

The production of social space in Lefebvre: a “socionatural” critique”

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ABSTRACT

Drawing on the work of the French thinker Henri Lefebvre—especially *La producción del espacio*—this article argues that, in his bid to articulate a unified theory of space, “ecology” and “environment” are ultimately dismissed. Within those frameworks, a split between nature and society prevails; nature is bifurcated; “first nature” is reduced to raw material; the social is pasted onto the human; and an undivided urban world is posited. From an anthropocentric standpoint, the hegemonic choice is the “development of the productive forces” as the pathway to a “different mode of production,” while “risks,” “threats,” and even the “destruction of man” are acknowledged only in subordinate terms. Against these conceptions, the article sketches an alternative: to reclaim Earth within a world of worlds.

KEYWORDS: Henri Lefebvre; production of space; nature.

INTRODUCTION

How should we understand the “(social) production of (social) space” considering socio-environmental transformations that threaten Earth’s vital limits and thresholds? This question encompasses mass extinctions and unsettles multispecies relational futures, demanding that the “natural” and the “social” be braided together. As anthropologist Marisol de la Cadena (2024, p. 46) puts it, a “socionatural territory” is “composed of relations between people and earth-beings and demarcated by a modern regional state government.”

The present “socionatural” reading of the theory of the production of space draws primarily on *La producción del espacio* (2013)—originally *La production de l’espace* (1974)—supplemented by Lefebvre’s other works. The 1970s saw an intensification of environmental debate, exemplified by the first “World Conference on the Environment,” even as Lefebvre repeatedly voiced criticisms of “ecology.”

This article selects and analyzes Lefebvre’s positions on “ecology,” “nature,” “environmental problems,” the “destruction of nature,” and the expectations that follow from them.

The first section reconstructs his statements on these themes and links them to his aspiration for a “unitary theory of space.” The next section emphasizes his modern conception of nature, particularly as it is embedded in the formulation of the production of space.

The third section argues that “first nature” appears in his theory as “raw material” and “productive force,” which culminates in an acknowledged destruction of nature. The penultimate section details Lefebvre’s stance toward the degradation of Nature.

Finally, to open alternative pathways, the conclusion synthesizes prior critiques of Lefebvre’s theory and proposes five challenges aimed at revaluing Earth, foregrounding “existences” in “other possible worlds” and their “socionatural” spaces, in order to escape the strictures of a single urban political project.

“ECOLOGY” SITUATED WITHIN THE “UNITARY THEORY” OF THE PRODUCTION OF SPACE

Lefebvre’s project foregrounds a universalizing, unitary theory of space. Throughout *La producción del espacio*, this dual aim appears under several labels: “political economy of space,” “science of space,” “spaciology,” and “unitary theory.” Each seeks to break with “scientific domains” and “specializations,” as follows:

(a) Fragmented conceptualization and the "political economy of space." Against "fragmentations and representations" of space, rather than approaching it through a "science of space" (his scare quotes) or a generic concept of "spatiality", Lefebvre insists that it is possible to conceive a "'political economy of space' which would go back to the old political economy and rescue it from bankruptcy, as it were by offering it a new object: the production of space" (Lefebvre, 2020, pos. 3274). He aims to move beyond the "breakdown" of knowledge into objects proper to each discipline by re-framing political economy as a political economy of space, with a "new object": the production of space.

(b) Misleading concepts and a science of space (now without scare quotes).

(...) concern itself with the material, sensory and natural realms, though with regard to nature its emphasis would be on what we have been calling a 'second nature': the city, urban life, and social energetics — considerations ignored by the simplistic nature-centred approaches with their ambiguous concepts such as the 'environment'" (Lefebvre, 2020, pos. 8491)

Here "environment" exemplifies a conceptual error. The emphasis on "second nature" through the urban registers one face of a bifurcated nature;

(c) "Spaciology" (or science of space). He adopts the label "space-analysis" or "spaciology" to grasp "social space," while warning about the potential pitfalls of such a "science" (Lefebvre, 2020, pos. 9185);

(d) Descriptive "disciplines" versus an explanatory "unitary theory": "Several scientific disciplines—*ecology*, demography, *geography*, and ecology (sic)—describe these results without tracing them back to causes and reasons, since they are partial systems" (Lefebvre, 2020, pos. 9339, emphasis added). For Lefebvre, these "scientific disciplines" testify to forms of segmentations and remain "descriptive" because they omit causes and reasons;

Lefebvre advocates the "spatial" theory, and special, in order to break with the space of "practice": "The theory of space refuses to take the term 'space' in any trivial or unexamined sense, or to conflate the space of social practice with space as understood by geographers, economists, and others." (2020, pos. 9469).

To escape the "trivial," the "space of practice" cultivated by the sciences, he proposes a "unitary theory": "What we have sought to do here is bring together causes and effects, consequences and reasons, in such a way as to transcend divisions between scientific domains and specializations, and to propose a unitary theory" (Lefebvre, 2020, pos 9340). Does this "unitary the-

ory truly overcome the growing specialization of “science,” with its customary division of the “space of practice”?

In distinguishing an “indefinite multitude of spaces”, including ecological and geographical, Lefebvre states that before “any specific and detailed attempt is made to refute one or other of these approaches, along with whatever claim it may have to scientific status, it should be pointed out that the very multiplicity of these descriptions and sectioning makes them suspect” (2020, pos. 1320). He sharpens this critique into a brusque refusal of a space carved up by sectoral practices. In this rendering, other-than-human beings remain excluded from the social space that is produced.

To counter an “ecologist’s” “fragmented” explanation of “human” action within “natural ecosystems” in so-called “backward” societies, Lefebvre (2020, pos. 1885) argues that “the actions of human groups upset the balance of these systems, and how in most cases, where ‘pre-technological’ or ‘archaeo-technological’ societies are concerned, the balance is subsequently restored.” In his view, the “ecologist” adopts a “natural,” rather than a social, perspective—an objection that mirrors his broader critique of ecology. Yet are there no other ecologies and other ecologists?

How, then, should we assess the unifying, totalizing intent of the theory of the production of space? The Mexican sociologist Enrique Leff offers a pointed rejoinder: “The civilizational project that seeks to unify the world is dead: the one God, the absolute idea, the unity of science, and the globalization of the market” (Leff, 2021, p. 84).

Possible motivations for the critique of ecology within the unitary theory of produced space

When discussing political projects that aspire to a “new life,” Lefebvre again targets ecology for conflating “science” and “ideology,” a blend that, in his view, enables “contaminated” political alliances: “The ambiguity of such concepts as that of ecology, for instance, with its mixture of science and ideology, fosters the formation of the most unlikely alliances” (Lefebvre, 2020, p. 8734). Must ecology, then, be politically purified?

Do Lefebvre’s recurrent objections to ecology stem from the charge that it strays from the Marxian “main contradiction” between capital and labor? The answer is not obvious.

Lefebvre concedes that “Marx’s thinking” should not be taken “as an end point or conclusion but rather as a point of departure.” He adds that it can-

not be beyond question: "In other words, Marxism should be treated as one *moment* in the development of theory, and not; dogmatically, as a definitive theory" (Lefebvre, 2020, pos. 7565).

He underscores the point: "The scientific and technological changes of the modern world have now made a reconsideration of Marxist thought inevitable" (Lefebvre, 2020, pos. 7981).

Given this "openness" toward Marx's thought, why is ecology treated so disparagingly within the theory of the production of space? Is the stance tied to 1970s environmental debates and to ecologists' political positions critical of Marxian theory? What is clear is that Lefebvre's openness to revisiting Marx did not extend to ecology. Perhaps this has to do with the influence of Marx's conception of nature.

That said, Kohei Saito's *O ecossocialismo de Karl Marx* reframes this line of thought in important ways. Before proceeding, recall Marx's observation in "Large-Scale Industry and Agriculture" that capitalist development increasingly concentrates the urban population in large centers. He notes that "capitalist production accumulates, on the one hand, the historical driving force of society, but on the other, it disrupts the metabolism between human beings and the earth [...]"

Marx defines "metabolism" as "the return to the soil of the components of the earth consumed by humans, in the form of food and clothing; hence the eternal, permanent fertility of the soil" (Marx, 1984, pp. 101–102). Once this metabolism is "disrupted," it destroys the "physical health of urban workers" and the "spiritual life" of rural populations. It bears emphasizing that Marx's emphasis falls on "soil fertility," and thus remains tethered to "production."

Returning to Saito: in the book's introduction—after sketching the "first and second stages" of ecosocialism—he twice frames "ecological crises as the fundamental contradiction of the capitalist mode of production." First, Marx "provides us with one of the most helpful methodological scaffolds for investigating the ecological crises as the central contradiction of the current historical system of social production and reproduction" (Saito, 2021, p. 24). Second, "he [Marx] seriously recognized natural limits, treating the complex, intense relationship between capital and nature as a central contradiction of capitalism" (p. 31).

What, then, becomes of the theory of the production of space under an ecosocialist lens? Does ecology remain a hybrid of "science and ideology"? Would Lefebvre embrace Saito's relocation of the "principal contradiction,"

elevating “ecological crisis”? Or would he deem it unacceptable “revisionism,” rather than a legitimate renewal of Marx?

In the early 1970s, amid multiple crises, Lefebvre (1976, p. 63) asked whether there is a “principal crisis”: “are there crises, and are some more important, more essential than others?” His answer was yes: “the hypothesis according to which the crisis of urban reality is more important, more central than any other.” In the latter half of the twentieth century, the principal crisis for Lefebvre was urban. Today, is it environmental? Or both?

“(SOCIAL) PRODUCTION OF (SOCIAL) SPACE”: SOCIETY SUBORDINATES AND DESTROYS NATURE

Two concepts underpin the theory of the production of space: the production and the social. Marx (1984, p. 17) not only nullifies Nature’s cost but also attributes the “productive consumption of Nature” to “the creation of the human hand”: “Natural forces such as steam, water, etc., which are appropriated for use in productive processes, also cost nothing.” He adds: “But just as a person needs lungs to breathe, he needs a ‘creation of the human hand’ in order to consume Nature’s forces productively.”

In *O Pensamento marxista e a cidade*, Lefebvre sketches a retrospective of Marx’s concept of production. There, production is linked solely to the human: “In this way, production encompasses everything and excludes nothing that is human” (n.d., p. 46).

Baudrillard criticizes this “principle” of production: “Critical thought about the *mode* of production does not affect the *principle* of production” (2019, p. 9).

He clarifies the agenda: “in the name of an authentic and radical productivity we will subvert the capitalist system of production [...]” Thus, “Capital develops the productive forces, but it also restrains them: they must be liberated” (2019, p. 10). The Marxian intent is to “subvert” production under capital—yet through more production, accelerating it within another society.

The second concept, the social, is effectively equated with the human in relations of production. Addressing surplus value, Marx is blunt about the “growth of the capitalist mode of production”: “It presupposes the domination of humanity over Nature.” Humanity controls and dominates the exploitation of Nature. For how long?

Industry magnifies this “domination” of Nature: “The need to exercise social control over a natural force, to administer it—beginning with appropriating or mastering it through works fashioned by the human hand—plays a

decisive role in the history of industry". (Marx, 1984, pp. 108–109). Note well: the "need" for "social control and administration" of "natural force." In another mode of production, the proposal shifts to "regulation," as we shall see.

With this conceptual pairing—production and the human-social—we can now examine how Lefebvre treats society's relation to nature.

The production of (and in) space consumes Nature.

It bears repeating that "(social) space is a social production." "The mode of production organizes and produces its space and its time (as well as certain social relations). That is how it is realized" (Lefebvre, 2020, pos. 1136).

Within produced space, property comes to the fore: it is "inherent in *relations of property* (property in land, in particular) and, on the other hand, is tied to the productive forces (which shape that land, that soil)" (2020, pos. 2899).

To produce, the human separates the social from the natural: "Humanity, which is to say social practice, creates works and produces things" (Lefebvre, 2020, pos. 2618). And to produce "things," labor is essential. As Marx (1983, p. 149) puts it: "Labor is a process between human and Nature, a process in which the human, through their own action, mediates, regulates, and controls their metabolism with Nature." How, then, does the "human" "regulate and control" this "metabolism" with Nature?

In what he calls the "definitive split between a subject and Nature/object," Baudrillard (2019, p. 49) ties this subject-object perspective to production: "Nature truly appears as essence, in all its glory, under the sign of the *principle of production*."

Lefebvre (2020, pos. 1056) once again elevates space conceptually: "Rather than designating just any 'product,' thing, or object, the concept [of space] required a deepening of the notions of production and product, as well as of their relations."

How, then, is this "non-trivial" product—space—situated? "In its productive and producing manner, space enters into relations of production and into the productive forces (whether better or worse organized)" (Lefebvre, 2020, pos. 1056).

Accordingly, "(social) space as a (social) product" becomes premium, inscribed within productive forces and relations of production. This framing of space violates nature—something "irreversible" for Lefebvre (2020, pos. 1743): "Nature-space disappears irreversibly." Is that "irreversibility" to be accepted, tolerated— a "price" to be paid to reach another urban mode of pro-

duction? It seems to wager the present future against a desired future that remains uncertain and unforeseeable.

Even as he acknowledges this vanishing of “nature-space”—a disquieting prospect—Lefebvre (2020, pos. 1383) reasons: “natural space was - and it remains - the common point of departure: the origin, and the original model, of the social process — perhaps even the basis of all ‘originality’ ” The social emanates from the natural—fated, in his account, to disappear—and then separates from it in the pursuit of socio-human accumulation.

Society–nature dualism: anthropocentrism and anthropomorphism

In step with modernity, Marx (1983, p. 149) removes the Human from Nature and exalts labor as the force that humanizes the world: “By acting on external Nature and changing it, he simultaneously changes his own nature.” What is natural—created but not produced—serves production, space included.

Lefebvre follows Marx in this divorce: “which is at first biomorphic and anthropological [...]” In “social space,” only one kind of “bio” matters. Other-than-human lives are erased or pushed out of—and from—Nature, which is taken as external to the human.

Continuing the previous passage, the same split reappears in different terms: “Like the flower which does not know it is a flower, self-consciousness, so much vaunted in Western thought from Descartes to Hegel (and even more recently, at least in philosophy), *misapprehends* its own preconditions whether natural (physical) or practical, mental or social” (Lefebvre, 2020, pos. 5286, emphasis added). Anthropocentrism here pairs with anthropomorphism. “Other-than-human beings” are interiorized and disfigured in the “kingdoms of nature.”

Plant neurobiologist Stefano Mancuso, in *Nação das plantas*, draws a sharp contrast between animals and plants: “Animals see with eyes, hear with ears, breathe with lungs, reason with a brain, etc.” Plants, by contrast, “see, hear, breathe, and reason with their entire body” (Mancuso, 2024, p. 46). We should not model nonhuman bodies on human form.

Mancuso presses further: a brain that presides over specialized organs has shaped every kind of organization humans have conceived— “centralized and hierarchical”—whereas “plants distribute functions throughout the body” (2024, pp. 46–47).

Once the rift between society and nature is accomplished, the former governs the destruction of the latter in the name of a productive and produced social order: "Hence the effort to escape confusion by considering (social) space—like (social) time—not as 'facts' of more or less modified nature, nor as simple 'cultural' facts, but as products." The emphasis returns, relentlessly, to production (...) of "products."

That earlier "disappearing" of nature, duly (dis)regarded, leaves only remnants, simulacra of what mass destruction has consumed: "Granted, too, that natural space has not vanished purely and simply from the scene. It is still the background of the picture; as decor, and more than decor, it persists everywhere, and every natural detail [...]" (Lefebvre, 2020, pos. 1740). The next line lays bare the anthropocentrism: "[...] every natural detail, every natural object is valued even more as it takes on symbolic weight (the most insignificant animal, trees, grass, and so on)."

The long quotation concludes with two more attributes that bind nature as servant: "Source and resource, nature haunts us—like childhood and spontaneity—through the filter of memory" (Lefebvre, 2020, pos. 1740).

In short, devoured nature returns as a social specter: "background," "décor," "ambiance," "source," "resource." Exhausted, the somber canvas painted from it survives as mere trim for an anthropocentric, indeed "capitalocentric", order. Small wonder the *marketing* of produced space leans on decorative green, with a dash of blue, to mask the nature interred beneath.

PARTITIONED NATURE:

FIRST NATURE, SECOND NATURE, AND SPACE

To subjugate nature, modern reason lights the way out of "irrational" darkness: "The symbolisms that proceed from nature can obscure the rational lucidity that, in the West, springs from its history and from positive domination over nature" (Lefebvre, 2020, pos. 1736). For Marx, "large-scale industry acts more revolutionarily the more it annihilates the bastion of the old society, the 'peasant,'" and he extols "conscious technology": "in place of the most routine and irrational production arises the conscious, technological application of science" (Marx, 1984, p. 101).

Does this "positive domination" of nature also amount, for Lefebvre, to the "conscious, technological application of science"? In what sense would such a science differ from the one that produced irreversible damage? Is its "unconscious" use solely a function of capital?

Lefebvre further qualifies nature through an adjectival opposition: “Nature presents itself as it is, now cruel, now generous” (2020, pos. 2817). That phrasing helps surface another bipartition of Nature in Lefebvre, following Marx.

Quoting *The Poverty of Philosophy* (1847), Lefebvre (n.d., p. 68) recalls Marx’s critique of Proudhon: he “distinguishes the ‘good side’ and the ‘bad side’ of things and persons. He wants to extract from contemporary society the good side while rejecting the bad. Should we then accept both the good and the bad? No, and Lefebvre turns to Marx again: “It is the bad side that generates the movement that makes history, because it constitutes the struggle.” What, then, counts as the “bad side” in—or of—nature?

Lefebvre’s “cruel and generous” nature may also echo another Marxian influence: “A too-prodigious Nature ‘holds man’s hand like a child in a walker.’ She does not make his own development a natural necessity” (Marx, 1984, p. 109). Do nature’s cruelties thus drive the relentless march of technological production? And should we now include the cruelties born of nature’s “malignant” destruction?

Finally, nature appears as “myth”: “A powerful myth, nature turns into mere fiction, a negative utopia” (Lefebvre, 2020, pos. 1754). Will the “positive utopia” take place in the urban?

FIRST NATURE: “RAW MATERIAL” AND “PRODUCTIVE FORCE”

Lefebvre (2020, pos.2600) draws a line between nature and what is produced: “Nature creates and does not produce; it provides resources for a creative and productive activity on the part of social humanity; but it supplies only *use value*, and every use value - that is to say, any product inasmuch as it is not exchangeable- either returns to nature or serves as a natural good.”

Lefebvre and Marx not only share the commitment to mastering nature; they also want to “rouse” it so humanity can develop its latent powers: “He develops the forces slumbering in it and subjects the play of its forces to his own dominion” (Marx, 1983, p. 149).

Within first nature, more-than-human beings are stripped of expression: “What it creates—namely, ‘particular beings’—simply arises and appears. Beyond that, it ignores such creations (unless we suppose within it a calculating god, providence).” Humanity is thus enthroned as the protagonist of an “empire in nature,” at odds with Spinoza’s seventeenth-century argument.

Lefebvre anchors this dispossessed nature in two economic markers: “raw material” and “productive force.” He develops each in turn.

"The raw material of the production of space is not, as in the case of particular objects, a particular material: it is rather nature itself, nature transformed into a product, rudely manipulated, now threatened in its very existence, probably ruined and certainly—and most paradoxically—*localized*" (Lefebvre, 2020, pos. 3646). "Rudely manipulated," yes. But "probably ruined". Why "probably ruined"? By the 1970s, planetary "ruins" were already visible.

Production expands to the limit: "[...] 'using nature as its 'raw material', broaden the concept of production to include the production of space as a process whose product —space— itself embraces both things (goods, objects) and works" (Lefebvre, 2020, pos. 3744). The production paradigm seizes, and commodifies, the previously unthinkable.

A second economic marker casts nature as a *productive force*: "the forces of production (nature; labour and the organization of labour; technology and knowledge) and, naturally, the relations of production play a part - though we have not yet defined it - in the production of space" (Lefebvre, 2020, pos. 2060).

These forces are ordered: "First, nature; then labor and, consequently, the organization (the division) of labor as well as the instruments employed, techniques, and therefore knowledge" (Lefebvre, 2020, pos. 2592).

Denatured as "raw material" and operated upon by "productive forces," nature yields—on this Marxian reading—a second nature, space: it "is considered merely as the raw material upon which the productive forces of different societies operate to forge their space" (Lefebvre, 2020, pos. 1754).

Geographer Jason W. Moore offers a pointed rejoinder to this servile view of nature: "Capitalism's 'law of value' was, in fact, a law of Cheap Nature" (2022, p. 146). "Cheap," he argues, because capital, empire, and science appropriated—at no cost—the work/energies of natures across the globe wherever capitalist power could reach.

Beyond being "cheapened," nature is further degraded by private appropriation and the productivist calculus of commodities under capitalism, a regime in which beings and worlds are, at best, rendered peripheral.

Second nature: the production of the city

What does "second nature" express? What action produces it, by whom, and upon what? Lefebvre (2020, pos. 1035) is explicit:

The production of space (and time) did not approach them as arbitrary objects or products of human labor or machinery. It framed them, rather, as central dimensions of a second nature, shaped through the action of societies upon "primordial" nature—upon material substrates, sensible data, and energies.

The four questions are answered here: second nature is spatial production wrought by “humans and their machines” acting on “primitive” or “original” nature, mobilizing “matter” and “energies.” In short, space is produced through a rending break with first nature.

That production of—and in—space unfolds as second, urban nature: “As a ‘second nature’, as a produced space, the town has also retained—and this even during its crisis - certain natural traits, notably the importance assigned to use” (Lefebvre, 2020, pos. 8022). The “explosion of the city” fells forests.

First nature is banished by the “necessity” of producing exchange values: “The coming to maturity of this second nature is a slow and laborious process: its motor is automation, which is constantly pushing forward into the vast realm of necessity - the realm, that is to say, of the production of things in space” (Lefebvre, 2020, pos. 9275). Production is justified in the name of “necessity.” Yet, as Baudrillard argues: “The concept of Scarcity itself, the concept of Necessity, and the concept of Production must be exploded because they rivet the bolt of political economy”. (Baudrillard, 2019, p. 61).

In the liquidation of first nature in order to produce second nature, Lefebvre introduces a striking attenuation: “What we have called a ‘second nature’ may replace the first, standing in for it or superimposing itself upon it without wreaking *complete* destruction” (Lefebvre, 2020, pos. 8081, emphasis added). Nature, then, may be destroyed so long as its total disappearance is not fully consummated. How far does this tolerance extend? Would such residual simulacra suffice?

Lefebvre is unequivocal regarding the supreme value he assigns to second nature: “In the city and through the city, nature yields its place to second nature” (Lefebvre, n.d., p. 89). In another register, the city appears as victorious: “Over the course of history—its own history—exchange value has gradually prevailed over use value” (Lefebvre, n.d., p. 114). Within the urban realm, the political horizon is the defeat of capitalism.

Accordingly, the focus falls on the “right to the city.” Nature, by contrast, is treated as a distraction from that focus: “The demand for nature, the desire to enjoy it, are deviations from the right to the city.” The point is sharpened: “The need and the ‘right’ to nature run counter to the right to the city without managing to elude it.”

Only a parenthetical caveat remains—“(This does not mean we should not preserve broad ‘natural’ spaces in the face of proliferating, exploded urbanization)” (Lefebvre, 2008, p. 117). Such caveats tend to underscore,

not temper, the main thesis. "Preservation" is confined to what survives an "incomplete" destruction.

For Baudrillard (2019, p. 56), the fading of first nature into second has a different meaning: "*Nature is the concept of a dominated essence and nothing else. In this sense, it is Science and Technology that fulfill the essence of Nature by indefinitely reproducing it as separated.*" We are asked to believe that science and technology can make nature reappear in other natures: "However, they do this in the name of a finality supposed to be Nature itself." A perpetual miracle, as it were.

But are we not already in a third, fourth... nth nature? Urbanization multiplies layers of demolition. The cumulative destruction of Nature imperils existence. Can science and technology truly "reproduce" Nature? The artificial without the natural? Do "technical" fixes not intensify, or generate, further and unforeseen problems?

Relations between first nature, second nature, and "scarcity"

Lefebvre distinguishes first nature from second nature along two axes, as outlined above: (a) first nature creates (but does not produce); (b) it provides natural resources as use-values (whereas second nature generates exchange-values).

He draws a firm line between a creative (first) nature and a second nature in which labor produces value: "And yet, nature does not labour: it is even one of its defining characteristics that it *creates*" (2020, pos. 2600, emphasis added).

From the premise that nature supplies use-values presumed to be limitless follows the lack—and eventual exhaustion—of some of them:

Certain goods that were once scarce have become (relatively) abundant, and vice versa. As a result use value, so long overshadowed by exchange value, has been relocated and, as it were, reinvested with value (Lefebvre, 2020, pos. 7702).

Scarcity arises, he argues, because "because it is no longer possible to draw them directly from an everlasting source, namely nature." As the "exhaustion" of what was previously considered inexhaustible has become evident, the preferred "solution" is substitution within second nature, via science, technology, and innovation. In this register, second nature becomes nature for Lefebvre.

Yet this substitution proceeds amid renewed scarcity crises: "(...) the ever-increasing 'new scarcities' are liable to precipitate a crisis (or crises) of a type without precedent." An alluring lexicon of the artificial takes hold—"intelligence," "memory," "clouds"—as if another Earth were already here.

With the modern dream of unbounded abundance undone, the project pushes replacement products ever farther from the “natural,” making them increasingly manufactured: “Over the centuries, more and more sophisticated — and hence less and less ‘natural’ — materials have replaced substances obtained directly from nature.” (Lefebvre, 2020, pos. 3442).

Lefebvre (n.d., p. 136) anticipates the “complete urbanization of society,” which he casts as a “revolutionary process.” Urban totality becomes the planet’s only way of life. An “elaborated” second nature supplants the “cruel and generous” first. He sketches how such dominance asserts itself in the urban: “In the most modern urban planning, using the most highly perfected technological applications, *everything* is produced: air, light, water — even the land itself.”

Beyond substituting scarce goods, Lefebvre (1976, p. 105) also imagines leaping beyond the Earth, sailing and lifting off into the cosmos: “Techniques allow us to ‘construct’ whatever we desire, on the surface and on the ocean floor, in deserts and in mountains, even in interplanetary space.”

In the face of first nature’s suppression, the horizon rests on science, technology, and innovation aimed at producing *nth* natures—within the urban and on other planets. Within the urban, second nature bifurcates: one strand still openly fabricated from the natural; another masked as “artificial.” Do the “artificial” or the so-called “immaterial” truly dispense with the natural in production? Or do they depend, ultimately, on rare materials siphoned from what remains of nature?

Lefebvre (2020, pos. 7702) also notes the growth of dead labor. As “the dead retains its hold over the living, destruction and self-destruction will be imminent threats” (2020, pos. 8085). “Threat—to whom and to what? Is an automated society, liberated from alienated and controlled labor, the alternative revolutionary urban order that Lefebvre ultimately envisions?”

COEXISTENCE OF SPATIAL PRODUCTION AND THREATS: AMBIGUITIES, CONTRADICTIONS?

Amid the dominance of critiques of “ecology” and a resigned acceptance of nature’s (incomplete) destruction under radiating urbanization—as discussed above—Lefebvre only infrequently mentions “risks,” the “destruction” of nature, and even of “man,” in this book and elsewhere. He offers five such statements. What role do they play in the theory of the production of space?

For the author, everything seems to "conspire" against nature, despite stated intentions to the contrary: "Everyone wants to protect and save nature; nobody wants to stand in the way of an attempt to retrieve its authenticity. Yet at the same time everything conspires to harm it" (Lefebvre, 2020, pos. 1745). Irony, or not?

The first statement splits progress in two. On one side, the "growth of the productive forces" aggravates two sets of problems: "Marx responded by showing that what they took for progress was merely a growth in the productive forces, which, so far from solving so-called 'social' and 'political' problems, was bound to exacerbate them." Does this same "growth" not also generate ecological problems?

On the other side, that growth is welcomed: "to those who lamented the passing of an earlier era, this same Marx pointed out the new possibilities opened up by the growing forces of production" (Lefebvre, 2020, pos. 2841).

Caught between "aggravated problems" and "newly opened possibilities," Lefebvre ultimately wagers on expanding the productive forces and on producing urban space as a compass toward a "new mode of production": "If the production of space does indeed correspond to a leap forward in the productive forces (in technology, in knowledge, in the domination [...] this tendency, when pushed to its limit [...] must eventually give rise to a new mode of production" (Lefebvre, 2020, pos. 3243).

Having chosen "progress," he concedes that the "symbiosis" between nature and society has been "modified," if not yet "broken": "the symbiosis - in the sense of exchange of energies and material—between nature and society has recently undergone modification doubtless to the point of rupture" (Lefebvre, 2020, pos. 7648). Another softening clause shadows the main claim. What remains before it breaks? Would an "other mode of production" circumvent it through innovation?

Interrogating the "myth of economic development in Latin America," Zanothelli (2024, p. 19) captures the reach of modernity's construction of nature as "resource," as "raw material" for "development":

Thus, nature was (is?) treated as a mere backdrop or a providential gift, reduced to the status of a "natural resource," or simply rendered a site of extraction within the framework of a pursuit of "development" and "growth" prescribed by international agencies.

In short, in this first statement Lefebvre opts for the "development of the productive forces" as the pathway to "another mode of production." As usual, "problems" and the altered nature–society symbiosis recede to the

background. Contradiction? Ambiguity? A primary stance hedged by secondary caveats?

In a second statement, Lefebvre (n.d., p. 137) centers “the city,” casting it as the “seat” of a “contradictory process”: “It absorbs the countryside and contributes to the destruction of nature; it also destroys its own conditions of existence and must ‘re-establish them systematically.’” He reiterates: the “city, linked to the productive forces (...), is therefore the seat of this vast contradictory process.” How would those “conditions of existence” be re-established? Is this a contradiction in terms—promoting nature’s recurrent demise while fabricating artificial conditions for existence “in the city”?

In a single urban world, the “right to the city” sits atop the hierarchy of rights. Hence the “demand for nature, the desire to make use of it” counts as a deviation from that right. He insists that the “need and the ‘right’ to nature run counter to the right to the city without managing to elude it.” The inevitable proviso follows: “(This does not mean that wide ‘natural’ spaces should not be preserved in the face of the proliferations of the exploded city)” (Lefebvre, 2008, p. 117). Ambiguity again: the city first, then “natural spaces.”

A third statement advances the register of “threats” and “risks.” He accepts the decimation of first nature to produce the second: a “process of gigantic proportions, beset by risks and perils of all kinds, and liable to abort at the very moment when the door to new possibilities is opened” (2020, pos. 9275). Does this “process of gigantic proportions,” riddled with dangers, open or foreclose those possibilities? Which side weighs more?

He then names what capitalism unleashes: “through and by means of urbanization, under the pressure of the world market; and, in accordant with the law of the reproducible and the repetitive, by abolishing spatial and temporal differences, by destroying nature and nature’s time” (Lefebvre, 2020, pos. 7648). Would such nullifying destruction leave anything for an “other mode of production” to build upon?

After affirming that “The initial basis or foundation of social space is nature — natural or physical space,” the final stretch of the book intensifies the gravity of “risks and dangers,” including the “threat of destruction”: “Upon this basis are superimposed — in ways that transform, supplant or even threaten to destroy it - successive stratified and tangled networks [...]” (Lefebvre, 2020, pos. 9152).

Here Lefebvre adopts an unusually emphatic tone. He writes of the “danger that the economic sphere, fetishized as the world market, along with the

space that it determines, and the political sphere made absolute, might destroy their own foundation — namely land space, town and country — and thus in effect self-destruct?" Destruction can itself be destructive—fatally so. Is this third statement an exception, or does it confirm the rule?

Taken together, what do these three statements say about his stance toward ecological collapse and "risk"? Earlier questions return: a core choice followed by caveats? Double register? Or a contradiction?

To avoid a hasty verdict, consider a fourth statement. After noting—already in the second statement—that space is exploited at a "colossal scale" and at a dizzying pace, Lefebvre (2020, pos. 7810) adds: "The possibilities of occupying it, filling it, populating it, and transforming it from top to bottom grow continuously; that is, of producing space, whose nature would be nothing other than a raw material gradually destroyed by the techniques of production." Given the breakneck speed at which "techniques of production" destroy nature, can anything be done within capitalism?

Returning to his claim that a "reconsideration of Marxist thought is inevitable" (see §1), Lefebvre (2020, pos. 7981) introduces a fifth statement that revises the status of nature: "For Marx, *nature* belonged among the forces of production. Today a distinction is called for that Marx did not draw: namely, that between the *domination* and the *appropriation* of nature." Nature shifts from "productive force" to a bifurcation, within the urban, into two "spaces."

He opposes "dominated spaces" to "appropriated spaces": "Domination by technology tends towards non-appropriation — i.e. towards destruction". Lefebvre (2020, pos. 7981).

If "domination" is destructive, how does appropriation occur? Analyzing a highway, he sketches traits of the "dominated": "Dominated space is usually closed, sterilized, emptied out. The concept attains its full meaning only when it is contrasted with the opposite and inseparable concept of appropriation" (Lefebvre, 2020, pos. 4428).

Shortly thereafter he adds: "Only by means of the critical study of .space, in fact, can the concept of appropriation be clarified" (Lefebvre, 2020, pos. 4432). Even so, "appropriated" space appears only by contrast with its opposite—open, enabling, usable. Ecology is nowhere to be found.

When he critiques "abstract space," i.e., dominated space, Lefebvre (2020, pos. 8531) lists six facets of a "lethal power": (a) "nuclear threat"; (b) "freewheeling technology"; (c) "rampant population growth"; (d) "the kind of development known to be undesirable yet desired by power"; (e) "ecological problems"; and

(f) “the operation of abyssal forces or of self-destructive tend—tendencies in the species or in the planet, to the operation of a death instinct.” In dominated space, “ecological problems” are explicit—unusually so.

Despite this robust inventory of threats to life on Earth, the primacy of produced “space” is reignited: “For neither the atomic bomb, nor the squandering of resources, nor demographic, economic or production-based growth — indeed, no single aspect of the threat — can define its instrument, which is space.”

Taken together, these five statements show a dominant choice for the “development of the productive forces” as a “stage” on the historical march toward “another mode of production.” At the same time, we find a thin, subordinate acknowledgment of “risks,” “threats,” and even “the destruction of man”—all within a dualism of society/nature, a social-human amalgam, and an all-encompassing urban.

In *O Pensamento marxista e a cidade*, a chilling counterpoint hammers this choice: “Capitalism destroys nature and ruins its own conditions of existence, preparing and announcing its revolutionary disappearance” (Lefebvre, n.d., p. 137).

Do the broad lines of Lefebvre’s political project inflect how we read these five statements?

In the project of a “‘new life,’ generally communitarian,” he attributes its failures to “the absence of an appropriate space, of a morphological invention” (Lefebvre, 2020, pos. 8692). Morphology is crucial in the proposed “proper space.”

Rejecting both “state capitalism” and “state socialism,” Lefebvre (2020, pos. 3243) sketches the project as “the collective management of space, the social management of nature, the overcoming of the contradiction nature/anti-nature—it is obvious that one could no longer rely solely on the ‘classical’ categories of Marxist thought.” The complementary “categories” remain unspecified.

What would “the social management of nature” entail? How would one overcome the “contradiction nature/anti-nature”? Is “anti-nature” the urbanized Earth?

Near the end of the book, Lefebvre (2020, pos. 9505) ties the “transformation of society presupposes a collective ownership and management of space founded on the permanent participation of the ‘interested parties’, with their multiple, varied and even contradictory interests.”

Participation, he suggests, is already apparent in "so-called environmental problems"—"not without the risk of deviations and distortions." Simply invoking the "environment" rekindles anxieties about such "deviations," even in the closing pages of *La production de l'espace*. When Lefebvre addresses ecology, the "political" risk appears to outweigh the "environmental" one.

His political project does not overturn the earlier reading of the five statements discussed above. After capitalism, he maintains, exchanges "between the social and the natural, the conquered and the spontaneous" could be re-established "in a form appropriate to the integral development of the human being and as a regulatory law of social production."

Would "another mode of production" unfold upon—and over—the ruins of a singular urban world? Which social-human remnant would the "new man" regulate? And how would such "regulation" operate in a different society?

FINAL CONSIDERATIONS ON THE PRODUCTION OF SPACE AND OPENING ANALYTIC POSSIBILITIES: EARTH, PEOPLES, OTHER WORLDS

A close reading of Lefebvre's works—above all *La producción del espacio*—with attention to "ecology," "nature," and "environmental problems," yields a coherent interpretation of their place in his theory. In the theory of the production of space, nature is subordinated as "resource" and as "productive force," under the aegis of social-human command and the production of—and within—urban space.

Simultaneously, this anthropocentric dominance coexists with fleeting acknowledgments of "threats," "risks," and even "self-destruction." Most often, these acknowledgments appear as side notes within a narrative that treats such dangers as the inevitable waypoints of a historical trajectory aimed at another "mode of production," as outlined in the previous section.

This unequal coexistence of "development" and "destruction" under capitalism—especially as it materializes in the production of space—unfolds into seven interlinked, specific conclusions distilled from the article's earlier sections:

- a. the claim to a "unitary," totalizing theory of the "(social) production of (social) space." The unchecked fragmentation of knowledge into "disciplines" is undeniable; yet is the remedy really their unification under the rubric of "social space," duly "appropriated"?
- b. relations of production are restricted to the Human, composing a social-human field;

- c. society dictates the split from nature. Forms of subjugation proliferate, while the social-human is endowed with an agency that, in capitalist space-production, annihilates other beings;
- d. nature is compelled to serve passively as an unlimited stock of use values to produce exchange values—above all “social space”—thereby generating scarcity;
- e. first nature is condemned to destruction through successive production techniques, and, under scarcity, replaced by “more elaborated,” “less natural” products fabricated as second nature by science, technology, and innovation;
- f. capital’s expansive accumulation excludes that which it deems non-modern or non-urban, eliminating nonhuman lives and extinguishing—or foreclosing—the conditions for other modes of life; and
- g. in “another mode of production,” its foundation would rest on the “regulation” of social production and the “integral development” of the “new human.”

Given the disagreements with this baseline interpretation and these specific conclusions—derived from a reading of Lefebvre’s literary corpus—other perspectives might help re-think space of and on Earth.

First challenge: entangle nature and society. As Philippe Descola (2016, p.22) notes, for some peoples “everything is natural and cultural at once.”

From these entanglements—and against human sovereignty—we face a choice: “nonhumans are also persons who participate in social life,” with whom we may forge alliances or, conversely, relations of hostility and competition (Descola, 2016, p. 14). The first challenge thus folds into a second: how to cultivate relations between humans and nonhumans that are non-hostile, cooperative, and—where inevitable—competitively bounded?

Pushing past oppositions carries further conceptual stakes. As Taddei argues, “overcoming modern dichotomies (subject/object, organism/environment, culture/nature, etc.) requires rethinking organism, life, loci of agency and sentience, atmosphere, and death. A different lexicon becomes necessary” (Taddei, 2022, p. 219). A different lexicon becomes necessary.

Third challenge: transforming the Human. The Human is no longer the merely biological being posited in Marx. Along with capitalism’s extractive, ruinous trajectory—driven by the Human enthroned as nature’s sovereign—Earth’s limits have been, and continue to be, relentlessly exceeded. In this recent process, natural history and human history have converged in the cli-

mate: "Scientists posit that the human being is no longer the simple biological agent it has always been, for it has acquired a greater dimension. Human beings now exert a geological force" (Chakrabarty, 2021, p. 20). Geology and society now intertwine in geohistories.

This emergent "geological force" reshapes the very "social space" enthroned beyond nature. Prior to this force, Lefebvre (2020, pos. 8085) conceived the city as one of the "productive forces" in the wake of a ravaged first nature: it "figures among the productive forces, assuming the role once performed by original nature, which it displaces and supplants."

Now the produced "social space" is being supplanted by this "geological force," which amplifies climatic extremes once regarded as purely natural phenomena.

Cast by spatial theory as the singular "locus" of an "other mode of production," the urban not only suffers these extremes; it also helps generate them. The production of space deforests, degrades and erodes soils, disrupts natural drainage, and buries water bodies.

This forced (re)convergence of the natural and the social summons, with urgency, Earth—a fourth challenge. Bruno Latour's Gaia names the outcome of successive inventions by the living that re-made the planet's physico-chemical conditions (Latour, 2020, p.10). He urges a return to Earth that reorients what we ask of the sciences (ibidem, p.19).

On Earth, Lefebvre (2020, pos. 9427) adopts a stance close to Latour's: "the Earth as planet—planetary space—reclaims its primordial place in thought and practical activity."

A second remark (2020, pos. 1739) helps update the politics of Earth against "nationalist" drifts and fascist anti-immigrant postures: "Dark political forces in decline (the state, nationalism) rediscover images whose source lies in the earth or in nature, in paternity or in maternity." In other words, we must remain alert to neo-fascist resignifications of terra (as nation-state) and of "nature" (as the supposedly "wild").

These two statements by Lefebvre could have reshaped his theory of the production of space. What would change if the planet Earth—and thus first nature—were not dissociated from capitalist production of and in urban space?

As the Indigenous "academic" Ailton Krenak notes (2020, p. 16), this fixation on the "social" stems from our alienation from the organism of which we are a part, Earth, and our habit of treating it as an object apart from "humanity". To "earth" ourselves is to alter space once it is no longer taken as purely sociohuman.

A fifth challenge, then, is to refuse the urban as the only horizon and to foreground other “possible worlds” and their spaces of existence. As Latour argues, “geo-history requires a change in the very definition of what it means to have, to maintain, or to occupy a space; of what it means to be appropriated by a land” (2020, p. 451).

In Krenak’s words (2020, p. 67), to “imagine another possible world” entails reordering relations and spaces and rethinking how we relate to what we call nature—as if we were not nature ourselves. Such possible worlds break the monopoly of the urban Earth.

Earth and Nature are therefore pivotal to moving beyond sociohuman-capitalist space production and toward (re)creations of “socionatural” spaces—within ruins, within resistances, and in open-ended inventions. As Danowski and Viveiros de Castro (2017, p. 132) put it, “the future is ever more uncertain; or better (or worse), the only thing we *can* know for sure is that, as the song says, ‘nothing will be as before’”. ●

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ZANOTELLI, Claudio Luiz. O mito do desenvolvimento econômico na América Latina. **GeoUERJ**, Rio de Janeiro, n. 44, p. 1-19, 2024.

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Received: 12/01/2025

Accepted: 12/16/2025

Available online: 12/16/2025