In other words, humanity needs to resolve its own inner pathologies (which do not pertain to nature reacting against its influence), and only then will exterior nature (now turned into a subject with its own purposes) be freed. Although Adorno and Horkheimer touch upon the possibility of destructions in the natural world (2002: 22, 186, 210), these destructions are not the core of the critique. They are rather exterior signs of an unreconciled humanity.

But there is something even more pernicious in their argument, especially if we attempt to use it as an ecological critique. From a materialist perspective, I argue,

nature needs to be examined with regard to the production of the means of subsistence. Adorno and Horkheimer themselves start from the primal vulnerability of humans. They insist on the traumatic journey whereby humanity has conquered its autonomy towards nature, a history of violence and social domination, which bears traces in the modern *psyche*. The critique of Enlightenment targets the adverse effects which, from this endless struggle with nature, have rebounded on humans because of the irrationality of enlightenment reason. Hence, Adorno and Horkheimer cannot stand accused of forgetting the necessity to produce the means of subsistence. They remain materialists in that specific sense, knowing well that the premise of liberation is safety towards nature. This is the paradox of their critique: in the Frankfurt School, *we can reconcile with nature insofar as we have nothing to fear from it again*. The mastery of nature is presupposed in the possibility of reconciliation. It is then unsurprising that the reconciliation with nature concerns “inner nature” more than outer nature.

This is why the actual ecological assumptions of the work are important. Starting from the same “natural basis of history” as Marx and Engels, Adorno and Horkheimer see humans as physical creatures of needs who, from the dawn of time, have to ensure the survival of the species through the “domination of nature”. Therefore, the main reason for criticising this domination is that it has become *obsolete*. Enlightenment is entangled with myth by perpetuating the drive for self-preservation, *although this necessity has already been resolved by the productive forces*. In *Negative Dialectics*, Adorno makes this clear:

The more enhanced the forces of production, the less will the perpetuation of life as an end in itself remain a matter of course [...] Since self-preservation has been precarious and difficult for eons, the power of its instrument, the ego drives, remains all but irresistible even after technology has virtually made self-preservation easy [...] Exertions rendered superfluous by the state of the productive forces become objectively irrational [...] models of conduct which were rational once and have since been outdated are conjured up without change by the logic of history. This logic is not logical any more... (2004: 349).

The problem is the *inertia* of our ego drives in a situation which has surpassed the need for brute self-preservation. The critique of our relationship with nature is

dialectical: it only applies to the surplus-violence done to a nature that is already mastered.

Let us summarise. The domination of nature is criticised insofar as it is maintained in a situation where self-preservation is already secured. The reconciliation with nature is first and foremost the reconciliation with inner nature, since the sacrifice of enjoyment is no longer needed in the contemporary context. Pacification in outer nature only stems from this initial reconciliation. Hence the *Dialectic of Enlightenment* is a critique of “second nature”, i.e. it is concerned with the artificial fatalism befalling humans because of the irrationality of enlightenment reason. The metabolic interaction between humanity and nature is not the source of critique; it is even relied upon, since attention is drawn on the *replacement* of natural necessity with social necessity. What is described is the destructive tendency of a “second nature” which imposes itself over individuals with as much strength as the first—or perhaps even more violently.²²

However, the *success* over the first type of necessity, i.e. the taming of nature, as well as being presupposed, is the motive of critique: “The absurdity of a state of affairs in which the power of the system over human beings increases with every step they take away from the power of nature denounces the reason of the reasonable society as obsolete.” (2002: 30-31). This entails that natural necessity is really overcome, but that individuals now have to suffer from their own social forces over which they have no control. It is the return of necessity in a new guise. The simple fact that individuals are *vulnerable* in their being under present conditions of production is enough to condemn this society: “Society perpetuates the threat from

²² Adorno repeatedly contrasts the problems arising from “second nature” with natural necessity: “There is a universal feeling, a universal fear, that our progress in controlling nature may increasingly help to weave the very calamity it is supposed to protect us from, that it may be weaving that second nature into which society has rankly grown.” (2004: 67) See also (361): “The earthquake of Lisbon sufficed to cure Voltaire of the theodicy of Leibniz, and the visible disaster of the first nature was insignificant in comparison with the second, social one, which defies human imagination as it distils a real hell from human evil.” Also in *Minima Moralia*: “Panic breaks once again, after millennia of enlightenment, over a humanity whose control of nature as control of men far exceeds in horror anything men ever had to fear from nature.” (2005: 239). We clearly see the pattern here: second nature creates its own disasters which totally overcome what humans had to fear from nature itself. In the Anthropocene however, we fear from second nature as well as the first—actually the two blend together because of human activity being the source of the new natural evolutions.

nature as the permanent, organized compulsion which, reproducing itself in individuals as systematic self-preservation, rebounds against nature as society's control over it." (2002: 149). The process through which nature is mastered recreates the very conditions that were supposed to be overcome, but they are coming from society rather than nature. Thus we should not be misled into reading the *Dialectic of Enlightenment* as a proto-ecological argument, since in reality the authors' critical stance relies upon the existing productive relationship with nature.

In that regard it is ironic that the chapter "On the Concept of Enlightenment" ends with the assertion that Bacon's utopia "has been fulfilled on a telluric scale".

Today, when Bacon's utopia, in which "we should command nature in action," has been fulfilled on a telluric scale, the essence of the compulsion which he ascribed to unmastered nature is becoming apparent. It was power itself. Knowledge, in which, for Bacon, "the sovereignty of man" unquestionably lay hidden, can now devote itself to dissolving that power. (2002: 33-34).²³

This is an interesting statement to read today. If our power over nature is now visible on a telluric scale, it is certainly not in the way Bacon imagined. We are not commanding nature in action and we do not enjoy the safety that Adorno and Horkheimer are counting on. They believe that theory can devote itself to reflection ("remembrance of nature") from a comfortable position towards nature, where the "power" at play in reason has been revealed. But we are not in this scenario. It appears that power is not ready to be "dissolved" after all. Alastair Morgan makes an important remark in that respect: "The notion that we have 'outgrown' the necessity of self-preservation appears a bitter statement in the light of a situation where human impact on the environment has raised the issue of species survival in a different register." (2019: 29). The reconciliation with nature is now impossible on Adorno and Horkheimer's terms:

The critical question is, then, how can we prevent another, even more baleful, turn of the dialectic of enlightenment given a situation where fear is still pervasive and present and the demands for self-preservation are

²³ Similarly in *Eclipse of Reason*, Horkheimer writes: "Now that science has helped us to overcome the awe of the unknown in nature, we are the slaves of social pressures of our own making." (1947: 126).

necessary and rational. If the possibility of a reconciliation of reason and nature rests on the premise of an absence of fear, then does this notion of reconciliation collapse in the age of the Anthropocene? (2019: 29).

Surely it does.²⁴ This notion of reconciliation has collapsed in an age where humanity is threatened by new natural conditions.

c) Idealist Nature.

Before grieving this picture of reconciliation, however, we should remember that it only concerned a “nature” that was already mastered enough to liberate humans from fear. But what becomes of the concept of nature if it can be mastered on one level and liberated on the other? How do we distinguish between the positive intervention (the technologies which influence the natural world to ensure our physical lives and satisfy our basic needs), and the negative “domination” of the outer world? When describing the “domination of nature” in Adorno’s philosophy, Stone writes:

Living natural beings, then, are dominated when they are forced out of the courses of development and behaviour which they would spontaneously pursue. Calling this ‘domination’, not merely ‘control’, implies that it is undesirable; this, for Adorno, is because living beings suffer (*leiden*) from having their spontaneous tendencies thwarted. Although Adorno is principally concerned by the domination of living nature, he often speaks of the domination of nature as such, including, by implication, the domination of non-living natural things. (2006: 233).

But in producing the means of subsistence it is inevitable that some living and nonliving beings will be bent to our will; they will follow human purposes instead of

²⁴ I think that Morgan underestimates the implications of his own remark with regard to Adorno’s philosophy. He still wants to save the idea of reconciliation: “Self-preservation, rather than being conceptualised as a struggle against nature, could rest on technological innovations of reason that work with and alongside natural forces rather than attempting to dominate and appropriate the natural world.” (2019: 30). As always, when it comes to our practical approach to nature, it is unclear what this distinction means. Bacon himself (the usual suspect as far as the “domination of nature” goes) famously said that nature had to be obeyed to be commanded.

their own spontaneous development. From hunting and gathering to industrial farming, as well as in different sorts of agricultural practices, the “domination of nature”, according to this description, is fatal. Hence we cannot satisfy ourselves with this type of critique, since it turns away from the materialist analysis and refers to a “nature” that is dominated only insofar as productive practices, whether they succeed (in Frankfurt School theory) or fail (in our reality), are put aside.²⁵

Therefore I believe that the “domination of nature” idea should be criticised as such, and not only because of its inadequacy for the Anthropocene. In the Frankfurt School, this argument implies a separation between the positive productive relationship with nature (which makes self-preservation obsolete) and the negative “domination” which somehow goes overboard. In a materialist analysis, this ambiguity need not arise, since nature is simply the material world which we influence to some extent to ensure the satisfaction of needs. In that process, our ethical relationships with other beings only arise tangentially.

The fact that notions like “instrumental reason” and “self-preservation” have such negative connotations in the Frankfurt School is in itself revealing. A materialist theory should not dismiss such notions, for they relate to the basic use of nature for the satisfaction of needs. That they could become the target of critique suggests that the Frankfurt School is keen on overlooking that dimension, focusing instead on an abstract dialectic between spirit and matter. Inheriting this critique in the Anthropocene is therefore extremely paradoxical, since “instrumental reason” and “self-preservation” stand accused of maintaining the processes by which we currently

²⁵ It is even more paradoxical to criticise the “domination of nature” while admitting—unlike the Frankfurt School—that it has failed in our world of environmental disasters. For instance Arne Johan Vetlesen, who carries a critique of “anthropocentrism” which he sees as the culprit for our current disasters, reveals the problem with an innocuous remark: “If the Anthropocene is the historical product of anthropocentrism, it is also what forces us to abandon it and search for alternatives – alternatives whose first assignment is to be less destructive to the natural world that humanity depends upon: to help us learn, finally, to appreciate that world for what it is in itself, *and to do so for other reasons than those linked to our obvious stake in securing the survival of humanity – admittedly something that we are not particularly good at, even though – or perhaps in part because – we are still committed to anthropocentrism.*” (2019: 9) (my emphasis). Here Vetlesen hints at the possibility that we would be *bad* anthropocentrists, which then begs the question: why would the Anthropocene be the occasion for a critique of anthropocentrism? Why would self-sabotage be the result of a self-centered worldview whereby humanity instrumentalises all beings for its own benefit? See Grundmann (1991: 111-114).

fail to preserve ourselves.²⁶ The most basic “end” for which this reason supposedly sacrifices everything else, i.e. self-preservation, is itself sacrificed. In that regard, Enlightenment “reverts to mythology” all the way to our primal vulnerability in the face of natural dangers. This situation confirms the failure of Enlightenment, but this failure is so pronounced (and so *material*) that even Adorno and Horkheimer’s critique cannot capture it.

Marcuse and the Basis for Reconciliation.

My critique of the Frankfurt School so far has revolved around two points: 1) The critique of the “domination of nature” presupposes the mastery of the environment, which makes it inapplicable to the Anthropocene; 2) This reveals an idealist tendency in this treatment of “nature”, which no longer corresponds to the material world on which humans are dependent. This idealist tendency is exemplified by the fact that self-preservation, for Adorno and Horkheimer, needs to be attained in the first place before any “reconciliation” with “nature” can occur. This shows that Adorno and Horkheimer presuppose that production is successful at the most fundamental level, i.e. the level which ought to occupy a materialist analysis. On the other hand, the “nature” that is dominated does not point to ecological concerns, since it is invoked to make sense of irrational processes in a context of material security. The Anthropocene however, reveals that nature has never been mastered in the first place and cannot therefore leave room for the type of argument raised by Adorno and Horkheimer. By the same token, we are forced to realise the ambiguity of this type critique, which targets our relationship with nature insofar as it is not the productive one. On the contrary, Adorno and Horkheimer rely on production to get the critique off the ground.

²⁶ For instance Deborah Cook bemoans “self-preservation gone wild”: “Because self-preservation remains irrational, we now encounter serious environmental problems...” (2006: 439). In other words, self-preservation has been pushed so far that we are destroying ourselves. The use of Adorno’s critique in a situation opposite to Adorno’s expectation does not bother Cook, since she even endorses his belief that the productive forces have made self-preservation obsolete (437), as if this idea did not hit a wall for the very reason that is supposed to be the theme of her theory: ecology. The same happens in *Adorno on Nature* (2014: 45 and 110). This shows that by following Adorno she places the environmental problem in a realm detached from production.

With regard to Marcuse's theory, this paradox is perpetuated with the recurrence of the same themes but pushed to the extreme. On the one hand, Marcuse repeatedly defends another approach to nature, which he wants to "liberate". On the other hand, his confidence in technology remains unaltered throughout his work, and constitutes the basis for his revolutionary hopes. This theory cannot therefore be taken seriously for ecological purposes, for the "nature" that Marcuse's ecology defends is not the material altered by production, but an abstract otherness which needs to be recognised as a subject in its own right. This idealist-romantic conception of "nature" does not correspond to anything remotely connected to the problems that are befalling us in the Anthropocene.

Eros and Civilization already makes clear the ambivalence of Marcuse's idea of nature, since another relationship with it is defended as long as it is not the productive one. The work follows a theme already present in *Dialectic of Enlightenment*, namely the social critique of instinctual repression. Freud's theory is turned towards social critique by pointing to the degree of repression that is not necessary but only artificially imposed by the irrational organisation of society: "the Freudian terms, which do not adequately differentiate between the biological and the socio-historical vicissitudes of the instincts, must be paired with corresponding terms denoting the specific socio-historical component." (1974: 35). This motivates the idea of "surplus-repression" i.e. "the restrictions necessitated by social domination", whereas basic repression refers to "the 'modifications' of the instincts necessary for the perpetuation of the human race in civilization." (1974: 35). Hence the Freudian analysis of the dynamic between the "pleasure principle" and the "reality principle" must be complemented by the socio-historical dynamics by which the "pleasure principle" is sometimes sacrificed for no other reason than the perpetuation of social domination.

Echoing Adorno and Horkheimer, Marcuse points to anachronic forms of repression, which are maintained by an outdated reality principle. He calls the prevalent form of reality principle under our civilisation the "performance principle". With such principle, our civilisation is organised around "the competitive economic performances of its members." (1974: 44). The critical stance comes from the contingency of this principle: "It is clearly not the only historical reality principle: other modes of societal organization not merely prevailed in primitive cultures but also survived into the modern period." (1974: 44-45). Hence other historical trends make

possible another organisation of reality, which would entail increased levels of instinctual gratification.

Marcuse derives from these distinctions two sorts of attitudes towards the world, one according to the “performance principle”, the other according to Eros, or the “life instincts”. This entails different sorts of relationships to nature. Western rationality is characterised by aggressiveness, instrumentality and conquest. The Western ego “[reveals] itself as an essentially aggressive, offensive subject, whose thoughts and actions [are] designed for mastering objects.” (1974: 109). With the performance principle, nature has to be “fought, conquered, and even violated—such [is] the precondition for self-preservation and self-development.” (1974: 110).²⁷ With Eros, however, the world is no longer an object of mastery and conquest. The struggle with nature is replaced with peace, contentment and reconciliation.

The Orphic and Narcissistic experience of the world negates that which sustains the world of the performance principle. The opposition between man and nature, subject and object, is overcome. Being is experienced as gratification, which unites man and nature so that the fulfilment of man is at the same time the fulfilment, without violence, of nature. (1974: 166).

Just like Adorno in *Aesthetic Theory*, Marcuse believes that a change in society is the basis of reconciliation, which is then translated into the natural world.

This subjectification of nature anticipates Marcuse’s most famous ecological text, “Nature and Revolution”. This text, which is motivated by the rise of the New Left in the 1960s, contains Marcuse’s most thorough engagement with the ecological movement. He sees in it a “new sensibility”: “what is at stake [is] a new relation between man and nature—his own, and external nature. The radical transformation of nature becomes an integral part of the radical transformation of society.” (1972: 59). Nature is seen as “an ally in the struggle against the exploitative societies in which the violation of nature aggravates the violation of man.” (1972: 59). Hence nature is our victim, it bears the traces of a pathological society, but it also contains the liberatory potential able to overcome it: “The discovery of the liberating forces of nature and their vital role in the construction of a free society becomes a new force in social change.” (1972: 59). With this new sensibility, nature is not compulsively

²⁷ See also (86): “[Nature] is ‘literally’ violated”.

instrumentalised, but rather experienced for itself, in a “passive”, “receptive” manner. (1972: 74). Nature is recognised as “a subject in its own right.” (1972: 60). The revolutionary slogan Marcuse coins is in fact very revealing of the type of “ecology” we find in the Frankfurt School: “nature, too, awaits the revolution!” (1972: 74).

If nature awaits the revolution it is because, in the Frankfurt School, it only suffers from and mirrors the irrational tendencies of society. Nature bears the marks of domination and awaits patiently for humans to stop the damage. The improved state of nature is only derivative, as it transforms its shape depending on the attitudes of humans: “individuals would be able to create a technical and natural environment which would no longer perpetuate violence, ugliness, ignorance, and brutality.” (1972: 3).²⁸ Nature is only what society has made of it, it is the mirror which reflects damaged life. If this was the case in ecological terms, it could somehow be related to the Anthropocene, since it is indeed the case that nature today bears the marks of the capitalist mode of production. However, Marcuse’s theory abstracts nature from production. This is why he calls for a “new sensibility”, and not for what the ecological crisis actually requires, i.e. different productive uses of the earth. He focuses the analysis on abstract notions which are at odds with concrete ecological reality. In the Anthropocene it is unclear what use we could make of his solutions, whether they relate to a “new sensibility”, to the recognition of nature as a subject (1972: 60), to aesthetics (1972: 60)²⁹ or even to erotic drives (1972: 74).³⁰

In the meantime, if we look at the nature of production, we stumble upon the same paradox as with Adorno and Horkheimer. For Marcuse, the reconciliation with “nature” (i.e. the nature which has been idealised into something detached from productive practices) is premised on the mastery of nature (i.e. the material world which is instrumentalised for the satisfaction of needs). This is exemplified in his theory of “surplus repression”. Since Freud conceives repression while forgetting the

²⁸ One can only be perplexed at the idea of humans “creating” a “natural environment”.

²⁹ “Liberation of nature is the recovery of the life-enhancing forces in nature, the sensuous aesthetic qualities which are foreign to a life wasted in unending competitive performances.”

³⁰ “The faculty of being ‘receptive,’ ‘passive,’ is a precondition of freedom: it is the ability to see things in their own right, to experience the joy enclosed in them, the erotic energy of nature—an energy which is there to be liberated.”

socio-historical “vicissitudes” of the instincts, Marcuse’s argument is led to identify the kind of variation that these instincts go through in history. What allows us to identify “surplus-repression”, i.e. the amount of repression that is not justified by biological reality, but imposed by social domination? Marcuse writes:

...the necessity of repression, and of the suffering derived from it, varies with the maturity of civilization, with the extent of the achieved rational mastery of nature and of society. Objectively, the need for instinctual inhibition and restraint depends on the need for toil and delayed satisfaction. (1974: 88).

Similar to the *Dialectic of Enlightenment*, it is the progress in the mastery of nature that renders obsolete a good part of our current instinctual repression. In other words, the relationship with nature that actually matters for ecology is precisely the one which is immune to critique. Marcuse clearly states that freedom presupposes material abundance: “Non-repressive order is essentially an order of abundance: the necessary constraint is brought about by ‘superfluity’ rather than need. Only an order of abundance is compatible with freedom.” (1974: 194).³¹ This explains why the “nature” of the “ecological” Marcuse is never the concrete ground of productive practices. At this level, Marcuse relies on the productive forces to make repression obsolete.

Marcuse is caught in a double bind between his ecological pretension and his parallel reliance on the productive forces. This is due to his idea of freedom. Freedom, for Marcuse, is freedom from necessity and toil. Drawing on Marx’s famous distinction between the realm of necessity and the realm of freedom,³² Marcuse situates freedom in the activities that are detached from the necessities of life. Just as repression is made redundant by the mastery of nature, the good attitude with nature is all that is non-instrumental: “play” (i.e. free activity which is gratifying in

³¹ This is a spectacular illustration of Charbonnier’s thesis about the modern connection between freedom and affluence. His discussion of Marcuse, however, focuses on *One-Dimensional Man*: (2021: 175-179).

³² Marx’s famous passage on the realms of freedom and necessity is found in the third volume of *Capital*. It is quoted in Klagge 1986: 770.

itself) (1974: 214), the “new sensibility”, the satisfaction of aesthetic and erotic drives (recognised in oneself as well as in the exterior world).³³

This echoes Adorno and Horkheimer’s idea of the obsolescence of self-preservation. As a matter of fact, the emphasis on instincts makes this aspect more visible, since Marcuse bases his critical theory on the distinction between the reality principle, i.e. work which delays gratification to permit self-preservation, and the pleasure principle, which can finally be released once nature has been mastered. As C. Fred Alford puts it: “Marcuse certainly seeks man’s reconciliation with external nature. However, another value is paramount: man’s absolute freedom from external constraint. Only in such a world can *eros*, not the rationality of instrumental reason, prevail.” (1985: 14). But what kind of ecology can arise from a theory that is so dismissive towards the “realm of necessity”? As we have seen, this premise leads to the celebration of a romantic nature which has wiped out all the aspects that can relate to humans’ material dependence.

This is the pattern that we witness in the Frankfurt School. However ambitious the description of the “reconciliation with nature” is, —in Marcuse it goes as far as the project of a new science and a new technology³⁴—, it ultimately requires the technical basis of contemporary production, which is believed to have mastered nature at this fundamental level. As Alford writes, then, “[Marcuse’s] new science, which posits man’s reconciliation with nature, serves to conceal how urgently he seeks man’s ultimate triumph over nature: the abolition of labor.” (1985: 20). With a down-to-earth materialist outlook, it appears that Marcuse is simply counting on the total mastery of the environment. Only his romantic picture of “nature” can give the

³³ As Charbonnier writes, in this regime of critique, “The outside world, ‘nature’, are accepted as partners in an emancipated relationship only to the extent that this relationship is nonfunctional.” (2021: 176.)

³⁴ In *One-Dimensional Man* (2006) Marcuse distinguishes between a “repressive” and a “liberating” mastery of nature (240). But this only creates more confusion, as Marcuse attempts to base this “liberating” mastery on the existing technical basis (which is not so repressive after all): “If the completion of the technological project involves a break with the prevailing technological rationality, the break in turn depends on the continued existence of the technical base itself. For it is this base which has rendered possible the satisfaction of needs and the reduction of toil—it remains the very base of all forms of human freedom.” (236). The same paradox is visible in his text “The Realm of Freedom and the Realm of Necessity: A Reconsideration” (1969).

other impression. In fact, the flexibility of nature as a mirror of human society somewhat betrays that its “liberation” presupposes its total subjugation.

What is perhaps the greatest paradox for an ecological use of Marcuse is that, in the end, he always takes for granted the levels of wealth which have proven to be ecologically destructive. Although the perverse effect of material affluence is one of his primary concerns, he still presupposes the irreversibility of the standard of life attained in the “consumer culture” of the Western world after World War II. Marcuse qualifies this situation as an *obstacle* of critique, or at least as the difficulty that befalls critical theory in this period. This is because the Marxist critique counted on the proletariat in its position as total outsider. In this context the impoverished masses were driven to revolution because they were totally deprived of the wealth that they were themselves producing. With what he calls the “affluent society”, however, Marcuse claims that we are faced with the “integration” of ever-larger groups of citizens in the logic of capitalism, because their lives are objectively improving in terms of material comfort. Marcuse’s endeavour, as he repeatedly asserts, is to criticise a society that has raised the standards of living and produced enough goods to satisfy larger portions of the population. In “Liberation from the Affluent Society”, he writes: “today we have to be liberated from a relatively well-functioning, rich, powerful society.” (1968). Hence liberation is made difficult by the success of the repressed society in matters of material production. Domination is all the more pernicious when it gives substantial advantages to people. What is lacking is a new revolutionary subject:

We know very well the social mechanisms of manipulation, indoctrination, repression which are responsible for this lack of a mass basis, for the integration of the majority of the oppositional forces into the established social system. But I must emphasize again that this is not merely an ideological integration; that it is not merely a social integration; that it takes place precisely on the strong and rich basis which enables the society to develop and satisfy material and cultural needs better than before. (1968).

This starting point for critique, as it should be noted, is not contested as such by Marcuse. Indeed he appreciates this productive success, and counts on it for the

future. There are new challenges for the task of liberation, but this task still relies on the production of this society.

But now that we know the *ecological cost* of the “affluent society”, the picture completely changes. What Marcuse takes for granted are the levels of wealth to which corresponds a tremendous increase in carbon emissions as well as other consumptions of materials and overall transformations of the biosphere. In environmental history and Anthropocene studies, the post-War period has been named the “Great Acceleration” and is often illustrated by graphs with a series of exponential curves which show a sharp increase after 1950. (Steffen et al. 2015).³⁵ The ecological consequences of these few decades are yet to be known, but it is fair to say that irreparable damage has been done (and is still done today) in this short period of time. In other words, Marcuse’s basis for critique is the most unsustainable society that ever existed, since the “affluent society”, from an ecological point of view, is the main driver of the “Great Acceleration”. This shows the role of a truly ecological critique: it points out the material cost that has accompanied the growth of industrial society. The “affluent society” is neither sustainable, nor generalisable (to people in the South for example). Marcuse’s blindness in the matter reflects the short-sighted belief in the irreversibility of productive trends, while what is really irreversible is the damage these trends have caused, and are still causing, for the liveability of the planet.

In conclusion, Marcuse’s emphasis on instincts, although already present in Adorno and Horkheimer’s theory, pushes the initial paradox even further. Because he bases his theory on the distinction between the “reality principle” and the “pleasure principle” while integrating the domination of nature in his diagnosis, he turns the critical stance further away from the assessment of our practical relationship with nature. His theory requires nature to be tamed and mastered because his idea of human freedom is a life detached from all vicissitudes. What is left is an ecology that can never address ecological reality, but contents itself with an idealised nature awaiting the revolution.

³⁵ Charbonnier puts in parallel the Great Acceleration and what he calls an “eclipse of nature” or “eclipse of material consciousness” in the social and critical knowledge of this period, including in Marcuse: (2021: 172).

Conclusion.

This essay has shown that the critique of the “domination of nature” in the Frankfurt School is not only ecologically inadequate, but in fact betrays the sort of conceptions of nature that should be done with in the Anthropocene. From a materialist perspective, taken from Marx and Engels and revised in the tragic light of the Anthropocene, I have argued that the “domination of nature” draws the attention away from the concrete productive practices which are the roots of our predicament. At this level of production, moreover, we can see that the Frankfurt School has no critique to offer. On the contrary, Adorno, Horkheimer and Marcuse all rely on the achievements of modern production to ground their critical argument, even when it is aiming at the “liberation of nature”.

The challenge for critical theory is as follows: is it capable of drawing a critical analysis of our functional use of nature, of the ways we produce the “means of subsistence” (as well as many other things)? In other words, can critique reassess the intricate field of material flows by which needs are satisfied, toil is alleviated, consumption of goods is assured? Can it direct itself towards the “realm of necessity” rather than the “realm of freedom”? (a focus which has always been a convenient way of ignoring the physical and technical processes on which our lives truly depend). This is what ecology does anyway: it turns our attention to what allows human life in the first place, and to its modification by human activity. The pertinence of the environmental movement does not depend on its ability to defend an indeterminate “nature”, but to reveal (and call into question) the whole range of material attachments by which we subsist in the world.

It would be impossible to provide immediate answers, but at least materialism should ask the right questions. The theory cannot stop at the “infrastructure” of economic relations when the earthly material itself is shifting. Neither can it posit the progress of productive forces as a principle, or limit its analysis to class struggle, or interpersonal relations at large. And the last thing it should do is to neutralise itself by taking conceptual detours that are not related to ecology. The Anthropocene is an invitation to reconsider materialism. Something has been left off the analysis, something that has always been taken for granted or perhaps wilfully ignored. What happens when the object of critique is not the artificial permanence of want, but the

very process by which want is suppressed for many people? What is to be done, when the foundations of our practical lives happen to be flawed from the start?

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