

Modernization and society-nature relationship. Capitalism in the passage to the 21st century

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Abstract

The contradiction between use value and exchange value, identity of merchandise, expresses the social or even the metaphysical (social work time, or even value) through the natural (physical form of the merchandise). The given universality of merchandise, this quirk between natural and social, or fetish in the mature Marx's critique, constitutes itself as the universal conscience belonged to the subject socialized by capital. From the capital point of view, the physical expansion of capital investments determined by the reduction of its metaphysic is phenomenalized itself through its opposite form, that is, as if it were pure positive growth of its accumulation. The 1970s are considered as a turn of century, from productive capital to fictitious one. In this passage the naturalization, strictly by the value form, cannot replenish value, becoming necessary the constitution of a speech referring to nature, expressed in the environmentalism as a generic conscientiousness. The Rome Club here stands as the fundamental expression of the fictitious capital physiocracy. Even more, the fetishism of capital is also considered through the medium-sized cities theory and their real estate business.

Keywords: modernization, Marx, crises, society-nature relationship, fetishism, crisis, real estate business

Modernização e relação sociedade natureza. Capitalismo na passagem para o século XXI

Resumo

A contradição valor de uso e valor de troca, identitária da mercadoria, expressa o social ou metafísico (tempo social de trabalho, ou valor) pelo natural (forma física da mercadoria). Dada a universalidade da mercadoria, esse quiproquó entre o natural e o social, ou, na crítica madura de Marx, fetiche, se constitui na consciência universal do sujeito socializado pelo capital. Do ponto de vista do capital, a expansão física de seus investimentos, determinada pela redução de sua metafísica, fenomeniza-se pelo seu oposto, isto é, como crescimento positivo de sua acumulação. Os anos de 1970 são considerados a passagem de século, do capital produtivo para o fictício. Nesta passagem, a naturalização estritamente pela

forma valor não mais repõe o valor, sendo necessária a constituição de um discurso sobre a natureza expressa no ambientalismo como consciência genérica. O Clube de Roma aqui se põe como a expressão fundante da fisiocracia do capital fictício. Ainda, o fetichismo do capital é também considerado através da teoria das cidades médias e seus negócios imobiliários.

Palavras-chave: modernização, Marx, crises, relação sociedade natureza, fetichismo, crise, negócios

Introduction

This reflection means to ponder the connection between society and nature within the context of the shift from the 20th to the 21st century, guided by a specific interpretation of Marx's social critique in *Capital (Das Kapital)*. The central thesis posits that, in the universal framework of subject-object relations, use value (which is qualitative and natural) serves to naturalize exchange value (both quantitative and social). This naturalization, according to Marx's critique, is especially characteristic of money itself. The general equivalent, in this sense, establishes value as an inherent quality. However, productive capital manages to naturalize (social) value without explicitly addressing nature.

In the 1970s, as we transition from the 20th century to the 21st, a period that is akin to a shift from productive capital to fictitious capital, the naturalization of the latter calls for a discourse on nature. The environmentalism embraced by corporate interests, exemplified by the Club of Rome in the 1970s, which in its *The Limits to Growth* reintroduces physiocracy – a concept subject to Marx's criticism – now within the realm of financial capital, becomes notable.¹

The historical basis of this turn of the century is characterized by the contradiction between capital and labor, analyzed from the perspective of the development of productive forces, making it an inherently revolutionary process. Consequently, the 1970s emerge as a pivotal decade in the redefinition of the meanings attributed to nature, rooted in Marx's critique. This is closely linked to the shift from productive to financial, or "fictitious" capital. There has been a transition from the era of urban sanitation and urbanization through garden cities to environmentalism, a shift considered to have occurred in the late 20th century, with our focus mainly on the naturalization of a specific interpretation of urbanization within what are often referred to as "medium-sized cities". The crisis of capital became manifest as an oil crisis in 1973 (naturalized). This marked the beginning of a transformation from productive to fictitious capital, leading to new forms of naturalization of the social process, which also brought forth the crisis of fictitious capital, such as the real estate crisis of 2008. The oil sector was naturalized through its association with mineral resources, while the real estate sector was tied to land and property.

From a geographical perspective, this transformation highlighted a negative simultaneity between the town centers and periphery, where the periphery extended its role as a value producer for the center. This phenomenon had already been observed by Lenin at the outset of the 20th century. As we move

¹ Marx's perspective underscores a fundamental commonality among the various schools of political economy despite the significant disparities among their authors. Even as Marx recognized the significance of what he termed "classical political economy," he identified a shared reliance on nature as the foundation for value production.

from this brief century into the 21st, this arrangement, closely linked with financial capital, places the international division of labor in a state of simultaneous crisis in which the center and the periphery find themselves incapable of concurrently generating value. The naturalization of this process leads to the emergence of environmentalism, serving as a substitute for the critical underpinnings of capital.

Fundamental premises: the contradiction between society and nature as a value

In Marx's critique of value, social materiality is perceived as being shaped by the fundamental contradiction between nature and society, a relationship that is inherent and irrevocable within the value form (relative versus equivalent).² Equivalence, therefore, is understood as a qualitative expression (the attributes of natural forms that identify commodities), which encapsulates quantitative determinations, namely, value (social value) or social labor time (Alfredo, 2018).

Therefore, the social determination, which is value, possesses a natural expression, the use value, as an inherent quirk of the commodity, the universal form of capital. Marx's critique, therefore, revolves around the recognition that the commodity form, the universality of the capital social being, operates by naturalizing social relations of production, as value becomes inseparable from the use value of the commodity. Hence, naturalization, or fetishism, defines the relationship between subject and object within the framework of the social reproduction of capital.

From this perspective, naturalization is twofold: firstly, it is determined by its reference to social relations of production, and secondly, social critique becomes viable only through the critique of this process of naturalization and its innate tendency to obscure social relations of production.

The significance of the 1970s lies in these developments. Within the context of the contradiction found in the value form, i.e., the relative form and the equivalent form, the devaluation of capital, occurring under qualitatively new interpretations of the crisis of world capital, would demand alternative forms of social materiality. This pertains to the contradiction between the physical and metaphysical or the conflict between nature and society. Authors such as Grossmann (1979), Mandel (1990; 1982), Kurz (2004; 1997; 1993), Chesnais (1998), and Roberts (2016; 2019) contribute to establishing this historical framework for contemporary capitalism.

For Marx, in the initial chapters of *Capital*, the relationship between the relative form and equivalent form can be delineated through the most apparent contradiction between use value and exchange value, encapsulating the contradictory essence of dialectical materiality. The relationship established here is between *physis* (use value), which represents the physical materiality of the commodity, and *metaphysis*, which signifies the social determination of matter, or that which lies beyond the intrinsic nature of the commodity, namely, the value.

Marx's criticism, therefore, lies in recognizing that the commodity form, as the embodiment of the universality of the capital social being, operates by naturalizing social relations of production, which occurs because value is seemingly embodied within the use value of the commodity. The contradiction

2 In *Capital*, Marx shows that the value form is a relation of equivalence. Therefore, in an equation such as 20 rods of linen = 2 coats, the relative form always appears on the left side of the equation, while the equivalent (to be established as money) is on the right. On this way, the quid pro quo between society and nature, as the author critiques, occurs in the sense that the equivalent (natural) form naturalizes the social, that is, the relative form.

between society and nature and social relations “manifest themselves therefore as commodities, or have the form of commodities, only in so far as they have two forms, a physical or natural form, and a value form” (Marx, 1988, L. I, v. 1, p. 53). Furthermore, by explicitly revealing not the enigma but the enigmatic form of the equivalent form, Marx expresses, among other things, the negativity of the critique of the objective forms of nature. The realm of *physis* is inevitably negated within the social context: “(...) In direct contrast to the tangible and unrefined objectivity of the physical bodies of commodities, not a single particle of natural matter is enclosed within the objectivity of their value (p. 54)”. This peculiarity stems from the “purely social” condition of value (p. 60) which makes nature a spectrum of the social, as consciousness, which is always internal to the value form, and exhibits an identity between nature and naturalization. The “quid pro quo” between use value and exchange value could be conceived as the contradiction between essence and appearance when nature presents itself as the semblance of the social. Within the value form, nature takes on a social form, otherwise:

[...] as no commodity can be presented as equivalent to itself, and, consequently, cannot use its own intrinsic nature as an expression of its own value. It must instead establish a relationship with another commodity, making the natural properties of another commodity its own form of value. (Marx, 1988, L I, v. 1, p. 60)

Hence, naturalization, fetishism, or even the “enigma of the equivalent form” (Marx, 1988, L I, v. 1, p. 60-61) embody the nature of the subject-object relationship within the context of the social reproduction of capital. From this perspective, naturalization is inherent and, therefore, rooted in the social relations of production. Criticism of social relations can only be accomplished by scrutinizing the intrinsic manner in which naturalization obscures said relations.

Historically, it is crucial to note that Marx references the naturalization or fetishism of value within the framework of competitive and, consequently, productive capital. The naturalization of value, anchored in use value, thus obscures the value produced, namely, the labor time of the commodity or the socially necessary labor time. From a categorical standpoint, price is perceived as an integral part of the commodity’s nature, much like its scent or color. What is significant here is the embedded nature of this fetishism in the context of value production as part of Marx’s dialectical materiality. In essence, the production of commodities is inseparable from that of fetishism. Therefore, naturalization is an inherent aspect of social consciousness through commodities, as within the dialectic of appearance and essence, the form of the subject is constitutive of the object. Hence, the illusory aspect, in the form of the naturalization of the social, is integral to modern consciousness. The commodity thus becomes a vital component within the subject-object relationship.

Under this framework of the critique of value, matter embodies metaphysical determinations (such as social labor time), and this is closely bound to Marx’s critique of physiocracy, aligning with his critique of political economy, the subtitle of his mature work. From the perspective of science, political economy, despite its differences, was often associated with physiocracy, that is, the naturalization of the social.

In this context, the naturalization of social relations of production and, consequently, of value, manifests within the categories of capital, given that value must be rendered natural as price, labor as human, and capital as a means of production, which, in brief, includes machinery and so on. The process of value production ultimately leads to a self-naturalization of sorts through its intrinsic categories. It

is important to recall that use value, which represents the essence of the commodity (signifying the universality of capital's social existence), serves as the medium through which value is naturalized. This is captured in Marx's definitive statement on the fetishism of commodities.

However, fetishistic aspects of value extend beyond commodity fetishism. They encompass the realm of capital, as particularly highlighted in Marx's third book, where we encounter the law of the identity of capital or the "law as such", which pertains to the tendency for the rate of profit to decline. In essence, this may be summarized as a dynamic interplay between the logic and history of capital. The significant development of productive forces in the 20th century, especially in its last quarter, has, according to our argument, incited a qualitative transformation in the determinations of the social materiality of capital. If the relationship between relative form and equivalent form occurs, from Marx's perspective, in the sense of carrying out the naturalization of the value produced, from the 1970s onwards, the sense is to carry out this same contradiction, however, without the production of value.

Consequently, the process of reproduction is compelled to adopt new mechanisms in response to the deepening contradiction between capital and labor, reaching its zenith in the third industrial revolution, which is anchored in microelectronics and entails the displacement of labor from the production process. In Marx's words, regarding automated capital: "the value embodied in machinery presents itself [...] as a presupposition in relation to which the valorizing power of individual labor capacity disappears" (Marx, 1997, p. 220). This is not a misunderstanding of the process but rather a distinct manifestation in the face of the dialectical contradiction between the logic and the history of capital.

For Marx, in the initial chapters of *Capital*, the relationship between the relative form and equivalent form can be delineated through the most apparent contradiction between use value and exchange value, encapsulating the contradictory essence of dialectical materiality. However, the established relationship is between *physis* (use value) or the physical materiality of the commodity and *metaphysis*, the social determination of matter or what is not inherent in the nature of the commodity, namely value. Social materiality is thus shaped by this contradiction, where "through this quid pro quo [between what is social and what is in the nature of the product], the products of labor become commodities, metaphysical or socially physical entities" (Marx, 1988, L. I, v. 1, p. 71).

From the 1970s onward, we posit that social reproduction redefines the form of fetishism, with the characteristics of productive capital no longer being sufficient for its realization. Therefore, naturalization must now find expression within a discourse related to nature, as the categories of capital can no longer serve as the means of naturalization. The rise of catastrophic discourses triggers a transfer of the crisis and the collapse of social reality defined as capital to natural attributes, such as the end of the world, associating the end of capital with the end of humanity and, in doing so, naturalizing capital.

The notion that reproduction should be sustainable, characterized by a respect for nature and the predictability of natural disasters, stems from the distortion of critical social determinations permitted by the discourse concerning nature. Nature is framed within the context of a business discourse. The destruction of the natural world is presented as a cause, rather than a consequence, of the social process that establishes the limits of natural cycles for its own reproduction. However, the naturalist discourse perceives the end or rejuvenation of nature as either the cause or the solution to social contradictions. The outcome of this critique is the prospect of maintaining the social form as long as natural conditions are preserved. This intertwining between capitalism and social and/or natural destruction is thus obscured by the transfer of social determinations onto the natural attributes of the social. We went from vaccine

and hygienist discourses to those focused on garden cities, and in the transition from the 20th century to the 21st century (1970 onwards), environmental consciousness has been defined as a form of the physiocracy of fictitious capital. Regarding the perspective of urbanization, this article underscores the naturalization of capital through the study of medium-sized cities. Concerning environmental discourse at the turn of the century, we have examined documents from the Club of Rome. It is worth noting that in the 1970s, the Club of Rome presented its study addressing the connection between industrial production and the natural conditions of such production, which encompassed various factors, including population growth, and aimed to explore the potential for humanity to continue inhabiting the Earth based on the prevailing methods of producing goods and services. The work, known as *The Limits to Growth*, may be seen as the foundation of a new physiocracy that extends from the 20th to the 21st century. It is guided by the principle of seeking a balance between natural resources and industrial production, with the implementation of birth control measures mediating this balance. The entire discourse surrounding the sustainability of capitalism, framed as the sustainability of nature, finds its roots in this study, and it can be said that it both stems from and evolves into business strategies, whether intentionally or not, as it personifies the physiocratic mode of consciousness regarding the crisis of the third revolution, which is built upon microelectronics. Thus, the variables considered in this study were defined as follows:

Our world model was built specifically to investigate five major global trends of global concern – accelerating industrialization, rapid population growth, widespread malnutrition, depletion of nonrenewable resources, and a deteriorating environment. (Meadows *et al.*, 1972, p. 21)

Hence, this investigation commences by exploring the relationship between the limit of social reproduction, which is determined by the finite quantity of natural resources. In this context, social determinations are confined to the mathematical realm, governed by the positive interplay between society and nature. The limitations imposed by the Earth's physical condition are used as the foundation to explain the boundaries of human existence on the planet. At this level, both natural and social (human) factors are considered constituents of nature.

In contrast, from our perspective, the entire challenge lies in recognizing the inherent connection between the social form and the naturalizing consciousness inherent to it.

The definition of the growth limit yields various interpretations, suggesting that what has been achieved thus far may be feasible, but other countries may no longer be able to replicate this development. This approach reduces the contradictions of capital to a mathematical constraint, linked to the quantity of natural resources and the interplay between destruction and birth control, all in the name of addressing a significant contradiction within the argument itself: sustaining industrial productivity levels. Romanticism, therefore, is the safeguard of what has historically been denied – that is, productive capital.

This approach positions the scenario of crisis and catastrophic collapse, which is inherent in naturalism, as a motivating factor for the anticipated concerns related to the commodification of nature. This process serves as a mediator across the business spectrum, encompassing everything from cosmetics to real estate to the carbon market. The argument of the lack of correlation between the crises and contradictions of capital is rooted in the belief that everything hinges on a specific quantity dictated by physical and natural variables. Consequently, this gives rise to the hypothesis regarding the balance and sustainability of nature. The outcome, from the standpoint of consciousness, is the naturalization of social contradictions.

Based on this, population mortality and the spread of hunger across the planet would depend on the quantity of food produced and arable land. However, this would always be in relation to the limit of available resources for such growth. Therefore, the existence of hunger or its alleviation hinges on this physical, rather than social, mathematical determination of food production.

If fertile land were still readily available and easily cultivated, there would be no economic impediment to alleviating hunger, and society would face no challenges in making social choices. However, nearly half of the world's best arable land is already under cultivation, and the cost of opening new land is so high that society has deemed it "uneconomical". This is a social problem exacerbated by physical limitations. Even if society were to decide to bear the costs required to acquire new land or enhance the productivity of existing cultivated land, it is important to note that any increase in population could rapidly lead to another "crisis point" as illustrated in Figure 10. (Meadows, 1972, p. 52)

The underlying concern is that this argument's horizon is the potential social crisis that could culminate in the collapse of life on Earth. The catastrophist discourse, an integral element of this naturalization process, presents itself as a means of promoting something that is already inherent and serves to redefine the strategies of capitalist businesses. It is not that the destruction of nature is unimportant; quite the contrary. However, acknowledging the natural limit as the explanation for the social situation perpetuates this destruction, as the social connections are obscured by biological natural logic.

This can be likened to the logic of credit: you don't wait for production; you propel production through credit. Carbon credits on stock exchanges has transformed this logic into a financial venture. The perspective of a natural catastrophe follows a similar trajectory in the sense that it motivates society to adopt certain reproduction practices (such as recycling) under the specter of a natural catastrophe. In this scenario, crises, or even "collapse", are portrayed as stemming from natural conditions and having no bearing on the social form. Thus, social catastrophes become indistinguishable from natural catastrophes.

According to our criticism, the physiocracy of this argument arises precisely because in the crisis of capital, both social and natural catastrophes unfold even before the scarcity of natural resources. Such crises result from internal, social, metaphysical, and non-physical determinations. The escalation in the price of raw materials, land, and so on does not primarily arise from supply and demand dynamics but rather from the critical process of value turning in on itself. This occurs as a consequence of the devaluation of value within the framework of the development of productive forces. For this reason, this brand of environmentalism is inclined to focus on balancing demand with the availability or scarcity of natural resources. Only through this lens can we make sense of the question, "How many people can be fed on this earth?" (Meadows, 1972, p. 53) within the physiocratic argument.

The crisis unfolds rapidly if the alternative is to produce services rather than food. However, if the focus is on food production, then there would be limits imposed on industrial production. This perspective sheds light on the contradiction between industrial production and social suffering, leading to bureaucratic consciousness. Henri Lefebvre's critique highlights how this bureaucratic mindset tends to conform to the alignment of misery with capital, rather than recognizing the underlying contradiction and the essential relationship between misery, natural debris, and the growth of capital. The issue is framed solely in terms of quantity produced, without delving into the intricacies of the value form and how it drives surplus production while society faces shortages.

In the wake of this catastrophic outlook, the conclusion drawn is that birth control is necessary to maintain the availability of natural resources, thereby regulating demand. Simultaneously, industrial growth is considered unquestionable and treated as an unassailable principle.

The contradiction embedded in these terms appears to be independent of our disagreement regarding the physiocratic nature of the argument. If capital needs to expand to meet the needs of the population, then how can resource scarcity be attributed to industrialization? After all, the alternative to industrialization, as the report points out, is hunger. To this extent, it is the act of limiting life (birth control) that supposedly sustains life. Is there any terror to be derived from here? “It is not commonly known, for example, whether the human population will continue to grow or gradually decline or will oscillate around some upper limit or collapse” (Meadows, 1972, p. 95).

In this physiocratic view, the limit of capital is portrayed as the size of the planet, with little consideration given to the role of the social form, except in terms of human choices and capacity, particularly related to inventions.

We have mentioned many difficult trade-offs in this chapter in the production of food, in the consumption of resources, and in the generation and clean-up of pollution. By now it should be clear that all of these trade-offs arise from one simple fact – the earth is finite. (Meadows, 1972, p. 86)

The argument still lingers that natural limits should serve as a deterrent to the rapid advancement of industrialization. Instead of recognizing industrialization as inherently driven by the continuous increase in productive capacity, which is primarily determined by its own internal logic, the focus shifts towards the perceived need for natural constraints. This perspective fetishizes the irrationality of capital towards itself. Even when an increase in production is intended to enhance accumulation, it is fetishized by the supposed rationality of nature, as expressed through a terrorist preservationist outlook that is restricted by the size of the planet. In this context, *physis* takes center stage as the exclusive pole of the argument. From our perspective, it is not about simply rejecting the idea of preservation, but rather about acknowledging that preservationism can embody a form of fetishism that obscures the social dynamics and contradictions within society.

Specific assumptions: social naturalization from a real estate perspective

This critical aspect, stemming from the conflict between capital and labor, manifests in a fetishistic guise as an approximation to a natural equilibrium, which is portrayed through billboards advertising real estate projects that idealize the creation of a natural environment as an escape from urban life, the city, and so on.

To this extent, the conflict is expressed through the naturalization of social balance and presents it as an inherent aspect of human nature, concealing the ongoing contradiction within the phenomenon itself. From a conscious perspective, political economy explores the essential foundations of physiocracy necessary for the critical perpetuation of our current society. Not in the sense that productive work originates from nature, which was the subject of Marx’s critique in his analysis of political economy up to his time. However, by disregarding the workforce as an essential element of its physiocratic nature,

this physiocracy naturalizes the crisis, attributing it to the natural order as a return to what it considers human nature itself – balance, consequently rediscovered as a real estate enterprise.

The naturalization of social relations of production, as in the sense of Henri Lefebvre (1973) concerning the re-production of social relations of production, in the crisis of labor is no longer sufficient to be realized as the naturalization of labor. This social crisis must be reconfigured in terms of social naturalization, which falls under the condition of human existence. The way in which society conceptualizes nature is not merely imposed by social forces; it is a means for society to reflect upon itself through self-naturalization. This perspective even strips away the necessary dialectical expression of social phenomena, opting for a biological understanding that goes beyond mere fetishistic self-awareness. Nature, concealed beneath the veneer of value, embodies a fetishistic strength that signifies a new level of materialism, essential for the abstraction that characterizes the fictionality of work.

This social configuration encompasses the mobilization of real estate and the pricing as a fictional representation of value, constituting a distinctive manifestation of the crisis of capital in its fictional guise. This is not the only form, as, according to the premise of the critique presented here, the crisis takes on a universal form. Consequently, the expansive form of capital views real estate as one of the potential manifestations, but also as something that is structurally intertwined with financial capital. The 2008 crisis, briefly discussed in this article, represents the pinnacle of the fictitious development of capital.

The third revolution, which emerged in the 1970s, was previously outlined by Ernest Mandel (1982) in his book *Late Capitalism*, as well as his insightful analysis of the period regarding *The Capital Crisis* in a 1990 publication. It was also expounded upon by Robert Kurz (1993) in *The Collapse of Modernization* and Michael Roberts (2016) in his debate with David Harvey on the monocausality of crises, specifically the tendency for a decline in the rate of profit. On the eve of the 1929 crisis, a significant debate revolved around the theory of crisis as presented in Marx's *Capital*, with Henryk Grossmann (1928) championing the argument that the collapse constitutes a crucial determinant in the history of capital. Hence the concept of the "Law of Capital Collapse", as indicated by the subtitle of his work. Despite differences, here we enter the field of fetishism, or naturalization of capital, not strictly commodity fetishism. The crux of this debate revolves around the tendency for the rate of profit to decline, a theme originating from Marx's third volume of *Capital*.

The issue to be established here is the naturalized unity between growth and capital accumulation. This is what Marx referred to as the enigmatic form of capital to be discerned – the deciphering of the enigma or not – distinguishing political economy from his critique. This is why some interpretations of the law of value remain impossible for political economy. Among them, "(...) starting from the essence of the capitalist mode of production, as an obvious necessity that in its progress, the average general rate of surplus value has to be expressed in a falling general rate of profit". In essence, this implies an inversely proportional relationship between various forms of growth and the decrease in value. For this reason, in the indistinction between the general and the particular, the knowledge of the founding logic of the general rate of profit and, furthermore, concerning political economy, "then ceases to be enigmatic that this enigma could never be deciphered" (1988, *Capital Volume III*, Chapter 4, p. 155-6). In this context, beyond driving the concentration of capital, which is a critical determinant, the enigma stems from what Marx referred to as "the conflict between the expansion of production and valorization". Here, expansion is inversely proportional to the decrease in value. In Marx's words:

Here is demonstrated the law previously established, according to which, with the relative decrease of variable capital and the development of the social productive force of labor, an ever-greater mass of global capital is required to set the same labor force in motion and absorb the same mass of additional labor (...). (Marx, 1988, L. III, v. 4, p. 161).

Consequently, the differentiation between political economy and its critique lies precisely in the recognition that the growth of various facets of capital, including its investments, should be perceived as a factor contributing to its crisis by reducing its appreciation, rather than as an enhancement of its capacity for accumulation. In this context, the burgeoning real estate sector assumes significant importance due to the surplus capital allocated to it. Therefore, when viewed from the periphery of capitalism, we observe the expansion of the real estate business from the metropolis to the inland. This phenomenon is aptly exemplified through research conducted in Piracicaba. Situated in close proximity to the metropolis, the city serves as an indicator of the pivotal moment when this phenomenon took on significant importance in the reproduction of fictitious capital.

While moving away from the bustling metropolis of São Paulo and heads towards Piracicaba (approximately 95 km from São Paulo), one cannot help but notice the emergence of high-end condominiums. Here, the expansion of the urban phenomenon, largely driven by the land market, does not manifest as a simple production of urban space. Instead, it provides us with a unique advantage point to discern the critical facets of capital reproduction during a period characterized by the profound development of productive forces, a transformation that has been facilitated by the microelectronic revolution unfolding from the last quarter of the 20th century to the present day.

Within this landscape, billboards featuring images of idyllic condominiums, promising security and proximity to nature, stand out prominently. The strategic deployment of capital hinges on its involvement in the land market as a substitute for labor exploitation, whose costs are no longer economically viable, owing to the heightened productivity achieved by capitalism in the latter part of the 20th century.

In light of this, the expansion based on the land market reflects the inverse relationship between the falling rate of profit and a significant rise in land prices. This phenomenon drives two interrelated developments. First, the escalating land prices necessitate the search for land situated close to highways but available at a lower cost in comparison to the inner city land prices. Second, given the decline in the profit rate, enterprises linked to ground rent, such as the land market itself, serve as a means to compensate for the decrease in profit. It is worth noting that in *Capital*, Marx established a connection between the diminishing rate of profit and the increase in land prices, emphasizing their inversely proportional relationship. The reduction in the interest rate is a consequence of the profit rate decrease, with the latter constraining the former. As ground rent competes with the interest rate in the realm of capital investments, a lower interest rate implies a longer time for the return on investment in money to materialize. In comparison, this prolonged investment period will lead to higher income from land, resulting in an increase in land prices.³ However, with the crisis in the appreciation of value, the surplus of monetary capital is redirected into the land market, acting as a secondary cause contributing to the surge in land prices and the expansion of real estate development.

3 Regarding this process in São Paulo metropolis, see EL Khatib (2018).

The crucial aspect here is that due to this critical expansion, driven by the declining rate of profit (which leads to an increase in land prices), urban growth occurs without a simultaneous development of city space production. Engaging in such development would incur costs that could jeopardize the reproduction of capital, given its precarious circumstances, which could potentially result in the inability to sustain social relations of production. Urban developments, primarily in the form of gated condominiums, consistently aim to leverage existing urban infrastructures financed by the state and social treasury resources. Simultaneously, this results in a certain transfer of the expenses associated with space production. Environmental, landscape, logistical degradations, and other negative consequences tend to remain external to these gated communities. Consequently, these issues are often concentrated near the more traditional open neighborhoods of cities (Braga, 2017).

Piracicaba's historical development can be broadly split into three distinct periods: the industrial expansion (until 1940), the migratory expansion (until 1970), and the real estate expansion (particularly from the 1990s onwards), with the first closed subdivisions appearing in the municipality (Leonelli, 2019). The mobilization of real estate takes a significant role within the global critical process of capitalism's reproduction, particularly in the context of the third industrial revolution, as previously discussed.

From 2002 to 2017, the city witnessed the initiation of over 100 condominium projects and the sale of more than 33,500 lots, according to research conducted by Alves (2019). This is true even when we consider the determination of this process in reverse. Some scholars, including Alves and others like Leonelli, Braga, and Baldisseri, as well as those influenced by Harvey (2009), associate this expansion with the potential for positive capital accumulation. Nevertheless, we have already expressed our disagreement with this viewpoint. Indeed, from this vantage point, it would be conceivable to outline a political economy of the city as, for these authors, urban expansion is a means to transcend the contradictions stemming from the falling profit rate, positioning this expansion as a counter-trend that arrests the decline and stimulates positive profit. Even though these particular scholars may not explicitly address this subject, considering the issue of the declining profit rate, real estate expansion can be interpreted as a mere form of positive capital accumulation, functioning as a countermeasure to the crisis.

The crux of the critical development lies in the inadequacy of projects to adhere to the necessary legal procedures for their execution or the contradictions within the legal framework, rendering the terms of their propositions questionable. Thus, with the expansion of real estate business in Piracicaba, condominiums opened from 2017 onwards could be closed and submitted to controlled access, while closed ones could also be opened. Nevertheless, the facilitation of condominium real estate business has not prevented projects from being executed beyond legal boundaries, as exemplified by the case of Condomínio Terramérica Home Premium (Taquaral I) and Jardim América, whose complementary bill dates from 2012 (Braga; Baldisseri, 2015). What becomes evident is the incapacity of the legal framework to adapt to the economic contradictions inherent in the social process. In this context, from the perspective of capital, legal structures start to function as obstacles to the imperative for the critical expansion of capital through real estate ventures. As a result, adapting to this situation becomes increasingly unfeasible, as a nexus is formed between the economic crisis and the superstructural elements of capitalism, which encompass the legal system (Alfredo, 2020).

The character and theoretical challenges of peripheral urbanization

Urban expansion, nonetheless, is closely intertwined with the real estate industry, which relies on the expansion of the financial sector tied to the fictionalization of capital, as indeed demonstrated in our article pertaining to the 2008 crisis (Alfredo, 2010; 2022). It is, thus, impossible to unravel the meanings or make progress in our understanding of urban expansion in metropolises or smaller cities without dissecting the relationship between urban expansion and the crisis in the

reproduction of capitalist society, particularly from a materialist critical standpoint. We are stuck in demographic determinations and mere technological innovation, devoid of connecting these phenomena to the development of productive forces. Without considering the terms of the contradiction between this development and the relations of production, our analysis becomes confined to variables, failing to grasp the contradictions within the social process. Therefore, the demographic phenomenon remains misunderstood in its core essence, rather than serving as the foundation for the expansion of real estate activities and the sector's growth. It is in this sense that we diverge from the following perspective.

According to market logic, it has become appealing for a segment of the population in these regions, particularly those with children up to the onset of puberty, to reside in the outlying areas where costs are lower, while working in central areas with higher incomes. The solution lies in the development of small residential complexes, detached from previously urbanized areas. In these complexes, houses are provided with all the essential urban amenities, made feasible by current technology, and are available at significantly reduced prices. (Reis, 2015, p. 105)

Demographic demand and shifts in interests are, indeed, heavily influenced by an excess of supply, which is grounded in the surplus monetary capital, which competes with interest rates and supersedes the profit rate as a primary form of remuneration for invested capital.

The lower prices in smaller cities, therefore, stem from an oversupply of properties, driven by the surplus capital, an excess supply that extends beyond the scope that such increased demand can reasonably influence in terms of pricing. Nonetheless, it is worth noting that the global real estate market has, in my view, experienced an indisputable increase in property prices. In many ways, the 2008 financial crisis, served as a testament to the undeniable nature of real estate pricing, which, as such, does not equate to value appreciation. Therein lies the challenge of criticism regarding the perspective of the contemporary capitalist city, that is, the reproduction of financial capital, presented by Ana Fani Alessandri Carlos (2004).

The overemphasis on financial capital in the transition from the 20th to the 21st century, in contrast to industrial productive capital, undermines the logic of accumulation. The financialization of capital during this period is only feasible to the extent that it cannot be reconciled with the creation of value. Therefore, we cannot rely on criteria like David Harvey (2009), viewing urban expansion and the production of urban space as the frontier for value appreciation when dealing with financial capital. If we are in the form of financial capital, this is an exclusion from its productive form of value. A reconciliation between the two, financial and productive capital, is, from a critical political standpoint, conservative in the context of addressing the crisis of social reproduction. The theoretical challenge at this juncture is to comprehend whether urban space is subject to pricing or appreciation. Let's take a look at Carlos' explanation regarding the tendency of decrease in profit rate:

In this process, the expansion of capitalism takes control of physical space, turning it into a condition for production. Initially, it is treated as a resource, then evolves into a productive force, ultimately becoming a reproducible commodity. This transformation paves the way for a new cycle of accumulation. The development of financial capital initiates a fresh cycle of accumulation, focusing on the spatial aspect of commodities. This enters the exchange circuit, attracting capital that migrates from other sectors of the economy – in crisis – with the goal of expanding the possibilities of accumulation. Throughout this process, the creation of a rational-functional space unveils a project and strategy that revolve around the real estate market, which drives the appreciation of specific areas as an immediate consequence of efforts to alter the use and replace income classes within that space. This, in turn, ensures the realization of profit. (Carlos, 2004, p. 26-27).

It is indeed true that the novelty of capital and space becomes clearer when we consider the predominance of financial and real estate aspects of capital.⁴ However, the question remains: what drives the shift from finance to real estate? Marx had already highlighted the competition between land prices and the (financial) interest rate, as previously mentioned. It is important to note that the formation of real estate prices should not be conflated with that of profit and capital appreciation. Even more, the unity between profit and financial capital is the removal of the foundation that explains the financialization or fictionalization of capital. This shift is only made possible by the inability to appreciate, in other words, to generate profit. If profit were feasible, financialization would not occur. In this regard, the surplus of capital, when seeking income in the real estate sector, artificially drives up prices, given the supply of capital, not due to the appreciation of space. The latter would be overthrown by the fictionalization of value.

To a certain degree, the surging prices and real estate transactions should be seen as an indication of a crisis in valuation, rather than a frontier for the expansion of value. The positive correlation between profit and real estate activities has its limitations, as it fails to explain the capital crisis that emerged since 2008, linked to real estate business and the bankruptcy of real estate investors such as Fannie Mae and Freddie Mac (Alfredo, 2010). Therefore, 2008 would not signify a crisis exclusive to the real estate market, just as 1973 was not solely an oil crisis. Hence, the expansion of the real estate market and its associated activities are rooted in the fictionalization of capital. Consequently, real estate prices cannot be sustained by an economic reality that guarantees their perpetual increase, given the inherent volatility of capital resulting from the structural disconnection between price and value.

In this context, the crisis in value appreciation is evident in the form of labor flexibility, changes in lifestyle, and the increasing cost of reproduction, both within companies and everyday life. In this sense, medium-sized cities incorporate metropolitan values, given the migration of work and companies to the reality of this urbanization, which has, as an associated phenomenon, spatial segregation motivated by gated condominiums on their respective outskirts. This aspect has been part of the effort to comprehend the urban phenomena that characterize these medium-sized cities, as discussed by Spósito (2007) and

4 On the relation between labor crisis and real estate pricing we indicate Anselmo Alfredo, Ana Cristina Mota Silva, Ariel Machado Godinho and Rinaldo Gomes Pinho. Precificação do espaço urbano do centro de São Paulo: as determinações de uma reprodução crítica. Apontamentos e aproximação a partir de uma leitura de Marx. In: XX Encontro Nacional de Geógrafos, *Brasil - Periferia. A geografia para resistir e a AGB para construir* (Minicurso). Espaço de Socialização de Coletivos, 20-24 julho 2022, São Paulo.

other authors. The author elucidates the relationship between shifts in capitalism and alterations in urban production in a broad sense:

The adjustments that have transpired within the realm of international capitalism over the last three decades are notably evident in the state of São Paulo, as they manifest through a complete redefinition of the regional division of labor within this territory, which is accompanied by urban (interurban scale) and city (intraurban) restructuring. One of the telltale signs of these changes is the proliferation of walled, access-controlled, and/or guarded real estate development initiatives that give rise to new forms of socio-spatial segregation. Research that I have been conducting or supervising in medium-sized cities within this Brazilian state, characterized by populations ranging from 200,000 to 500,000 inhabitants, underscores the consequences of this trend. (Spósito, 2007, n/p)

Following what Marx observed as the “enigma of capital” in his third book, as mentioned, it becomes imperative to acknowledge the inherent contradictions within the expansive process of capital. To put it differently, the expansion of capital tends to be more pronounced when crises are more severe. This contradiction represents an immanent law of capitalist reproduction, stemming from the intrinsic nature of crises, although we will not delve into further details in this work. This expansion of capital is compensatory, that is, inversely proportional to the diminishing remuneration of capital. The historical perspective proposed through the analysis of capitalist society from the vantage point of medium-sized cities should transcend the sequential narrative of critical ruptures in capitalist reproduction. This is crucial to avoid viewing urban expansion solely as a means to secure the accumulation of financial capital.

The author outlines the sequence of restructuring capitalist forms in these cities, yet refrains from providing a critical history of capital. It would be much more about adequacy between the history of capital and that of Brazilian urbanization, as understood from the excerpt below:

Moreover, the industrial sector of the economy has expanded in medium-sized cities. This expansion is a result of adjustments related to the transition from the Fordist system to the flexible system of commodity production, which has led to the deconcentration of industrial productive activity from the metropolis to the interior of São Paulo or other states within the federation. Simultaneously, roles related to management and financial control have been centralized in the same metropolis, despite its declining industrial production functions. (Spósito, 2004, p. 127).

The envelope of the naturalization of gated communities, of life close to nature, poses the challenge of seeing in the growth of this sector, as in many others, the critical determination of capital, and not the adequacy between history and capital accumulation. Indeed, within the theoretical spectrum, we find the fetishism of capital, where its physical expansion is erroneously equated with positive growth in accumulation or surplus value production (a form of metaphysical thinking).

Overlooking this issue, the entire problem is often examined from the viewpoint of the real estate market’s circulation, shaped by new ways of work. Flexible accumulation, which does not necessitate workers to be in close proximity to their workplaces, leads to an increased demand for real estate developments (Limonad, 2007).

Regardless of the underlying factors, whether explained as a result of supply and demand dynamics, critiquing such a relationship forms a specific aspect of urban political economy, which not only obscures the fundamental aspects sought by the research in question but also tends to interpret it as a mere alignment of capital with itself. In this context, we shall explore the following passage:

Such patterns of urban dispersion are seemingly rooted in the social relations of production that are currently imposed for the survival and reproduction of capitalism in the era of flexible accumulation. Unlike the previous period (Fordist-Taylorist), the present stage no longer calls for a spatial concentration of the workforce, infrastructure, and services in all phases of production.

[...] the exorbitant real estate prices in densely urbanized areas have led to the relocation of industrial activities and the expansion of urbanization into less populated or low-density regions, both to the north and south of Barcelona. Despite this expansion, property prices remain relatively uniform across various locations in the Barcelona metropolitan area, which has witnessed some of the highest prices per urban square meter in Europe, a phenomenon seemingly driven by the pressure exerted by the tourism industry [...]. (Limonad, 2007, p. 37, 40).

In this context, the global increase in property prices in cities like Barcelona, Moscow, Shanghai, São Paulo, Rio de Janeiro, and others, as explained by the author, may be rooted in tourism, among other factors, rather than being a consequence of the labor-capital contradiction, which is foundational to the third revolution based on microelectronics. From the point of view of this argument, there is no further investigation on the rise of tourism in the world since the 1970s and its relationship with the revolutions of capital since that time. It also overlooks the fact that both the proliferation of real estate businesses and the growth of tourism have become mechanisms for managing and capitalizing on leisure time, particularly in response to the labor crisis triggered by this third revolution, as emphasized by the author. While the flexibility of work is presented as the source of new demand, there is no corresponding exploration of the reasons for the surplus in real estate. Tourism is portrayed as the foundation of this new demand and the increase in property prices, yet the question of why there is an expansion of free time, a decrease in working hours, is not addressed. According to the narrative, the effect seems to replace the cause. The persistently high real estate prices manifest almost like a *deus ex-machina*, unrelated to the determinants of capital, except as fluctuations in supply and demand.

Therefore, it becomes essential to consider the insight offered by Marx in *Capital*:

For example, if the average interest rate is 5%, an annual ground rent of £200 can be viewed as interest on a capital of £4,000. Ground rent thus capitalized constitutes the purchase price or value of land, a category that, *prima facie*, is irrational, much like the concept of the price of labor, since land is not the product of human labor and, therefore, does not possess intrinsic value. However, behind this seemingly irrational form lies a genuine relationship of production. If a capitalist acquires land that yields an annual income of £200 for a purchase price of £4,000, they effectively earn a yearly interest of 5% on their £4,000 capital, just as if they had invested this capital in interest-yielding securities or lent it directly at a 5% interest rate. This appreciation of a £4,000 capital at 5% means that, in this scenario, within 20 years, the income generated from the land would replace the original purchase price of the property. Consequently, in England, the purchase price of land is often calculated based on a specified number of years of purchase, which is essentially another way of expressing the capitalization of ground rent.

Indeed, the purchase price of land is not directly tied to the physical land itself but to the income it generates, calculated based on the prevailing average interest rate. This capitalization of income presupposes, however, income, while income cannot, conversely, be deduced or explained from its own capitalization. Its existence, independent of the sale, is the assumption here. This means that, assuming ground rent remains at a constant value, the price of land can rise or fall in an inverse relationship with changes in the interest rate. For instance, if the current interest rate were to decrease from 5% to 4%, an annual ground rent of £200 would represent an annual capital appreciation of £5,000 instead of £4,000. Consequently, the price of the same parcel of land would have increased from £4,000 to £5,000, with the years of purchase shifting from 20 to 25. And vice versa. This is a land price dynamic independent of the dynamics of ground rent itself and is only regulated through the interest rate. As we have seen, the rate of profit tends to decrease with the progress of social development, and the interest rate, which is influenced by the rate of profit, also tends to fall. Furthermore, even apart from the rate of profit, the interest rate has a tendency to decrease due to the expansion of loanable monetary capital. As a result, the price of land tends to increase, independent of the variations in ground rent and the prices of land products, of which rent is a component. (Marx, 1985, L. III, v 2, p. 129).

From a perspective rooted in the critique of value, the central issue, dating back to the times of Marx's critique of political economy, has been understanding the contradictory distinction between price and value, with the former being a representation of the latter. However, in this representation, the true value behind the price is often obscured, as the price is presented as if it were the actual value. From a critical standpoint, the increase in prices can be seen as a necessary consequence of the reduction in value. The monetary surplus, therefore, would be the basis of such a land pricing procedure, driven by the tendency for the rate of profit to decline. This relationship is situated within the broader context of the general crisis of capital, characterized by the impossibility of value appreciation, given the definitive decline in the profit rate, rather than just a trend.

Within this critical process, the naturalization of modern consciousness, as demonstrated by various entrepreneurial endeavors, serves as an explicit discourse about itself. Money, which represents the naturalization of value, loses its exclusive status as the medium for representing the social through the natural, primarily because, according to this viewpoint, value is not produced. This is seen as the limit to which the trend in the rate of profit will fall, which, from an economic point of view, is the production of debt, be it that of the State, the company, or the individual.

In the era of fictitious capital, particularly around the turn of the 1970s (or according to the argument, the turn of the century), capital fetishism unfolds in the expansion of capitalist enterprises, serving as compensation for their inherent crises. The expansion of activities like sugarcane production under the guise of renewable energy, urban expansion promoted as a return to nature, and the growth of agriculture and other sectors – all during this transformative decade – present fictitious land income (given the perspective that value is not produced) as mere capital accumulation. Commodity fetishism ultimately evolves into capital fetishism, where the expansion of capital becomes naturalized as positive capital accumulation. The enigma posed by the contradiction between “valorization and expansion of capital”, which distinguishes political economy from Marx's critique, is revealed in the expansiveness of capital as the capital accumulation. The physical expansion of investments manifests as metaphysical

growth. In contrast, within Marx's critique, the fall in the rate of profit (a form of social metaphysics) grounds the physical expansion of capital investments.

The naturalization of crises, entwined with the advancement of productive forces, could also be linked to the pandemics of the 20th century, as discussed by Rob Wallace in his work *Pandemic and Agribusiness*, from 2020. The drive for increased productivity in animal protein production resulted in genetic homogeneity, which in turn facilitated the emergence of coronavirus with the potential to infect humans. Large corporations, in conjunction with the Chinese state, have vested interests in sustaining this production framework, even if it means an expansion of pandemics. However, the focus of these interests, in terms of their dissemination, often fixates solely on the emergence of the virus, highlighting the strictly physical, biological, and natural aspects while disregarding their social determinants. China has played a crucial role in reshaping how pandemic viruses are portrayed in front of international bodies on the world stage. Traditionally, the code used to name viruses was based on their place of origin, as tracking was of paramount importance. However, under Chinese pressure, coupled with the interests of corporations involved in animal protein production, this code no longer indicates the virus' origin. These are, therefore, social – economically critical – issues that mobilize the naturalization of the process in its phenomenal form.

Final considerations

In conclusion, from a theoretical criticism perspective, it is imperative to recognize the critical determinants within the expansion and *reproduction of social relations of production*, embracing Henri Lefebvre's concept in all its levels and dimensions. In the realm of practical demands, it is crucial to problematize the significance of acknowledging crisis as a criterion for praxis.

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