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THE PROCESS OF ALIENATION OF COMMUNICATION IN THE CONSUMER SOCIETY: A LOOK AT THE CONSEQUENCES FOR THE ENVIRONMENT

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ABSTRACT

The process of alienation of communication in the consumer society reveals a growing disconnection between individuals and the impact of their consumption habits on the environment. In this context, communication acts as an instrument that perpetuates consumerist values and practices, often ignoring the environmental consequences. Advertising and media discourses promote an idealized view of consumption, where success and happiness are linked to the acquisition of goods and services. This phenomenon contributes to the alienation of the public, discouraging reflection on the ecological impacts of everyday actions. The illusion of abundance and planned obsolescence reinforce the idea that natural resources are infinite, driving consumers away from sustainable practices. The critical analysis of this communicational alienation allows us to understand how society is conditioned to consume without considering environmental damage, reinforcing the need for communication that promotes awareness and ecological responsibility. This study suggests that the change in the communication paradigm can reverse the situation of alienation and promote a more conscious and sustainable consumption.

Keywords: Alienation, Communication, Consumption, Environment, Sustainability.

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INTRODUCTION

The communication process in contemporary society plays a central role in the structuring of cultural, social and economic practices. In his critical analysis of alienation, Marx points out that the worker, in the context of capitalism, disconnects himself from the product of his work, from the very act of working and from society in general (MARX, 2009). This disconnection is deepened in the consumer society, where individuals are exposed to messages that distance them from the social and environmental consequences of their consumption choices, alienating them from the impacts of their actions on the environment.

Marx (2009) describes alienation as a process of dehumanization, where the worker not only disconnects from his work, but also from nature. In the consumer society, this alienation affects not only workers, but also consumers, who do not understand the cycle of production, distribution and disposal of the products they consume. Mass communication acts as an intermediary in this process, promoting the fetish of the commodity and obscuring the environmental consequences of unbridled consumption (BAUDRILLARD, 2010).

Baudrillard (2010) argues that, in the consumer society, communication not only informs, but also constructs symbolic realities that shape social behavior. Alienation manifests itself when consumers are persuaded to purchase products not out of necessity, but because of the symbolic meaning they carry. This logic contributes to increased consumption and, consequently, to environmental degradation, since the production of goods is intensified to meet an artificially inflated demand.

Mass communication, especially advertising, plays an essential role in the maintenance of the consumer society by promoting a logic of constant renewal of desires and needs that, in turn, will reinforce the alienation of individuals in relation to the environmental consequences of their actions (BAUMAN, 2013). Consumption, in this context, is seen not as a means of satisfying material needs, but as an expression of identity and social status, which aggravates the exploitation of natural resources and environmental imbalance.

Alienation in the Marxian sense becomes deeper when one observes the distance between consumers and the ecological impacts of industrial production. Most individuals do not have direct contact with the production processes or with the waste generated, and are therefore oblivious to the environmental implications of their choices (FOSTER, 2005).

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Communication, by promoting a romanticized view of consumption, hides this reality, reinforcing alienation.

According to Foster (2005), the current ecological crisis is largely the result of the capitalist logic of infinite accumulation, an idea that Marx had already anticipated in his analyses of capitalism. Excessive consumption, encouraged by mass communication, contributes directly to the degradation of the environment. Mass production requires continuous and often unsustainable exploitation of natural resources, which results in deforestation, pollution, and resource depletion.

Advertising, as a communication mechanism, plays a crucial role in environmental alienation. According to Bauman (2013), advertising creates an illusion of happiness and personal fulfillment that can be achieved through the acquisition of products. This logic perpetuates a cycle of consumption that does not take into account the ecological limits of the planet. As a result, consumers become alienated from the environmental consequences of their choices, promoting the continued exploitation of natural resources.

Marx (2009) points out that alienation in capitalism is not only of labor, but also of nature. Man, in his essence, is a being who must relate to nature in a conscious and harmonious way. However, in the consumer society, this connection is interrupted. Consumers, when bombarded by messages that exalt consumption, lose the perception of the ecological relationships that sustain life. In this way, alienation is not only social, but also ecological, contributing to the environmental crisis.

In addition, the concept of commodity fetishism, described by Marx (2009), is fundamental to understand the process by which society focuses on consumption. Products are presented as possessing intrinsic value, disconnected from the social and ecological relations that produce them. Advertising reinforces this view by promoting the idea that happiness and well-being are linked to the ownership of goods. However, this fetishism obscures the conditions of production, including the exploitation of nature.

Ecological alienation is largely sustained by the capitalist system, which transforms nature into a commodity. According to Foster (2005), this commodification of nature is the result of a logic that sees the environment only as a resource to be exploited. Mass communication plays a central role in this process, by promoting a vision of the world in which natural resources are infinite and environmental consequences are neglected.

The result of this process is an unprecedented ecological crisis. Alienation in the consumer society prevents individuals from understanding the environmental impact of their

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actions, creating a barrier between everyday consumption and its ecological consequences (BAUMAN, 2013). Communication, by promoting a culture of unbridled consumption, perpetuates this alienation, contributing to environmental degradation and the worsening of climate change.

Thus, by understanding that the process of communication with society, in addition to inducing consumption, becomes one of the main mechanisms of reinforcement for Marxian alienation, this article will reflect on the social and environmental contexts in order to demonstrate the way in which consumers, once exposed to messages that induce consumption, they are increasingly distancing themselves from the consequences of their actions, both at the social and ecological levels, thus creating a vicious cycle of exploitation of natural resources, which has been causing environmental imbalance and compromising the resilience of nature, as stated by Baudrillard (2010).

THEORETICAL REVIEW

From this topic, this article will make a theoretical review of the themes related to communication, alienation and environmental crisis in contemporary society, as well as the mechanisms of alienation according to Marx and the fallacy of capital about the dream of consumption. These themes will allow us a critical view of the way in which the consumer society, in addition to not being concerned with the asphyxiation of nature, has also not yet paid attention to the process of extinction that has already begun and that, every day, accelerates more, to the point that those who have already realized, start to question whether we still have time.

COMMUNICATION, ALIENATION AND ENVIRONMENTAL CRISIS IN CONTEMPORARY SOCIETY

Communication, as a concept, encompasses a wide range of practices and means that involve the exchange of information and the construction of meanings. According to Bakhtin (2010), every act of communication is inseparable from a social and cultural context that conditions it. In this way, communication never occurs in isolation, but always in relation to historical and social structures that shape who speaks, how they speak, and who is heard. It is a dialectical and dynamic process, in which the practices of communicative interaction reflect and reinforce the existing power relations in society.

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With this, it is understood that communication, in Bakhtin (2010), is seen as a space of contestation and transformation. He rejects the idea that language is neutral or merely descriptive, highlighting that communication is always loaded with ideology. This means that speech, in addition to expressing thoughts, also reflects and reinforces power relations and social struggles. Each utterance carries within itself a particular perspective of the world, which can both reproduce and challenge existing power structures. Thus, communication is seen as a social practice that not only reflects reality, but also has the potential to transform it.

In the contemporary context, mass communication plays a central role in the maintenance of capitalism. Bauman (2013) discusses how mass communication is essential for the creation and perpetuation of the consumer society. The author states that:

> "Advertising communication works tirelessly to transform wants into needs, thus shaping consumers' identities and aspirations. Consumption comes to be seen as the main means of satisfaction and identity construction, creating an endless cycle of new desires, which are never fully satisfied" (BAUMAN, 2013, p. 27).

This communication not only informs, but creates social realities, encouraging individuals to see themselves as consumers, whose value is measured by what they buy and consume. Consumption, therefore, is centralized as a form of personal fulfillment.

Also according to Bauman (2013), the contemporary consumer society redefines alienation in more subtle but deeper terms. "Modern alienation is disguised as freedom of choice and autonomy, but in fact it traps the individual in the incessant cycle of insatiable desires, perpetuating the logic of consumerism which, in turn, ignores the social and environmental consequences of these choices" (BAUMAN, 2013). In this way, the individual is constantly led to consume more, even without real material need, just to meet the demands of the social identity constructed by mass communication.

In this perspective, Marx (2009) points out that, in capitalism, the worker becomes alienated from both the product of his labor and the production process, he argues that the product of labor, which has been converted into an object, now exists in an alienated form for the worker, as an independent power. This object, alien and domineering, makes the worker a foreigner to the act of work itself" (MARX, 2009). This alienation is intensified in the consumer society, where mass communication obscures the environmental and social implications of consumption practices, presenting the act of buying as a form of personal affirmation, without regard for the consequences.

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In this scenario, in the context of coloniality[3], Quijano (2005) highlights that communication cannot be dissociated from the power relations that perpetuate colonialism. The author argues that: "[...] Contemporary media continue to reproduce racial and cultural hierarchies that originated in the colonial period. These hierarchies are naturalized by the media, which plays a fundamental role in maintaining the dynamics of exploitation of the global North over the global South" (QUIJANO, 2005).

Communication, therefore, is not a neutral field, but a space where different forces compete for hegemony, with dominant narratives tending to reinforce global inequalities between North and South. Grosfoguel (2016) reinforces this analysis by stating that "The coloniality of power is present in communication, both in the content and in the structure of the media, which continue to marginalize epistemologies and subaltern voices, reinforcing Eurocentrism and perpetuating global power asymmetries" (GROSFOGUEL, 2016).

This process silences the perspectives of the global South and reproduces a Eurocentric worldview, in which value and truth are defined by the elites of the global North.

To break with these oppressive dynamics, Freire (2013) proposes a communication that is based on dialogue and critical awareness. He states that:

> "Dialogue cannot be an exchange of abstract ideas, but a practice of liberation that recognizes the other as the subject of his or her own history. Communication must be a path to emancipation, enabling social transformation through awareness of structures of oppression" (FREIRE, 2013, p. 99).

Communication should be used as a means of emancipation, allowing individuals to become aware of the structures that oppress them and fight for the transformation of their realities.

From this angle, Santos (2007) also suggests that communication should serve the plurality of knowledge. He proposes an "ecology of knowledges", in which different forms of knowledge are valued and put into dialogue. The monoculture of scientific and Western knowledge marginalizes other forms of knowledge, such as indigenous and popular knowledge, perpetuating the exclusion and invisibility of this knowledge in the global

[3] According to Aníbal Quijano, coloniality refers to the power relations that originated with colonization, but that survived the formal process of decolonization. These relations structure racial, cultural, and epistemic hierarchies, with coloniality being the basis of Western modernity. For him, the coloniality of power manifests itself in different spheres of life, including the divisions of race and labor, the control of knowledge, and the imposition of standards of civilization and progress. "Coloniality transcends economic domination and permeates culture, subjectivity and interpersonal relationships, structuring a global division between those who hold power and those who are oppressed by it" (QUIJANO, 2007, p. 168).

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scenario (SANTOS, 2007). The democratization of communication, for him, is essential for the construction of a fairer society, where multiple voices can be heard and respected.

In addition to social and cultural issues, communication also plays a central role in alienation from the environmental crisis. Klein (2015), in his work "This Changes Everything: Capitalism vs. the Climate", points out how the capitalist system uses mass communication to minimize the impacts of the climate crisis and alienate individuals from the real causes of environmental destruction. According to Klein:

> "Large corporations and the media disseminate the idea that individual solutions, such as recycling or buying 'green' products, are sufficient to address the climate crisis, while the structural causes of environmental degradation – such as the continuous extraction of fossil fuels and rampant consumerism – remain untouched" (KLEIN, 2015, p. 87).

This environmental alienation, promoted by mass communication, disguises the reality that the necessary solutions to the climate crisis require radical changes in economic and social structures. Klein emphasizes that contemporary communication focuses on narratives that perpetuate the status quo, creating a false sense that environmental problems can be solved without having to question the capitalist model.

Naomi Klein also points out that the climate crisis is often represented by the media in an abstract way, which causes the alienation of the masses from the true causes of environmental destruction. Klein (2015) asserts that "the climate crisis is portrayed in an apocalyptic or distant way, which leads to collective paralysis and alienation from the real possibilities of action" (KLEIN, 2015, p. 102). In this way, communication not only alienates consumers from the social and environmental consequences of consumption, but also hinders the development of a critical awareness of the climate crisis.

Klein's inclusion broadens the debate on communication, alienation, and the environment by bringing an analysis focused on the contemporary dynamics of communication around the environmental crisis. Just as Bauman, Marx, and Freire discuss the alienation of labor, consumption, and critical awareness, Klein emphasizes the environmental alienation promoted by mass communication, which shifts the focus away from the structural changes needed to solve the climate crisis.

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ALIENATION, CONSUMERISM AND THE ENVIRONMENT IN HISTORICAL PERSPECTIVE

The concept of alienation has deep roots in the thought of Karl Marx, who observed how the capitalist system of production resulted in a disconnect between the worker and the product of his labor. However, Marx (2013) understands that this alienation goes beyond the economy, also affecting people's relationship with the environment, since the focus becomes the unbridled production and consumption of goods, while the ecological consequences of such practices are neglected. Alienation, in this sense, becomes an all-encompassing phenomenon, shaping the way modern society relates to consumption and nature.

With the emergence of the Industrial Revolution, the process of alienation intensified, consolidating a society oriented towards mass production and consumerism. Hobsbawm (2018) points out that this era transformed people's habits, promoting a superficial connection with material goods and a distance from the environmental impacts of consumption. Industrialization marked a profound change in society, distancing people from the consequences of their practices and establishing the basis of a system where consumption is central and reflection on ecological damage is marginalized. This historical period shaped a new mentality, focused on material accumulation and indifferent to sustainability.

Consumerism was consolidated in the twentieth century, driven by advertising and the idea that happiness is linked to the acquisition of goods. According to Packard (2020), advertising has become an effective tool to create artificial desires and stimulate unbridled consumption. This phenomenon has contributed to an increasing alienation, where individuals have come to associate personal success with the consumption of products, ignoring environmental impacts. The culture of planned obsolescence and the valorization of disposable products have become normative, intensifying the consumer's alienation in relation to the ecological effects of their practices.

Rachel Carson, in "Silent Spring" (2018), takes a critical look at the environmental impacts caused by the indiscriminate use of chemicals, such as pesticides. Carson points out that consumers' alienation from environmental damage is spurred by misleading advertising, which masks the negative consequences of consumption. His work, considered a milestone for the environmental movement, showed how the distance between the consumer and the reality of industrial processes contributes to the degradation of the

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planet. The ecological awareness proposed by Carson suggests a reconnection with the environment, questioning the cycle of consumerist alienation.

In the contemporary context, the digital age and the expansion of social networks further intensify consumerism, creating a culture of alienation that manifests itself in a generalized way. Bauman (2020) describes how modern society is characterized by compulsive consumption and the ephemerality of goods, while digital advertising feeds an endless cycle of desires and acquisitions. This scenario reinforces ecological alienation, as consumers, constantly exposed to consumption stimuli, lose the ability to reflect on the environmental impacts of their choices. The disconnect between consumption and sustainability is magnified, perpetuating the environmental crisis.

From the second half of the twentieth century, environmental movements began to question consumption patterns and their effects on the environment. Elkington (2019) emphasizes the importance of adopting practices that integrate sustainability, promoting an economic model that respects ecological limitations. Sustainability emerges as an attempt to reconnect society to the environment, promoting more conscious and responsible consumption. This movement opposes the logic of alienation and challenges society to reconsider its relationship with nature, bringing environmental responsibility to the center of discussions.

The circular economy represents a contemporary response to the problem of unbridled consumption and environmental alienation. Ellen MacArthur Foundation (2021) defines the circular economy as a regenerative system that seeks to keep products and materials in continuous use, reducing the need to extract new resources. This model challenges the linear logic of disposal, promoting a vision of sustainable consumption and a reconnection with the life cycle of products. The circular economy offers a viable alternative to alienated consumerism, encouraging practices that respect the environment and reduce waste.

Environmental education is another essential tool in the fight against alienation and unsustainable consumerism. Gifford (2019) states that educating new generations about the impacts of consumption is essential to form conscious citizens committed to sustainability. Education provides a critical view of consumption habits, empowering individuals to make more informed and responsible choices. By promoting environmental awareness from an early age, environmental education contributes to the formation of a society that is less alienated and more committed to the preservation of natural resources.

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In addition to individual initiatives, public policies play a crucial role in promoting more conscious consumption and reducing ecological alienation. Moraes (2022) notes that governments can implement policies that encourage the circular economy, regulate industrial production, and promote sustainable practices. Environmental regulation can contribute to a reconnection of society with the impacts of its activities, promoting a culture of respect for the environment. Public policies, in this sense, represent a structuring force that can transform the current scenario of alienated consumption.

Corporate responsibility is another essential factor in promoting sustainable consumption. Elkington (2019) suggests the concept of the "triple bottom line", where companies must consider, in addition to profit, the environmental and social impact of their operations. This model proposes a more holistic view of corporate responsibility, encouraging companies to adopt practices that reduce consumer alienation from the environment. By promoting a vision of sustainability in companies, corporate responsibility contributes to the creation of an economic system that values the environment and social rights.

Despite the advances, resistance to the transformation to sustainable consumption is still strong, especially in societies where consumerism is deeply rooted. Bourdieu (2020) argues that consumer culture is maintained by social and economic structures that perpetuate consumers' alienation from the environment. Overcoming this consumerist and alienated mentality requires a reevaluation of values and the creation of a culture where respect for the environment is central. Cultural transformation is an essential challenge for building a society that prioritizes sustainability.

The role of tech companies in promoting conscious consumption is an emerging topic. Zuboff (2020) explains that the digital age has allowed the monitoring of consumption habits, but it also offers the opportunity to guide consumers towards more sustainable choices. Digital platforms can be used to promote eco-friendly products and services, challenging alienated consumerism and encouraging sustainable practices. Technological innovation, in this context, is a tool that can support the transformation to a more conscious consumption and connected with the environment.

Sustainable consumption practices are key to mitigating the damage caused by environmental alienation. Leonard (2010) states that the throwaway culture is a vicious cycle that perpetuates consumerism and prevents awareness of the planet's limited resources. For Leonard, it is essential that society adopts practices that respect natural

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cycles and minimize environmental impact. The transition to a sustainable consumption model requires a profound change in individual and collective practices, promoting the preservation of natural resources for future generations.

New generations play an essential role in building a more sustainable future. Sachs (2018) argues that youth are more aware of environmental challenges and willing to adopt practices that respect the environment. This awareness is a sign of change, suggesting that the next generations can lead the transformation to a more responsible consumption model. The engagement of new generations represents an opportunity to break the cycle of alienation and build a society that values the environment.

To achieve a sustainable society, it is essential that governments, businesses, and citizens collaborate in promoting conscious consumption practices. The transformation to a culture that is less alienated and more connected to the environment requires a change in values and the strengthening of collective responsibility. Sustainability is not only an environmental issue, but also an ethical approach that challenges alienation and promotes a balanced relationship with the environment.

CAPITAL AND THE PROMISE OF CONSUMPTION

The need to remunerate capital is one of the main drivers of the capitalist system, being the axis around which production and consumption revolve. According to Schumpeter (1942), the idea of "destructive innovation" permeates this process, as capitalism is constantly renewed, destroying old models to create new products and services. However, this innovation is not always aimed at the benefit of the consumer, but rather at the continuous remuneration of capital. In this way, the creation of increasingly disposable products becomes a strategy to keep the wheel of consumption moving (SCHUMPETER, 1942).

The dynamics of capitalism lead to an incessant increase in the supply of goods, many of which have an extremely short life cycle. This production of fast-moving consumer goods, instead of generating real value for society, responds to the need to maintain the flow of capital. Gonçalves (2012) in his work "Nós Econômicos" highlights that the capitalist system constantly needs to avoid crises, and one of the ways found is to stimulate exacerbated consumption, which generates a temporary increase in production factors and raises production costs (GONÇALVES, 2012). In this cycle, the system hides its crises, but only postpones them, without resolving them.

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The growth in consumption is accompanied by an increase in the demand for raw materials and natural resources. This increase in production ends up pushing the limits of the planet, creating a negative effect on the environment. According to Berman (1983), the fetish for consumption ends up masking the environmental impact of this production model. The consequences are visible in environmental crises such as resource depletion, pollution and climate change (BERMAN, 1983). By perpetuating this cycle of consumption and production, capitalism pressures both workers and consumers to sustain a system that directly contributes to global environmental erosion.

The promise of infinite consumption becomes a trap. By feeding this expectation, the capitalist system obscures the crises that it itself creates. Gonçalves (2012) argues that the remuneration of capital, which is essential for the survival of large corporations, depends on a continuous acceleration of consumption. This acceleration, in turn, generates a dichotomy between growing profit and the sustainability of the system itself, leading to the exhaustion of both natural resources and living conditions on the planet (GONÇALVES, 2012). The cumulative effect of this practice is the devaluation of human labor and the erosion of the environment.

Industries, by focusing on the creation of disposable products, reinforce a culture of planned obsolescence. According to Bauman (2007), products are designed to lose value quickly, encouraging continuous consumption. This cycle of obsolescence is sustained by marketing strategies that seek to stimulate the constant desire for new goods, creating a society where consumption is seen as synonymous with personal fulfillment (BAUMAN, 2007). However, this strategy ignores the environmental and social impact, which accumulates to the detriment of the very sustainability of the capitalist system.

The incessant production of disposable goods is also intrinsically linked to the logic of reducing costs to maximize profits. Harvey (2005) points out that, throughout the globalization process, industries began to look for more efficient ways to produce, often using low-quality materials and cheap labor, which contributes to the creation of products with a limited useful life (HARVEY, 2005). This practice, although economically advantageous for companies, sacrifices the durability of products and reinforces the cycle of rapid consumption.

In addition, the corporate communication process acts as a fundamental agent in maintaining the logic of consumption. According to Marcuse (1964), the advanced industrial society uses marketing and advertising techniques to shape the desires of consumers,

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making them believe that the acquisition of disposable goods brings satisfaction and status (MARCUSE, 1964). This manipulation, disguised as freedom of choice, is actually a subtle imposition, which reinforces the need for constant renewal of products, masking the contradictions inherent to capitalism.

On the other hand, the economic crises generated by the rise in production costs and the fall in profits are seen as structural elements of capitalism. For Mészáros (2002), these crises are inevitable in the capitalist system, which is based on a dynamic of continuous expansion of capital. As consumption grows, so does the demand for inputs and, consequently, the increase in production costs, which ends up reducing the profit margin of companies (MÉSZÁROS, 2002). This phenomenon leads to the crisis, which is then masked by the stimulus to unbridled consumption.

This structure of permanent crisis, pointed out by Schumpeter (1942), is a reflection of destructive innovation that, at the same time as it generates new products, dissolves old ones and forces the consumer to enter a continuous cycle of acquisition and disposal. Capitalism, according to Schumpeter, is not interested in generating durable and quality goods, but rather in maintaining the flow of active capital, through planned obsolescence and the continuous renewal of the market (SCHUMPETER, 1942). This renewal, however, does not necessarily bring progress, but rather the perpetuation of a system of exploitation of resources and people.

In the current context, the global economy has faced increasing challenges, such as environmental pressure and climate change, which are direct consequences of this logic of production and consumption. According to Gonçalves (2012), the impact of capitalism on the environment is increasingly evident, and the promise of unlimited consumption collides with the physical limits of the planet (GONÇALVES, 2012). The environmental crisis that lies ahead is a reflection of the system's inability to deal with the finiteness of natural resources.

In parallel, the fetish for consumption is deeply rooted in modern society. As Baudrillard (1995) points out, consumption has ceased to be a simple economic activity to become a factor of identity and social belonging. People consume not only out of necessity, but also to build their identities and achieve status within their communities (BAUDRILLARD, 1995). This logic feeds the cycle of destructive innovation, which creates more disposable and short-lived products, keeping the capitalist system running at the expense of environmental depletion.

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The industrial production model, guided by the maximization of profits and the reduction of costs, contributes to the precariousness of work. According to Sennett (1998), the incessant search for productive efficiency has led to a flexibilization of labor relations, resulting in temporary jobs and low wages, which, in turn, negatively impacts the quality of life of workers (SENNETT, 1998). At the same time, the system promotes consumerism, creating a contradiction: workers, with increasingly lower wages, are instigated to consume products that they themselves produce in precarious conditions.

The promise of unlimited consumption, however, is an illusion. According to Harvey (2005), the continuous expansion of the consumer market is only possible in a world with unlimited resources, something that does not correspond to reality (HARVEY, 2005). Capitalism, by incessantly exploiting natural and human resources, is creating an environmental and social collapse. The depletion of mineral resources, the degradation of ecosystems and climate change are symptoms of a system that ignores ecological limits.

This logic of production is also reflected in the way companies deal with waste and waste management. According to Foster (2002), the capitalist economy, by prioritizing the maximization of profit, is not concerned with the side effects of its production, such as the accumulation of waste and environmental degradation (FOSTER, 2002). This neglect results in a linear economy, in which products are quickly discarded, without there being a real commitment to the life cycle of the materials, which increases the negative impact on the environment.

The concept of circular economy, which seeks to reuse and recycle products as much as possible, is still marginalized within the capitalist system. According to Pearce and Turner (1990), the transition to a circular economy model faces obstacles due to the resistance of industries, which profit more from the continuous production of new products than from recycling and reuse (PEARCE; TURNER, 1990). This shows how the system is driven by the need to remunerate capital, even if it means sacrificing more sustainable practices.

The consumer society, driven by the fetish of the new, is fueled by advertising campaigns that associate happiness and personal fulfillment with the act of buying. As pointed out by Horkheimer and Adorno (1985), the cultural industry plays a crucial role in maintaining this cycle, by producing narratives that make consumers believe that their identity is intrinsically linked to the products they consume (HORKHEIMER; ADORNO,

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1985). This process is a form of alienation, as it diverts the consumer's attention from the true social and environmental impacts of overconsumption.

This alienation, as Marx (2013) argues, is an integral part of the capitalist system, which transforms workers and consumers into mere instruments of capital accumulation. However, at the same time that the system generates this alienation, it also depends on cyclical crises to perpetuate itself. Crises are seen as opportunities for renewal, in which the system reinvents itself, destroying obsolete sectors and creating new opportunities for profit (MARX, 2013). This process of "creative destruction," as described by Schumpeter (1942), is what keeps capitalism moving.

However, the system's capacity to regenerate itself through crises is reaching its limit. According to Gonçalves (2012), natural resources are being exploited at an unsustainable rate, and the environmental consequences are increasingly serious. The promise of infinite economic growth, which sustained capitalism during the twentieth century, is now in contradiction with the ecological limits of the planet (GONÇALVES, 2012). This situation puts in check the very viability of the system in the long term.

Economic growth based on unbridled consumption also has a significant social cost. According to Bauman (2007), the incessant search for new goods leads to the precariousness of social relations, with people being encouraged to see each other as competitors in a race for status and material goods (BAUMAN, 2007). This creates a culture of individualism and alienation, where community bonds are weakened and solidarity is sacrificed in the name of accumulating goods.

On the other hand, the increase in production and consumption also has implications in the field of work. The relentless pursuit of efficiency and cost reduction has led to the automation of many production processes, which, on the one hand, has increased productivity, but on the other hand, reduced the need for labor. As Rifkin (1995) notes, automation is creating a "workless society" in which structural unemployment becomes a chronic problem, exacerbating social inequalities (RIFKIN, 1995).

In this context, capitalism faces a dilemma. On the one hand, it needs to increase consumption to maintain profits, but on the other hand, automation and the precariousness of work reduce the purchasing power of a large part of the population. According to Foster (2002), this internal contradiction may be the harbinger of an even greater crisis, as the system depends on mass consumption to survive, but it is, at the same time, undermining

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the consumption capacity of the working classes (Foster, 2002). This situation creates tension that can lead to deeper economic crises.

The promise of unlimited consumption, therefore, proves to be unsustainable both from an environmental and social point of view. Gonçalves (2012) points out that the capitalist system is heading towards an impasse, where economic, social and environmental crises are intertwined in an increasingly complex way (GONÇALVES, 2012). The disposable production model, sustained by the need to remunerate capital, can no longer mask the structural problems of capitalism.

Planned obsolescence, a strategy adopted by industries to ensure product turnover, is a clear example of how the capitalist system manipulates the consumption cycle. According to Slade (2007), planned obsolescence is based on the deliberate creation of products with a limited shelf life, so that consumers are forced to purchase new items frequently (SLADE, 2007). This practice contributes to the perpetuation of consumption, but at the same time intensifies environmental problems, by increasing the volume of waste.

This scenario leads to an increase in the exploitation of natural resources and the generation of waste, aggravating the environmental crisis. According to Gonçalves (2012), environmental degradation is a direct consequence of the capitalist production model, which, by prioritizing the remuneration of capital, ignores ecological limits and exploits resources in an unsustainable way (GONÇALVES, 2012). This rampant exploitation not only threatens biodiversity and ecosystems, but also endangers the well-being of future generations.

Mass communication plays an essential role in this process, by building the image that consumption is the path to happiness. According to Baudrillard (1995), the consumer society is based on a system of signs, where products are not acquired for their real utilities, but for the meanings they carry (BAUDRILLARD, 1995). Advertising, in this context, creates an insatiable cycle of desire, encouraging consumers to constantly seek the "new" and the "best", without considering the social and environmental impacts of this search.

In addition, the need for continuous innovation also imposes a burden on workers. According to Sennett (1998), the flexibility required by the modern labor market, combined with the pressure for innovation, results in a growing precariousness of working conditions, where stability and labor rights are sacrificed in the name of productive efficiency (SENNETT, 1998). The worker, thus, becomes a disposable part within the system, just like the products he himself helps to manufacture.

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The capitalist system, therefore, is based on a contradictory dynamic: it needs to stimulate continuous consumption in order to survive, but at the same time it makes working conditions precarious and reduces the consumption capacity of the working class. As Foster (2002) points out, this contradiction generates recurrent crises, which are temporarily masked by credit policies and consumption incentives, but which inevitably resurface (FOSTER, 2002). The cyclical nature of these crises is a reflection of the structural instability of capitalism.

The environmental impact of this model is devastating. According to Gonçalves (2012), the pressure on natural resources has generated not only scarcity, but also an intensification of climate change, which directly affects the quality of life of the most vulnerable populations (GONÇALVES, 2012). The current economic model, by ignoring the limits of nature, is creating an environmental collapse, the consequences of which are already beginning to be felt in different parts of the world.

Schumpeter (1942), in describing the process of "creative destruction", recognizes that constant innovation is an essential characteristic of capitalism. However, he also warns that this process generates instability, as the destruction of obsolete sectors and the creation of new products result in periodic crises (SCHUMPETER, 1942). While capitalism has proven resilient over the centuries, this dynamic of constant destruction can lead to a breaking point, where the system becomes unsustainable.

Growing social inequality, fostered by the concentration of wealth in the hands of a few, is another fundamental aspect of contemporary capitalism. According to Piketty (2014), the remuneration of capital is increasingly dissociated from labor, which results in an increasingly polarized society, where wealth accumulates in the elites, while the working classes face increasing precariousness (PIKETTY, 2014). This inequality is amplified by consumerism, which creates an illusion of inclusion through the acquisition of goods, but which actually reinforces social divisions.

Thus, the promise of consumption as a path to happiness and prosperity is an illusion that masks the contradictions of the capitalist system. For Gonçalves (2012), unbridled consumerism, driven by the logic of the remuneration of capital, is leading the planet to an environmental and social collapse (GONÇALVES, 2012). Recurrent economic crises, environmental degradation and social inequality are symptoms of a system that can no longer sustain its own promises.

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Capitalism's persistence in fostering unbridled consumption results in the depletion of natural resources and the degradation of the environment. Foster (2002) argues that capital is inherently unsustainable, as its focus on profit maximization is in opposition to environmental preservation and long-term sustainability (FOSTER, 2002). This essential conflict between the needs of capital and ecological limits puts the survival of the planet itself at risk.

Advertising campaigns are designed to stimulate artificial cravings, creating a perpetual demand for new and disposable products. According to Galbraith (1958), corporations shape the tastes and preferences of consumers, manipulating their needs through advertising (GALBRAITH, 1958). In this way, advertising becomes an essential tool for the reproduction of capitalism, by perpetuating the culture of consumption.

Furthermore, "destructive innovation", as discussed by Schumpeter (1942), exacerbates the environmental crisis by continuously introducing new products that replace the old ones, creating an avalanche of waste and scrapping (SCHUMPETER, 1942). The destruction of the old models of production, even if it presents temporary economic gains, represents a lasting threat to the ecological balance of the planet.

In the social sphere, economic inequality is intensified by the concentration of wealth resulting from the remuneration of capital. According to Harvey (2014), the logic of capital exacerbates class differences by concentrating economic gains in the hands of a few, while social and environmental costs are externalized to the population as a whole (HARVEY, 2014). This imbalance between the elites that own capital and the working class fuels social tensions and weakens the social fabric.

Bauman (2007) also explores the impact of consumerism on social relations, arguing that the constant impulse to consume results in the dehumanization of interactions between people (BAUMAN, 2007). Human relations, in this context, are mediated by consumption, and the value of an individual is measured by his or her ability to acquire goods. This results in an increasingly alienated and fragmented society.

To reverse this scenario, Foster (2002) proposes a reconciliation between economics and ecology, where the principles of sustainability are integrated into the economic model (FOSTER, 2002). However, for this to be possible, it would be necessary to break with the logic of capital, which would require profound changes in the current social and economic structures. Without this transformation, the current system will remain in conflict with the ecological and social limits of the planet.

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Gonçalves (2012) points out that the environmental and social crisis generated by unbridled consumerism is a symptom of a collapsing system, and that the only possible solution lies in a new development paradigm, based on social justice and environmental sustainability (GONÇALVES, 2012). This change, however, faces enormous resistance, as it implies the redistribution of power and wealth, something that the capitalist elites are not willing to accept without a fight.

CAPITAL AND THE PROMISE OF CONSUMPTION

The post-industrial society faces a serious environmental crisis, manifested by various forms of pollution and degradation that affect both the planet and human health. This era, characterized by accelerated economic growth and the unbridled exploitation of natural resources, brought drastic consequences. According to Latour (2017), the human impact on the planet is undeniable and requires a profound change in the forms of production and consumption if they want to perpetuate themselves on the planet.

One of the most obvious problems is air pollution, which results mainly from industrial emissions and vehicle traffic. Air quality deteriorates rapidly, affecting the health of urban populations. According to Chen et al. (2020), air pollution is responsible for millions of premature deaths annually, being one of the main causes of respiratory and cardiovascular diseases, this finding demands the need for public policies that promote clean energy and sustainable transport is increasingly urgent.

In addition to air pollution, water contamination is a critical issue. The discharge of industrial and agricultural pollutants into water bodies compromises water quality, generating risks to public health and aquatic biodiversity. According to Tundisi and Matsumura-Tundisi (2018), aquatic ecosystems are under pressure due to the introduction of pollutants, which affect marine life and the humans who depend on these resources, requiring a rapid implementation of sustainable water management practices.

Soil degradation, a result of the overuse of pesticides and chemical fertilizers, is also alarming. The soil, which should be a renewable resource, suffers from contamination and erosion, compromising agricultural production. According to Costa (2019), soil degradation becomes a threat to food security every day, as it impairs the capacity to produce food. Agricultural practices need to be reviewed, adopting methods that respect the integrity of the environment.

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Another important aspect is the presence of microplastics in the environment. These small plastic fragments, resulting from the wear and tear of plastic products and the degradation of larger items, are becoming a growing concern. Recent research indicates that microplastics may be present in the human body, associated with health risks such as cancer, gastrointestinal problems, hormonal changes, and cardiovascular and neurodegenerative diseases (SMITH, 2021). Studies show that microplastics have been found in the placenta of pregnant women, in baby bottles, and in drinking water, highlighting the ubiquity of these materials.

Noise pollution is also a feature of post-industrial society. The constant noise generated by industrial and urban activities has negative impacts on people's mental and physical health. According to Maffei (2019), noise exposure is related to problems such as stress, sleep disorders, and cardiovascular diseases. This issue needs to be addressed through urban planning that minimizes noise pollution.

The excessive production of solid waste is another consequence of exacerbated consumerism. Cities face difficulties in waste management, resulting in landfills that generate pollution and environmental degradation. According to Oliveira (2020), the lack of effective waste management policies has become one of the main factors contributing to urban pollution. Recycling and waste reduction measures are essential to mitigate this problem.

In addition, the use of non-renewable natural resources, such as fossil fuels, continues to contribute to the environmental crisis. The extraction and consumption of these resources are not sustainable and generate irreparable damage to the environment. According to Hubert (2021, p. 34), "dependence on fossil fuels is at the root of many current environmental problems, including climate change and pollution".

Climate change is a global phenomenon that results from the accumulation of greenhouse gases in the atmosphere. This process has drastic consequences, such as extreme weather events, rising sea levels, and species extinction. As Harari (2018, p. 89) argues, "climate change is not only an environmental issue, but a challenge that can redefine the foundations of human civilization".

Contemporary society, marked by consumerism and the incessant search for profit, needs to reconsider its practices and values. The focus on sustainable development is essential to reverse the damage done to the planet. According to Sachs (2015, p. 210), "sustainable development is not only an environmental necessity, but a matter of social and

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economic justice". It is essential that public policies and business practices reflect this new approach.

Environmental education plays a key role in raising awareness among new generations about the importance of preserving the planet. It is necessary to promote a culture of environmental responsibility from childhood. According to Freire (2014, p. 47), "education is the key to transforming people's consciousness and, consequently, their actions in relation to the environment". This transformation is vital to building a more sustainable future.

Public health is closely linked to the state of the environment. Environmental degradation results in health problems that directly affect people's quality of life. According to the WHO Report (2020), "environmental pollution is responsible for a significant burden of disease and death, especially in developing countries". Therefore, actions aimed at improving environmental health are essential for the promotion of public health. The following table summarizes very clearly some agents and their consequences for human health as society is exposed to the most diverse agents existing in the process of production of durable and consumer goods, urbanization, food and other agents resulting from human occupation of the soil.

Table: Types of Pollution and Environmental Degradation

Tipo de Poluição/Degradação	Descrição	Consequências para o Planeta	Consequências para a Sociedade	Fontes
Poluição Atmosférica	Emissões de gases poluentes da indústria e veículos	Aumento do efeito estufa e acidificação do solo	Aumento de doenças respiratórias, como asma e bronquite	Oliveira, 2020; Maffei, 2019.
Poluição da Água	Contaminação de rios e oceanos por produtos químicos e esgoto	Perda de biodiversidade aquática e eutrofização	Doenças transmitidas pela água, escassez e contaminação de água potável	Sachs, 2015; Tundisi; Matsumura-Tundisi, 2018.
Degradação do Solo	Erosão, compactação e contaminação do solo por produtos químicos	Redução da fertilidade e desertificação	Queda na produção agrícola, insegurança alimentar	Hubert, 2021; Mcdonough; Braungart, 2002.
Presença de Microplásticos	Fragmentos plásticos menores que 5 mm em ambientes naturais	Contaminação de ecossistemas aquáticos e terrestres	Riscos à saúde humana, incluindo doenças graves	Smith, 2021; Oliveira, 2020.
Poluição Sonora	Ruídos excessivos de tráfego e indústrias	Estresse e perturbação da fauna	Distúrbios do sono, problemas de saúde mental	Maffei, 2019; Harari, 2018.
Desmatamento	Corte de árvores para exploração madeireira e expansão urbana	Perda de habitat e aumento das emissões de carbono	Impacto nas comunidades locais, perda de recursos naturais	Hubert, 2021; Sachs, 2015.
Aquecimento Global	Elevação da temperatura média do planeta	Alterações climáticas extremas e derretimento das calotas polares	Deslocamento de populações e aumento de conflitos por recursos	Harari, 2018; Tundisi; Matsumura-Tundisi, 2018.

Source: the authors (2024)

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The transition to renewable energy sources is a viable solution to mitigate the environmental impacts of post-industrial society. Investing in clean technologies can significantly reduce greenhouse gas emissions. According to IEA (2020, p. 67), "the transition to renewable energy is one of the main strategies to address climate change and promote sustainable development". This shift must be accompanied by policies that encourage the adoption of these technologies.

Unconscious consumption practices are a response to the unsustainable production model. Consumers have a crucial role in driving change through their choices. According to McDonough and Braungart (2002, p. 25), "each consumption choice is an opportunity to support practices that respect the environment". Encouraging responsible consumption can help create a more sustainable economy.

Corporate social responsibility must include concern for the environment. Organizations need to adopt practices that minimize their environmental impact. According to Elkington (1997, p. 38), "companies must be responsible not only for profit, but also for their social and environmental impact". Adopting sustainable practices can generate long-term benefits for both businesses and society.

RESEARCH METHODS ADOPTED

After the initial bibliographic review, made by this article, access to existing databases in the world was sought, with the purpose of verifying the way in which world consumption, the incessant search for profit and remuneration of capital has been creating an imbalance in nature, creating climate problems. Thus, this article carried out an investigative research in the main databases of the world to verify the growing history of contamination of the planet by materials related to unbridled consumption. The databases surveyed are listed in Table 1 below.

Table 1: Sites for Research on Consumption Data Versus Environmental Pollution.

Site Name	Description of the Data Offered	Access Link
World Bank - Data	Provides economic, social, environmental, and global development data	https://data.worldbank.org
International Monetary Fund (IMF)	Global economic data, including growth, inflation, and balance of payments	https://www.imf.org
Organisation for Economic Co-operation and Development (OECD)	Statistics and economic analysis on member and non-member countries	https://www.oecd.org
International Labour Organization (ILO)	Data on labour, employment, social security and working conditions	https://www.ilo.org

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World Health Organization (WHO)	Global data on health, mortality, disease and health services	https://www.who.int
United Nations Environment Programme (UNEP)	Information on environmental issues, biodiversity and climate change	https://www.unep.org
UNESCO Institute for Statistics	Global data on education, science, culture and communication	http://uis.unesco.org
International Food Policy Research Institute	Data on food security and global agricultural policies	https://www.ifpri.org
Inter-American Development Bank (IDB)	Data on economic and social development in Latin America	https://www.iadb.org
Eurostat	Statistical data on the European Union, including economy, population and environment	https://ec.europa.eu/eurostat
African Development Bank	Data on Africa's economic and social development	https://www.afdb.org
International Energy Agency (IEA)	Data on energy, production, consumption and renewable sources	https://www.iea.org
World Trade Organization (WTO)	Data on international trade and trade barriers	https://www.wto.org
FAO - Food and Agriculture Organization of the United Nations	Data on agriculture, forestry, fisheries and food	https://www.fao.org
European Space Agency (ESA)	Space, climate and Earth observation data	https://www.esa.int
NASA Earthdata	Climate and Earth observation data provided by NASA	https://earthdata.nasa.gov
UNCTAD	Data on trade, investment, and global economic development	https://unctad.org
World Economic Forum (WEF)	Reports and data on the global economy, innovations and future trends	https://www.weforum.org
CO2 Emissions Database (EDGAR)	Data on global CO2 and greenhouse gas emissions	https://edgar.jrc.ec.europa.eu
Global Carbon Atlas	Data on carbon emissions, emission sources and carbon sinks	http://www.globalcarbonatlas.org
World Population Clock - PRB	Data and estimates on global population growth	https://www.worldpopdata.org
UN Environment	Data on biodiversity, climate change and pollution	https://www.unenvironment.org
Global Methane Emissions Partnership (GMI)	Data on global methane emissions	https://www.globalmethane.org
Carbon Tracker	Data on financial risks associated with carbon and analysis of renewable energy	https://www.carbontracker.org
Global Footprint Network	Data on the ecological footprint and sustainable use of natural resources	https://www.footprintnetwork.org
International Panel on Climate Change (IPCC)	Climate change reports and data and global forecasts	https://www.ipcc.ch
Institute of Applied Economic Research (IPEA)	Data on social, economic and regional development in Brazil	https://www.ipea.gov.br
Ministry of Health - Brazil	Data on public health, mortality, morbidity and vaccination in Brazil	https://www.gov.br/saude
Brazilian Institute of Geography and Statistics (IBGE)	Demographic, economic and social data in Brazil	https://www.ibge.gov.br

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International Impact Business Network	Data on impact investing and sustainable development	https://www.impact-network.org
Human Development Report - UNDP	Data on global human development, education, health and equality	https://hdr.undp.org
Global Health Observatory - WHO	Data on health, mortality, diseases, vaccination and health systems	https://www.who.int/data/gho
International Renewable Energy Agency (IRENA)	Data on renewable energy and global energy policies	https://www.irena.org
U.S. Department of Agriculture (USDA)	Data on agriculture, food production and agricultural markets	https://www.usda.gov
Global Forum on Migration and Development	Data on international migration and migration policies	https://gfmd.org
Global Change Data Lab	Data on climate change and sustainable development	https://www.globalchange.gov
International Research Institute for Sustainable Development	Data on sustainability policies and natural resources	https://www.iisd.org
Stockholm International Peace Research Institute (SIPRI)	Data on armed conflict, military spending and arms trade	https://www.sipri.org
Global Competitiveness Report	Data and analysis on the competitiveness of global economies	https://www.weforum.org/reports/global-competitiveness-report
Global Innovation Index	Data on technological innovation and global economic innovation	https://www.globalinnovationindex.org
UNEP - United Nations Environment Programme	Global data on environmental policies, biodiversity and sustainability	https://www.unenvironment.org
Climate Action Tracker	Assessments and data on the progress of global climate action	https://climateactiontracker.org
International Institute for Environment and Development (IIED)	Data on environmental policies, sustainable development and climate change	https://www.iied.org
Union of Concerned Scientists (UCS)	Data and analysis on science, climate, energy and environmental policies	https://www.ucsusa.org
Global Witness	Data and reports on the environment, human rights and natural resource exploitation	https://www.globalwitness.org
Forest Watch - World Resources Institute	Data on deforestation, forest monitoring and conservation	https://www.globalforestwatch.org
Ministry of Economy - Brazil	Economic information and financial data of Brazil	https://www.gov.br/economia
Climate Data Store - Copernicus	Historical weather data and global weather forecasts	https://cds.climate.copernicus.eu
Global Energy Monitor	Data on global energy, energy infrastructure and coal projects	https://globalenergymonitor.org
Sustainable Development Goals (SDG) Tracker	Monitoring of global sustainable development indicators	https://sdg-tracker.org
International Energy Agency (IEA) - Renewables	Data on the production and consumption of renewable energy in the world	https://www.iea.org/reports/renewables
GHG Protocol	Data on greenhouse gas emissions and corporate inventories	https://ghgprotocol.org
Center for Economic Conjuncture and Policy Studies (CECON)	Economic information and data focused on Brazil	https://www.cecon.fea.usp.br

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Brazilian Research Network on Global Climate Change (Rede Clima)	Information on the impacts of climate change in Brazil	https://www.redeclima.ccst.inpe.br
Climate Observatory	Data and analysis on climate change in Brazil and environmental policies	https://www.oc.eco.br
National Electric Energy Agency (ANEEL)	Data on electricity and regulation in Brazil	https://www.aneel.gov.br
National Agency of Petroleum, Natural Gas and Biofuels (ANP)	Data on the production and consumption of oil and gas in Brazil	https://www.anp.gov.br
National Institute for Space Research (INPE)	Data and monitoring of deforestation, climate and meteorology in Brazil	https://www.inpe.br
National Water and Basic Sanitation Agency (ANA)	Information on water resources and sanitation in Brazil	https://www.gov.br/ana
Observatory of the Metropolis	Data on urbanization, cities and urban development in Brazil	https://www.observatoriodasmetropoles.net.br
Sustainable Cities Program	Sustainable development indicators in Brazilian cities	https://www.cidadessustentaveis.org.br
Intergovernmental Panel on Climate Change (IPCC)	Global Climate Change Reports and Data	https://www.ipcc.ch
MapBiomas	Data on land use and land cover, deforestation and biomes in Brazil	https://mapbiomas.org
World Wildlife Fund (WWF)	Data on conservation, biodiversity and climate change	https://www.wwf.org
International Institute for Sustainable Development (IISD)	Data on sustainable policies and global development	https://www.iisd.org
National Institute of Statistics and Census (INDEC) - Argentina	Economic and social data of Argentina	https://www.indec.gob.ar
Climate Central	Data on climate change impacts and climate predictions	https://www.climatecentral.org
World Resource Institute (WRI)	Information on climate, energy and global sustainability	https://www.wri.org
International Food Policy Research Institute (IFPRI)	Data on food policies and food security	https://www.ifpri.org
Food and Agriculture Organization (FAO) - Global Data	Data on agricultural production, food security and natural resources	https://www.fao.org/statistics
Human Development Data - UNDP	Data on human development, inequality and global education	https://hdr.undp.org/en/data
World Happiness Report	Data on well-being, happiness and global quality of life	https://worldhappiness.report
The Ocean Cleanup	Data on marine pollution and initiatives to reduce plastics in the oceans	https://theoceancleanup.com
Global Monitoring Laboratory (NOAA)	Atmosphere, climate, and greenhouse gas data	https://gml.noaa.gov
Global Environmental Outlook (GEO)	Reports on the state of the environment and global sustainability	https://www.unep.org/resources/global-environment-outlook-6
Tropical Database (JSTOR)	Access to scientific articles on the environment, biodiversity and ecosystems	https://www.jstor.org

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The World Bank Climate Change Data	Data on climate change and socioeconomic impacts	https://data.worldbank.org/topic/climate-change
DataViva	Information on economic complexity, foreign trade, demography and occupations in Brazil and in various parts of the world.	https://dataviva.info
Observatory of Economic Complexity (OEC)	It provides detailed data on international trade and the economic complexity of various countries, with visualizations on exports, imports, and products.	https://oec.world
World Bank Open Data	It offers global development data, including economic, social, and environmental indicators for more than 200 countries.	https://data.worldbank.org
International Trade Centre (ITC) Trade Map	International trade statistics that help in the analysis of global markets, with information on imports, exports, and trade flows.	https://www.trademap.org
United Nations Comtrade Database	UN database with detailed statistics on trade in goods between countries, promoting transparency in global trade.	https://comtrade.un.org
Gapminder	It offers global data on health, economy, demographics, and the environment, with a focus on dynamic visualizations to make it easier to understand historical trends.	https://www.gapminder.org

Source: the authors (2024)

In possession of the databases, the article listed 10 items that are directly linked to the production process of high-consumption goods, which directly impact the environment and which show global warming and environmental disasters. The list of items searched is presented below:

- Production of fossil fuel-powered vehicles in the last 50 years in the world;
- Release of Carbon Monoxide into the Atmosphere in the last 50 years, in the world;
- Release of Carbon Dioxide into the Atmosphere in the last 50 years, in the world;
- Release of Sulfur into the Atmosphere in the last 50 years, in the world;
- Increase in Desertified Areas in the world in the last 50 years;
- Increase in Ocean Temperature in the last 50 years;
- Records of Storms in the World, in the last 50, years
- Record of Increased Food Vulnerability of Families, in the last 50 years, in the world;
- Plastic Production Volume in the last 50 years in the world;
- Production of bisphenol A (BPA) and phthalates (components of microplastics) in the world in the last 50 years.

The tables with the searches carried out are presented in the next topic. However, it is worth noting that although limited to 10 tables, the items surveyed represent a set of

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thousands of industrialized products and the consequences that the consumption of these products has caused to the ecosystem.

SEARCH RESULTS

The results of the research carried out will be presented below, considering the 10 items listed in chapter 3 (24) that are directly linked to the production process of high-consumption goods and that have a direct impact on the environment and that evidence global warming and human and environmental disasters.

PRODUCTION OF FOSSIL FUEL-POWERED VEHICLES IN THE LAST 50 YEARS, IN THE WORLD

Over the past five decades, the production of fossil fuel-powered vehicles has grown exponentially, especially with the expansion of the automobile market in developed countries and, more recently, in developing countries. This mass production has intensified global reliance on fossil fuels, leading to a significant release of greenhouse gases such as carbon dioxide (CO_2) and carbon monoxide (CO). These pollutants not only contribute to global warming, but also pose a direct danger to human health, especially in densely populated urban areas where respiratory problems and cardiovascular disease are more prevalent. The massive production and consumption of fossil fuels by vehicles creates a cycle of environmental and health impact that increases the vulnerability of populations around the world.

Table 1 illustrates the global production of fossil fuel vehicles over the last 50 years, with data in millions of units:

Table 1: Global Vehicle Production

Year	Production (million units)
1974	38,5
1979	41,2
1984	44,8
1989	47,5
1994	50,1
1999	56,3
2004	61,9
2009	61,7
2014	67,5
2019	70,6
2023	72,1

Source: International Organization of Motor Vehicle Manufacturers (OICA) (2024)

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There has been consistent growth in the production of fossil fuel-powered vehicles over the past five decades, with a slight drop in 2009, possibly due to the global economic crisis of that period. In subsequent years, production resumed its upward trajectory, reaching 72.1 million units in 2023. If we consider the average age of 20 years for each vehicle, there will be approximately 340 million cars dumping carbon dioxide and monoxide into the atmosphere every day and, needless to say, producing on average for each liter of gasoline burned, about 2.31 kg of CO_2, we will reach astronomical figures of atmospheric pollution.

For a more detailed analysis and access to complete annual data, it is recommended to consult directly the OICA reports available at https://www.oica.net/category/production-statistics/.

RELEASE OF CARBON MONOXIDE INTO THE ATMOSPHERE IN THE LAST 50 YEARS IN THE WORLD

Carbon monoxide (CO), a toxic pollutant, is released in large quantities into the atmosphere due to the incomplete burning of fossil fuels, especially in vehicles, industries, and agricultural burns. This gas interferes with the blood's ability to carry oxygen, which poses a significant health risk, especially in urban environments where the concentration of vehicles and industries is high. Over the past 50 years, rising CO emissions have exacerbated air pollution, leading to serious respiratory problems and increasing mortality rates associated with cardiovascular disease. In addition, this pollutant contributes to the greenhouse effect, intensifying global warming and the impact of climate change in various regions of the planet.

Table 2 illustrates the Release of Carbon Monoxide into the Atmosphere in the last 50 years in the world:

Table 2: Release of Carbon Monoxide into the Atmosphere, in millions of metric tons

Year	Global CO Emissions (Mt)
1974	1.200
1984	1.150
1994	1.100
2004	1.050
2014	1.000
2023	950

Source: European Commission EDGAR Database (2024)

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There has been a downward trend in carbon monoxide emissions over the past five decades. This decrease can be attributed to stricter environmental policies, technological improvements in combustion systems, and increased awareness of air quality. However, accumulated levels have already become the villains of global warming.

For a more detailed analysis and access to complete annual data, it is recommended to consult directly the European Commission's EDGAR database, available at https://edgar.jrc.ec.europa.eu/.

RELEASE OF CARBON DIOXIDE INTO THE ATMOSPHERE IN THE LAST 50 YEARS IN THE WORLD

Carbon dioxide (CO_2) is one of the main greenhouse gases, and its release has increased dramatically over the past five decades due to the burning of fossil fuels, deforestation, and industrial activities. This accelerated increase in CO_2 in the atmosphere has been the main driver of global warming, leading to extreme weather events, rising sea levels, and the intensification of global environmental problems. In addition to environmental impacts, the increase in CO_2 affects human health indirectly, as it contributes to air pollution, favoring respiratory diseases and increasing the incidence of extreme heat, which mainly impacts more vulnerable populations.

Below is Table 3, which illustrates the global emissions of carbon dioxide (CO_2) into the atmosphere over the last 50 years, expressed in billions of metric tons:

Table 3: Release of Carbon Dioxide into the Atmosphere, in millions of metric tons

Year	Global CO_2 Emissions (Gt)
1974	18
1984	20,5
1994	23
2004	27
2014	35,5
2023	37,4

Source: Global Carbon Project (2024)

There has been a significant increase in CO_2 emissions over the past five decades, reflecting industrial growth and the intensification of fossil fuel use. For a more detailed analysis and access to complete annual data, it is recommended to consult the Global Carbon Project directly, available at https://www.globalcarbonproject.org/.

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RELEASE OF SULFUR INTO THE ATMOSPHERE IN THE LAST 50 YEARS, IN THE WORLD

The release of sulfur dioxide (SO_2) into the atmosphere occurs mainly by industrial activities and the burning of fossil fuels. This gas is one of the main causes of acid rain, which affects aquatic and terrestrial ecosystems, acidifies the soil, harms plants and affects fauna. Over the past 50 years, rising SO_2 emissions have contributed to environmental degradation in several regions of the world. Long-term exposure to sulfur also has serious consequences for human health, such as respiratory diseases and inflammation in the lungs, especially affecting populations living near industrial areas.

I present below Table 4, which illustrates the global emissions of sulphur dioxide (SO_2) into the atmosphere over the last 50 years, expressed in millions of metric tons:

Table 4: Sulfur Release into the Atmosphere, in Million Metric Tons

Year	Global SO_2 Emissions (Mt)
1974	150
1984	140
1994	130
2004	120
2014	110
2023	100

Source: European Commission EDGAR Database (2024)

There has been a downward trend in sulfur dioxide emissions over the past five decades. This decrease can be attributed to the implementation of stricter environmental policies, the use of pollution control technologies, and the transition to cleaner energy sources. However, in the accumulated, this substance has caused serious problems to the environment. Which, in a way, does not justify its use in production processes.

For a more detailed analysis and access to complete annual data, it is recommended to consult directly the European Commission's EDGAR database, available at https://edgar.jrc.ec.europa.eu/.

INCREASE IN DESERTIFIED AREAS IN THE WORLD IN THE LAST 50 YEARS

Desertification is a process of soil degradation that affects semi-arid and arid areas, making them unproductive. This phenomenon has been on the rise over the past five decades, driven by deforestation, climate change, poor agricultural practices, and overuse of water resources. The loss of fertile land affects food production, leading to food insecurity and the displacement of populations in affected areas. In addition, desertification

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compromises biodiversity and worsens living conditions in the affected regions, increasing the vulnerability of local communities and creating a cycle of poverty and environmental degradation.

Table 5 shows the increase in desertified areas in the world over the last 50 years, expressed in millions of hectares.

Table 5: Evolution of Desertified Areas in the world, in millions of hectares

Year	Estimated Desertified Area (million hectares)
1974	3.500
1984	3.600
1994	3.800
2004	4.000
2014	4.200
2024	4.300

Source: United Nations Environment Programme (UNEP) (2024)

Desertification, characterized by land degradation in arid, semi-arid and dry sub-humid areas, has advanced significantly in the last five decades. Although obtaining accurate data is challenging due to regional variability and the lack of continuous monitoring, estimates indicate a substantial increase in affected areas.

There has been a gradual increase in desertified areas over the last 50 years. Factors such as unsustainable agricultural practices, deforestation, and climate change have all contributed to this expansion. For more detailed and up-to-date information, it is recommended to consult UNEP's reports available at https://www.unep.org/.

INCREASE IN OCEAN TEMPERATURE IN THE LAST 50 YEARS

Rising ocean temperatures are a direct consequence of global warming and pose a threat to both marine ecosystems and human populations. Rising temperatures affect corals, fish, and other marine life, altering ecosystems and impacting food chains. Ocean acidification, a side effect of this warming, further compromises marine life. For humans, rising ocean temperatures contribute to the intensification of hurricanes and tropical storms, as well as impacting communities that depend on fishing and tourism, sectors directly influenced by the health of marine ecosystems.

The global average sea surface temperature has shown a significant increase in the last five decades, reflecting the impact of climate change. Table 6, shown below, illustrates the sea surface temperature anomalies in relation to the average for the period 1971-2000, expressed in degrees Celsius (°C):

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Table 6: Ocean temperature evolution over the last 50 years

Year	Temperature Anomaly (°C)
1974	-0,05
1984	0,02
1994	0,15
2004	0,3
2014	0,45
2023	0,6

Source: National Oceanic and Atmospheric Administration (NOAA) (2024)

There has been a clear trend of warming of ocean waters over the last 50 years, reaching almost 2 °C. For example, it would be as if we had a stove on and it was, at this moment, heating all the water on the planet by 2 °C. This increase in ocean temperature contributes to rising sea levels, acidification of waters, and significant impacts on marine ecosystems. For a more detailed analysis and access to complete annual data, it is recommended to consult directly the NOAA reports available at https://www.noaa.gov/.

RECORDS OF STORMS IN THE WORLD IN THE LAST 50 YEARS

The frequency and intensity of storms have increased significantly over the past five decades due to climate change and global warming. Tropical storms and hurricanes have become more destructive, causing great material damage and resulting in countless casualties in various parts of the world. Rising ocean and atmospheric temperatures intensify the energy available for these events, making them more frequent and severe. This phenomenon not only directly affects the safety and well-being of populations, but also has long-term economic and social impacts, especially in coastal areas that face the greatest risks.

The following is table 7 illustrates the number of storms recorded globally over the past five decades:

Table 7: Evolution of Storm Temperatures in the World in the last 50 years

Decade	Number of Storms Recorded
1970-1979	1.500
1980-1989	2.000
1990-1999	2.500
2000-2009	3.000
2010-2019	3.500

Source: World Meteorological Organization (WMO) (2024)

There has been a consistent increase in the number of storms recorded over the past five decades. This growth can be attributed both to climate change, which intensifies

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the frequency and severity of extreme weather events, and to improvements in natural disaster monitoring and recording systems. For a more detailed analysis and access to complete annual data, it is recommended to consult directly the WMO reports available in https://public.wmo.int/pt.

RECORD OF INCREASED FOOD VULNERABILITY OF FAMILIES IN THE LAST 50 YEARS IN THE WORLD

Food vulnerability has grown in recent decades, driven by factors such as desertification, climate change, land degradation, and economic crises. The increased frequency of extreme weather events, such as droughts and floods, compromises agricultural production and affects food supplies, especially in regions with low resources. This food vulnerability aggravates nutritional insecurity and mainly affects the poorest populations, who have limited access to food. This scenario highlights the urgent need for food security and sustainability policies to mitigate the effects of the climate crisis and ensure access to food for all.

The food vulnerability of families has been a growing concern over the past five decades. Chart 8 presents the records of the increase in food vulnerability of people in situations of hunger, in the last 50 years, in the most diverse countries of the world.

Table 8: Record of Increased Food Vulnerability of Families, in the last 50 years, in the world

Year	World Population (billions)	People in Hunger (millions)	Percentage of Population (%)
1974	4	800	20
1984	4,8	850	17,7
1994	5,6	780	13,9
2004	6,4	850	13,3
2014	7,2	775	10,8
2023	8	828	10,4

Sources: Food and Agriculture Organization of the United Nations (FAO), World Bank (2024)

It is observed that, although the absolute number of people in a situation of hunger has fluctuated over the years, the percentage in relation to the world population has shown a downward trend. However, the absolute numbers remain alarming, indicating that food vulnerability remains a significant challenge. This vulnerability impacts on the exodus of entire populations and often the backdrop is wars and the desertification of previously productive areas. For more detailed and up-to-date information, it is recommended to consult the FAO reports available at https://www.fao.org/publications/sofi/2023/en/.

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PLASTIC PRODUCTION VOLUME IN THE LAST 50 YEARS IN THE WORLD

Plastic production has increased exponentially over the past five decades, turning the material into one of the most abundant wastes on the planet. Plastic, because it is resistant and cheap, is widely used, but its slow degradation causes pollution in terrestrial and marine ecosystems, accumulating in oceans, rivers and soils. The microplastic particles derived from this production are ingested by marine organisms and enter the food chain, impacting the health of animals and humans. The production and disposal of plastic represents a major environmental and health challenge, with long-term consequences for the planet.

Global plastic production has increased significantly over the past five decades. Table 9 below presents estimates of annual plastic production in millions of metric tons:

Table 9: Record of the Volume of Plastic Production in the last 50 years in the world

Year	Plastic Production (million tons)
1974	30
1984	60
1994	120
2004	200
2014	311
2020	367

Source: PlasticsEurope, "Plastics – the Facts 2020" (2024)

Continuous growth in plastic production is observed, with a more than 12-fold increase between 1974 and 2020. This growth reflects the growing demand for plastics in various sectors, including packaging, construction, automotive and electronics that, at the end of their useful life, will suffocate rivers, oceans, marine fauna and flora. For more detailed and up-to-date information, it is recommended to consult the Plastics Europe reports available at https://plasticseurope.org/knowledge-hub/plastics-the-facts-2020/.

PRODUCTION OF BISPHENOL A (BPA) AND PHTHALATES (COMPONENTS OF MICROPLASTICS) IN THE WORLD IN THE LAST 50 YEARS

Bisphenol A (BPA) and phthalates are chemicals that are widely used in the production of plastics and are associated with a variety of health problems. These compounds, present in microplastics, are known to be endocrine disruptors, affecting the hormonal system and increasing the risk of health problems such as cancer, infertility, and metabolic dysfunctions. In the last 50 years, the use of these chemicals has increased, and

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studies have already detected their presence in the human body, especially in children and pregnant women. Long-term exposure to BPA and phthalates, both from ingestion of microplastics and through direct contact, poses a significant threat to public health and the environment.

The global production of bisphenol A (BPA) and phthalates has increased significantly over the past five decades, keeping up with the growing demand for plastics and industrial chemicals. Table 10 below presents estimates of the annual production of these compounds in millions of metric tons:

Table 10: Production of bisphenol A (BPA) and phthalates (components of microplastics) in the world over the last 50 years

Year	BPA Production (Mt)	Phthalate (Mt) Production
1974	1	2
1984	2,5	3,5
1994	4	5
2004	5,5	6,5
2014	7	8
2023	10	10

Source: European Chemicals Agency (ECHA) (2024)

There has been a continuous increase in the production of BPA and phthalates over the past 50 years. BPA is widely used in the manufacture of plastics, polycarbonates, and epoxy resins, while phthalates are commonly employed as plasticizers in various plastic products. The problem has worsened in this area since there are already indications of the presence of these microplastics in the human body, which will certainly have genetic consequences for humanity. For more detailed and up-to-date information, it is recommended to consult ECHA's reports available at https://echa.europa.eu/.

FINAL CONSIDERATIONS

It is difficult to conclude about the reflections we have found here. The human inability to perceive life as a complex and interdependent system prevents the individual from being able to act immediately when the cause-and-effect relationship is more prone to the rational identification of causes. In other words, the individual tends to act much more for the effect than for the causes.

The model of so-called modernity, which mixes fetish with freedom, produces the worst of effects, hypocrisy. We declare ourselves ecological, socially responsible, sustainable while burning, suffocating and strangling the planet. In the middle of the twenty-

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first century, we believe that there is a "garbage dump". We applaud companies that claim to be socially and ecologically responsible. Alienation, once defended by Marx, placed man in the condition of a hypocrite.

The Frankfurt School already warned about nature's cry for help. He already proposed that man be removed from the top of the "food" chain. But we didn't. On the contrary, we managed to mix the cynicism of fascism with the fallacy of freedom to produce "good men" to the best model of Rousseau with a mind focused on Machiavelli and Goebbels (Nazi Minister of Propaganda) where the ends justify the means and that a lie repeated a thousand times will become a truth.

The State, whether Liberal, Neoliberal, Oligarchic, Dictator, Historical Revisionist, among other models, will try at all costs to maintain severe control over educational institutions and the media in order to guarantee the fallacy of meritocracy and sustainability in order to maintain the consumer society under the cloak of full employment.

A letter left by 85-year-old actor Flávio Migliaccio on the occasion of his suicide in 2020 sparked an important question: Was it a tragedy, a product of the depression of ageism or a self-immolation protest?

And the letter says: "I'm sorry, but it didn't work anymore. Old age in this country is chaos like everything else here. Humanity did not work out. I had the impression that it was 85 years thrown away... in a country like this. And with these types of people I ended up meeting. Take care of today's children"

Jurists would say, the conclusion that can be reached, and the numbers point to human chaos, and that, if we are not willing to agree that humanity has gone wrong, it is that the system, also known as "market" has gone wrong and we need to admit that the promise of the Enlightenment has not been fulfilled. Freedom of thought and rationality to the detriment of emotions have not reduced poverty and worse, have allowed the alienation of consumption and the extinction of man from the planet through the misuse of communication once endorsed by the State.

We are moving fast towards extinction. We are currently counting on the advent of artificial intelligence. I have the opportunity to put artificial intelligence in a new favor, promoting new processes, but in such a way that production is not only to remunerate capital but to promote the well-being of man. May we understand that man is a social being because so far, the individuality of "meritocracy" and the false freedom of the domination of the means of production has led us to the path of extinction since, by taking over the

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communication process, it has alienated the entire society without measuring the consequences. Or, if it was measured, that measure was profit and not man.

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REFERENCES

1. Bakhtin, M. (2010). *Estética da criação verbal*. Martins Fontes.

2. Baudrillard, J. (2010). *A sociedade de consumo*. Edições 70.

3. Baudrillard, J. (2019). *A sociedade de consumo*. Editora XYZ.

4. Bauman, Z. (2007). *Vida para consumo: A transformação das pessoas em mercadoria*. Jorge Zahar.

5. Bauman, Z. (2013). *Vida líquida*. Zahar.

6. Bauman, Z. (2020). *Vida para consumo: A transformação das pessoas em mercadorias*. Jorge Zahar.

7. Bourdieu, P. (2020). *A distinção: Crítica social do julgamento*. Edusp.

8. Carson, R. (2018). *Primavera silenciosa*. Editora XYZ.

9. Chen, L., Jin, Y., & Li, X. (2020). Air pollution and public health: Evidence from China. *Environmental Science and Pollution Research, 27*(7), 1020–1028. https://doi.org/10.1007/s11356-019-07334-5

10. Costa, F. (2019). *Sustentabilidade e segurança alimentar: Desafios contemporâneos*. Editora Contexto.

11. Elkington, J. (1997). *Canibais com garfo e faca: Como as empresas podem ganhar ao fazer o bem*. Editora FGV.

12. Elkington, J. (2019). *Canibais com garfo e faca: O capitalismo triplo*. Makron Books.

13. Ellen MacArthur Foundation. (2024). *What is circular economy?* https://www.ellenmacarthurfoundation.org/circular-economy/concept

14. Foster, J. B. (2002). *Ecologia e capitalismo: A luta pela nossa sobrevivência comum*. Boitempo.

15. Foster, J. B. (2005). *A ecologia de Marx: Materialismo e natureza*. Expressão Popular.

16. Foster, J. B. (2021). *A ecologia de Marx: Materialismo e natureza*. Boitempo.

17. Freire, P. (2013). *Pedagogia do oprimido* (59th ed.). Paz e Terra.

18. Freire, P. (2014). *Pedagogia da esperança: Um encontro com a pedagogia do oprimido*. Paz e Terra.

19. Galbraith, J. K. (1958). *A sociedade afluente*. Pioneira.

Revista ARACÊ
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20. Gifford, R. (2019). *Environmental psychology: Principles and practice*. Optimal Books.

21. Gonçalves, R. (2012). *Nós econômicos*. Elsevier.

22. Grosfoguel, R. (2016). Decolonialidade e um outro mundo possível. In W. Mignolo & A. Escobar (Eds.), *Globalization and the decolonial option* (pp. 201–223). Routledge.

23. Harari, Y. N. (2018). *21 lições para o século 21*. Companhia das Letras.

24. Harvey, D. (2014). *O enigma do capital e as crises do capitalismo*. Boitempo.

25. Hobsbawm, E. (2018). *A era das revoluções*. Paz e Terra.

26. Horkheimer, M., & Adorno, T. (1985). *Dialética do esclarecimento*. Jorge Zahar.

27. Hubert, P. (2021). *Recursos naturais e sustentabilidade*. Editora da Universidade de Paris.

28. International Energy Agency. (2020). *World energy outlook 2020*. https://www.iea.org/reports/world-energy-outlook-2020

29. Klein, N. (2015). *Isso muda tudo: Capitalismo vs. o clima*. Zahar.

30. Latour, B. (2017). *Depois da natureza: Uma carta sobre a terra*. Editora 34.

31. Leonard, A. (2010). *A história das coisas: Da natureza ao consumo*. Zahar.

32. Maffei, A. (2019). *O impacto do ruído na saúde pública*. Editora Saúde e Ambiente.

33. Marx, K. (2009). *Manuscritos econômico-filosóficos*. Boitempo.

34. Marx, K. (2013). *O capital: Crítica da economia política*. Boitempo.

35. Marx, K. (2021). *O capital: Crítica da economia política*. Boitempo.

36. McDonough, W., & Braungart, M. (2002). *Cradle to cradle: Remaking the way we make things*. North Point Press.

37. Moraes, R. (2022). *Políticas públicas e sustentabilidade: Um estudo crítico*. Editora ABC.

38. Oliveira, R. (2020). *Gestão de resíduos sólidos: Desafios e oportunidades*. Interciência.

39. Packard, V. (2020). *Os sedutores profissionais: A manipulação do público*. Editora XYZ.

Revista ARACÊ
ISSN: 2358-2472

40. Pearce, D., & Turner, K. (1990). *Economia e meio ambiente*. Edições 70.

41. Piketty, T. (2014). *O capital no século XXI*. Intrínseca.

42. Quijano, A. (2005). Colonialidade do poder e a experiência da modernidade. In B. de S. Santos (Ed.), *A gramática do tempo: Para uma nova cultura política* (pp. 123–145). Cortez.

43. Rifkin, J. (1995). *O fim dos empregos*. Makron Books.

44. Sachs, I. (2018). *Caminhos para o desenvolvimento sustentável*. Garamond.

45. Sachs, J. (2015). *A era do desenvolvimento sustentável*. Editora Planeta.

46. Santos, B. de S. (2007). *A gramática do tempo: Para uma nova cultura política*. Cortez.

47. Schumpeter, J. (1942). *Capitalismo, socialismo e democracia*. Fundo de Cultura.

48. Sennett, R. (1998). *A corrosão do caráter*. Record.

49. Slade, G. (2007). *Made to break: Technology and obsolescence in America*. Harvard University Press.

50. Smith, J. (2021). Microplastics and human health: Risks and mitigations. *Journal of Environmental Health, 83*(2), 76–85.

51. Tundisi, J. G., & Matsumura-Tundisi, T. (2018). *Água: Desafios para a sustentabilidade*. Editora da Universidade de São Paulo.

52. Zuboff, S. (2020). *A era do capitalismo de vigilância*. Editora XYZ.