



Economic growth as a model of social development and its relation with the climate change

El crecimiento económico como modelo de desarrollo social y su relación con el cambio climático

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Abstract

This article analyses how critical thinking addresses the complex relationships between economic growth, as a model of prevailing social development and climate change. In this sense, climate change is presented as the most important global change facing humanity, and where despite the measures adopted, the possibility of disaster is real. Taking as reference the classics, a brief analysis of the Capital-work relationship is done. It provides a look at a projection horizon, where along with the essential mitigation and adaptation measures to climate change, others associated with human emancipation are assumed. Likewise, from the analysis of some of the normative documents of recent years, an approach is made to the importance of education as an essential factor in stopping this process. It takes a critical look and questions the different solutions or proposals related to climate change. At the end, the need for a change in this model of relationships, fundamentally between the human being and nature, to achieve total emancipation is observed. In addition, education is proposed as one of the most important tools as a factor of change and where the human being must be an active part of this process of change.

Resumen

El presente artículo analiza cómo desde el pensamiento crítico se abordan las complejas relaciones entre crecimiento económico, como modelo de desarrollo social imperante, y el cambio climático. En este sentido, el cambio climático se presenta como el fenómeno global más gravitante al cual se enfrenta la humanidad, y donde a pesar de las medidas adoptadas, aun la posibilidad de desastre es real. Tomando como referencia a los estudios clásicos, realiza un breve análisis de la relación capital-trabajo. Brinda una mirada en un horizonte de proyección, donde junto a las imprescindibles medidas de mitigación y adaptación al cambio climático, se asumen otras asociadas a la emancipación humana. Igualmente, desde el análisis de algunos de los documentos normativos de los últimos años, se hace un acercamiento a la importancia de la educación como factor esencial para lograr detener este proceso. Se realiza una mirada crítica y cuestiona las distintas soluciones o propuestas relacionadas con el cambio climático. Al concluir se aprecia la necesidad de un cambio en este modelo de relaciones, fundamentalmente entre el ser humano y la naturaleza, para lograr la total emancipación. Además, se propone la educación como una de las herramientas más importantes como factor de cambio y donde el ser humano debe ser parte activa de este proceso de cambio.

Keywords | palabras clave

Social development, economic growth, climate change, critical thought, subject, modernity.
Desarrollo social, crecimiento económico, cambio climático, pensamiento crítico, sujeto, modernidad.

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1. Introduction

Climate change (CC) requires a change in the society: either solves this problem or the existence of life on our planet could disappear. Moving on from national and international actions, today's reality does not show a promising future: global temperature continues to rise with the consequent exponential degradation of ecosystems; therefore, what to do? Is it about finding more appropriate adaptation and mitigation measures, or should we also focus our gaze on other places and processes?

From the critical thinking, this work addresses economic growth as a generally accepted "model" of social development. First, following the guidelines of critical thinking, the work values the historical-social conditioning of economic growth and its translation into an "ideal model" of social development, some of the consequences that this model has on natural and social reality and it goes back on the very time when it is imposed; the aim is "to question" the possible solutions to the pressing global change with an inextricable relation to the model of social development to follow.

2. Development as economic growth

The most widespread or "natural" image about the development of society is that this is a consequence of economic growth. For example, it is thought that: "Economic growth is important, not by itself but by what it allows to make a country and people with the resources it generates" (United Nations Development Programme (UNDP), 2014), an idea that does not endorse practical reality and receives multiple criticisms (see gr. Daly, 2012; Gómez & Díaz, 2013, Rodríguez & Cabalé, 2016; Kreimerman, 2017). Following these detractions, two elementary details could be noted: pre-modern societies development did not consist of such growth, there is no reason to assume that post-capitalist society has such growth as a criterion of progress; on the other hand, the idea of development as growth "[... [boomed from the eighteenth century, in the context of the struggle committed by the young bourgeoisie against the clerical-feudal order..." (Acanda, 2002); i.e., capitalist society in its establishment and deployment needed (and still needs for its preservation) economic growth, but capitalist society is only a period in the future of human society. The idea of the progress of the illustration served for the struggle in a given context, but that is not the current context. Therefore, it is worth asking what is growth itself and why is it imposed as a "paradigm" of social development? And then what produces such growth in reality?

To start with the first proposed questioning, the social relationship that supports modernity must be assessed: the "Capital-Work" relationship. Often, when analyzing or studying capital, it is assumed or defined as a set of equipment, raw materials, factories or money (Economic Commission for Latin America and the Caribbean [ECLAC], 2018) and the essentials are accepted or neglected: necessarily relational nature. Reason for which when Marx (1973), explains what capital consists of, he begins by emphasizing: "A cotton spinning machine is a cotton spinning machine. Only under certain conditions does it become capital. Rooted to this condition, it has no capital..." i.e., capital is "not" a "set of things", although they can integrate it: money, machinery, raw materials, in short: a 'set of goods'; although these do not determine their essence, but the placement of them under certain 'specific

conditions'. Therefore, followed by clarification, the German philosopher questions and responds:

How does a sum of goods, exchange values, become capital? Because, as an independent social force, that is, as a force in the possession of a part of society, it is preserved and is increased through exchange with the immediate living workforce (Marx, 1973, p. 27).

First, capital is not a "set of things", but a "specific social relationship": Capital-work, wage labour presupposes capital and capital presupposes wage labor, one could not exist without the other (Marx, 1973); secondly, in that relationship he is a special social force in the hands of a specific social class: the bourgeois class (the existence of this class depends on this strength and this strength depends on the existence of that class); Third: as a force exists in a permanent "process of conservation and growth" when entering into relation to the living labor force of the worker. It is for this reason that Marx (*op. cit.*) states: "Does a worker in a cotton factory only produce cotton fabrics? No, he produces capital. He produces values that serve again to command about his work and create, through it, new values" (Marx, 1973, p. 38).

Now, what is the result of the capitalist production process? It results in "goods", a product in appearances¹ aimed at satisfying the human needs; but only in appearance, in view of the fact that such a product is not aimed at this purpose, but at meeting capital's own needs; an object that does not seek the "satisfaction" of human needs, but, on the contrary, "create them"; it is an article aimed not at satisfying a consumer, but at creating it; an objective that intends to achieve this "conservation and growth of capital" (Acanda, 2002). Economic growth is the way of existing and developing "the Capital", "no" human society. The human society that needs economic growth is a capitalist society, not the ones that preceded them, nor those that will continue with it.

The above leads to the answer of the second part of the question, economic growth is formed as "the paradigm of social development" because it is a key part in the hegemonic ideology of capital (Gramsci, 1975), since it is a basic instrument in the creation of a distorting image of society, under which the capitalist order is presented as the "natural order" of human society (Acanda, 2002a), which means something "better", but never "replaceable".

Taking economic growth as a sign of social development does not imply a mere epistemological error or questionable theoretical position about the development of society, but an ideological construct which, for the purposes of domination (*v. gr.* Boron, 2006), distorts social reality and involves serious practical problems, to the extent that the countries of so-called "real socialism" -which succeeded in dismantling capitalist production- understood the growth of the economy as a synonym for development. For example, Odriozola and Triana (2015) say about the current Cuban process: [...] "it is not possible to design a development strategy without taking into account the need to achieve sustained and sustainable levels of economic growth".

1 It is important to note that appearance is something consubstantial to the social phenomena or process of modernity, it is not something "at random" or a mere mistake or error, but something "objective", typical of the phenomenon, which is permanently hidden and shown as "is not" (Ramas, 2015).

Growth is assumed as a mechanism that “automatically” leads to social development (Acanda, 2002a), something that does not happen in practice, because a detail of the current social reality is obvious: [...] “The level of economic development of a country is not so much a matter of production as of power and position” (Naredo, 2013, p. 170), it is not taken into account that “the belief that a developed country is a very productive country (...) eclipses the reality that a developed country is a country with sufficient power to act as an attraction of capital, resources and population of the rest of the world” (Naredo, 2013, p. 171). Conviction in the automatism of the economy and ignorance of this practical reality that “motivated the crisis in the former Soviet Union and, in general, of the so-called “socialist” countries that sought to compete with capitalism in forced development “material production” (Naredo, 2013, p. 173).

The idea created around economic growth was that “growing wealth” (as a container that is continuously pouring liquid) produces a “spill” of it over the rest of society, thus leading to social well-being and happiness (Daly, 2008, Arocena & Sutz, 2013). However, a simple look at social reality shows a totally opposite situation. In the nineteenth century Engels stated: “what have been the consequences of this increase in production? the increase in exhausting work, a growing misery of the masses and an immense crac every ten years” (Engels, 1974, p. 97). Additionally, at the end of the 20th century, the United Nations Development Programme (UNDP) in its Human Development Index warned that “Global economic growth is almost never filtered down” (UNDP, 1992, s/p).

Basically, it can be said that [...] “the obsession with GDP growth does not guarantee a positive assessment of social development” (Sánchez & Prada, 2015); i.e., as much as the economy has grown it has caused poverty, however, is not so much to question “what it has not achieved as a projection” as the “disasters it actually produces”

What does such growth produce in the “social” and “natural” reality? The starting point in this question is that: the way of producing capital is ignored from the “social” and “natural” consequences of its actions (Engels, 1974a; Kreimerman, 2017).

Socially, the growth of capital has two essential consequences to name: First, the increase in the domination of human beings through its conversion into “worker”, because “as capital grows, the mass of wage labour grows, the number of workers grows, the number of employees; in short, capital domination extends to a greater mass of individuals” (Marx, 1973, p. 38), or what is the same, with economic growth, Capital achieves an increase in power in “intensity” and “extension” over the rest of society. It implies a polarization of wealth-power and poverty-subordination, where the former accumulates in a smaller part of society and the other extends to an ever-increasing part of that society.

Second; the domination of the human being through his conversion into a “consumer”: an individual who loses the ability to conform and meet his needs on his own and is subordinated or directly subjected to the designs of the market. A human being in whom “not only his needs, but also his way of meeting him and how he is represented, must exist as a function of consumption not of any kind of objects or “things”, but of a very specific object: the commodity” (Arcanda, 2002, p. 209).

The devastating consequences that the economic growth of capital brings (see gr. Morejón, 2015; Kreimerman, 2017) are due, among others, to a mutation that led

to its appearance with modernity, it [...] “involved the transformation into goods of three fundamental goods for society: the labor force, the land and the currency. Its consequences have been dramatic for the society” (Acanda, 2002a, p. 57)

3. Economic growth and its consequences in nature

Assessments and warnings about the devastating natural consequences of growth are not recent, and have a history in the 18th century in a stream of economists referred to as “physiocrats” (Gómez & Díaz, 2013; Naredo, 2004 and 2013; Pérez, 2016). In the nineteenth century, several researchers of the natural sciences (physicists, biologists, chemists...), warned economists about the serious consequences that the natural events of growth would bring to the economy; “however, their theories were not seriously considered by the conventional economy” (Gómez & Díaz, 2013).

At the same time, Engels warned of the methods for optimizing the cultivation of coffee in mountainous areas by their serious consequences for the soils, (Engels, 1974a). In the middle of that century, from the economics, Thomas Robert Malthus, David Ricardo and John Stuart Mill warned that if the pace of growth followed, a “stationary state” would occur due to the depletion of natural resources (Naredo, 2004; Gómez & Diaz, 2013), an alert that is still in force today, but not because of an economic problem (of not being able to cause shortages of raw materials), but for something much more serious: “the danger of the subsistence of life on earth”, and not so much because of the disappearance of resources and uncontrollable deposition of waste and the destruction of ecosystems (Naredo, 2004; Garea, 2014) promoters of the CC, rated as the most gravitating of global changes (Cuba, 2017) on which Ban Ki-moon sentenced: “Climate change is the problem that defines our age. It defines our present. Our response will define our future. To navigate through this storm, we require all hands on deck” (Ban Ki-moon quoted in Aguilar, Granat, & Owren, 2017, s/p).

A look at this complex process should begin by clarifying what should be understood by CC? Since it is often associated with weather events that occur at a certain time. It should be noted that one thing is “atmospheric time” and another thing is “climate”, the first is understood as:

[...] the physical state of the atmosphere characterized by the set of instantaneous values of atmospheric variables (temperature, pressure, humidity, wind speed, others) in a given and instantaneous place, or by the changes and mean values of such variables over a relatively short period of time (Garea, 2014, s/p).

Atmospheric weather is changing, while “climate” can be conceptualized as:

[...] the average state of time and, more rigorously, a statistical description of atmospheric weather in terms of mean values and variability of the corresponding magnitudes over periods ranging from months to thousands or millions of years (Intergovernmental Panel on Climate Change [IPCC], 2014),

Climate is relatively stable or permanent in time and place, for that reason there are different types of climates: “wet”, “dry”, “cold”, “temperate”, etc. The climate on earth is determined by the energy it receives from the sun (Garea, 2014) and the

fact that it is relatively stable for long periods of time does not mean unmodifiable, it has varied cyclically throughout history, due to "... natural internal processes or external forces such as solar cycle modulations, volcanic eruptions..." (IPCC, 2014, s/p).

This mutability of the climate is called CC, which is conceptualized by the IPCC (*op. cit.*, s/p) as a "variation in the state of the identifiable climate (e.g., by statistical tests) in the variations, in the mean value or in the variability of its properties, which persist for long periods of time, usually decades or longer periods". This process can occur because of natural or anthropogenic changes, reason for which the United Nations Framework Convention on Climate Change (UNFCCC), focuses as a "climate change directly or indirectly attributed to human activity that alters the composition of the global atmosphere and adds to the natural climate variability observed over comparable time periods" (UNFCCC cited in IPCC, 2014, s/p).

Earth's climate is fundamentally a consequence of the process of transforming solar energy into terrestrial. This process results from the interaction of solar radiation with the atmosphere, surface of the earth and oceans. For this reason, the composition and characteristics of the atmosphere and the features of the Earth's surface and the oceans are decisive in this process (Garea, 2014). They are responsible for the so-called radioactive balance and hydrological cycle (Garea, 2014).

Life on earth is largely due to its atmosphere, its composition and characteristics that allow solar energy, reflected by the Earth's surface not to escape into space and radiate back into it, causing what is known as the "greenhouse effect". A set of gases called greenhouse gases (GHGs) are responsible for this process. If these gases were not part of the atmosphere, the earth's average temperature would be in the order of -18°C (Garea, 2014). The main GHGs, in addition to water vapour (part of the important hydrological cycle), are: carbon dioxide, ozone, methane and nitrous oxide. The presence and concentration of these gases in the atmosphere depends on the correlation between their emission by natural or human source and their absorption by sinks.

On the one hand due to productive activity and to the destruction of sinks (indiscriminate logging of forests, etc.), motivated by the need to achieve economic growth, increasing progressively to the concentration in the atmosphere of: "carbon dioxide" (consequence of burning coal, oil and natural gas), "methane and nitrous oxide" (due to agriculture, the decomposition of organic matter, landfills and changes in the land use) (Garea, 2014; Delgado *et al.*, 2018). In addition, due to human production, "chlorofluorocarbons" (CFCs), "hydrofluorocarbons" (HFCs) and "perfluorinated hydrocarbons" (PFCs) are added to this concentration, which are substances that do not exist in the nature and which have a high power of warming up the atmosphere (Camacho *et al.*, 2018; Barrientos, Méndez, & Welsh, 2019). All of them have led to a progressive increase in temperature in the earth with the consequent CC.

The problems associated with CC are not only referred to the changes, but also to the speed with which they occur, which impedes or nullifies the ability of ecosystems to accommodate such changes, and "this is what irreversible ecological degradation processes become" (Garea, 2014, s/p). Hence, the CC is the most pressing and serious environmental process facing man, because he is the one producing a cascade effect of impoverishment on the waters, soils, forests and in general, on all the elements of the natural environment in which life rests and:

[...] if changes occur in the global environment such as changes in the climate, soil productivity, oceanic or freshwater resources, in the chemistry of the atmosphere or in the ecology of systems, the Planet's ability to sustain life could be altered (Garea, 2014, s/p).

On the other hand, while climate change is global in nature, it has regional effects that differ considerably (Aguilar *et al.*, 2017), it will also do so differently in people, as the poor, (...) will be affected in a disproportionate way (Global Gender and Climate Alliance [GGCA], 2009). In fact, the CC could deepen the gap between rich and poor. Thus, the fact that CC is a global process does not imply that its impacts are similar in all places and people on the planet, this will depend on the uniqueness of the territory. Hence, while it requires global action, to that same extent it needs essentially local solutions, given the uniqueness of its various impacts.

The actions proposed against the CC are "mitigation" actions aimed at controlling or eliminating the causes that generate change and "adaptation" actions focused on developing the capacity to adapt to the new conditions that it imposes. Now, while mitigation and adaptation actions can be addressed separately, organically they must function as one, i.e., they must be a whole, since mitigating the emission of gases does not impede the effects that the CC imposes on the society. On the other hand, devoting the efforts only to adapt, leaves unscathed the causes that lead us to it and the cascade of destruction imposed by the CC; therefore, a joint action must be taken.

However, the impoverishment continues despite defining these actions against the CC and the whole international programme to address this change, since it seems that maintaining the target of 2 °C is increasingly unattainable (Vergara *et al.*, 2016). The deterioration continues this because the cause remains there: the way in which society is produced and reproduced continues being the same, the idea of "development" (regardless of the adjective "sustainable") as "economic growth" remains being the same, and the market empire remains unalterable.

4. Critical gaze at the solutions

At this point the problem is not so much about finding the answer to the question, but in questioning the solutions. The problems presented by the CC should not be seen apart from the problems engendered by the "hegemonic" model of social development. For this reason, mitigation and adaptation actions should not be dealt with alone, but also the prevailing model of development, which is generally known by a 'poor distribution of wealth'.

For example, UNDP in its *Human Development Report: 1992* indicates that "The richest 20% of the world's population receives 82.7% of the world's total income, while the poorest 20% receive only 1.4%". However, the analysis of the report identifies economic growth as "an important means" to achieve human development (UNDP, 1992), without taking into account that, precisely, this poor wealth distribution they referred to is a "forced consequence" of the economic growth, no more or less; so the solution to the problem is not to place the State as an "instrument of redistribution" of wealth.

The redistribution of wealth throughout the State, although it somehow “cushions” the terrible existence conditions of the dispossessed classes, is still a way of preserving social domination and asymmetry, because they will be the dispossessed, the ones who receive the state aid to meet their needs (mainly peremptory ones), as a result, they will not be free to choose what or how to meet their needs, because this possibility of satisfaction is vetoed to it by reality and comes to it from an organism that mediates it in its satisfaction. At this point, the huge differences in needs and satisfactions between the dispossessed and the capitalist remain intact.

The problem of capital is the increasing polarization of wealth-power and poverty-subordination that engenders, something that cannot solve the state by alleviating the enormous social impoverishment that this process naturally generates. The state redistribution attenuates the state of affairs, but always in a limited, partial way, because, as Marx (1973) warns, social needs are always relative, they are objectively concrete historical that capital places in a process of exponential increase, consequently the dispossessed, the employee will never be able to access the needs and pleasures of the capitalist person. For this elementary reason, as the most recent history has shown, the totalitarianism of the market cannot be faced with the totalitarianism of the state (Acanda, 2002).

Perhaps the questioning begins by not simply assuming social reality and denying it in as: “wrong,” “unfortunate” or “destructive,” but overcoming it critically, for which it is required to go back to the historical era in which we live: “modernity” (Giddens, 1998, Acanda, 2002a) and find the way out in its contradictions.

The emergence of the capitalist way of production in this historical period generated radical changes in social relations, hence, for the first time in human history, the production of social richness was founded on the direct relationship of free men. These basic relationships of society transformed all the other relationships between men (Acanda, 2002a). The ideology of capital was formed on these bases: Liberalism, brought about a substantial change in the idea and representation of man’s relations with society, showing a new paradigm of the social, because it consisted of coming to think the whole problem of social existence from the individual (Acanda, 2002a). Thus, the emergence of the idea of man as the “subject” of his own life: an individual, among others, with the capacity to define his own goals and ways of attaining them, capable of building himself as he transforms the reality around him (D’Angelo, 2001; Acanda, 2008; Hinkelammert, 2010).

However, this vocation of liberation with full development of human subjectivity, cannot be deployed in the midst of a dominating society such as bourgeois society. The need to produce more and cheaper goods and make more profits created the instrumental rationality, a rationality that can be synthesized: in the development of science and the mastery of nature to dominate man through it, as a worker or as a consumer (Acanda, 2002; Hinkelammert, 2010a).

But, even if modernity betrays itself, it cannot simply be set aside as erroneous, but it must be overcome critically, for which the purpose of achieving the full development of human subjectivity must first be rescued to achieve conformation of the human being in the “subject” of his own life, which involves stripping the process of shaping the human subjectivity of the domination that instrumental rationality

seeks to extend over it (Acanda, 2002), and second, to achieve the development of a liberating human rationality, given the fact that it is impossible to achieve human emancipation without knowing and dominating the reality around us (Cabalé & Rodríguez, 2016), but that process of knowing and dominating cannot be directed at dominate and subdue man.

It is worth noting that the purpose of that time, like the one at issue today, is closely related, *inter alia*, to Education, precisely for this reason in the 2030 Agenda, it is identified as objective number 13 “To take urgent action to combat climate change and its effects” to achieve this, it is prescribed in its goal 13.3 “to improve education, awareness and human and institutional capacity with regard to climate change mitigation, adapt to it, reduce its effects and awareness” (ECLAC, 2016, *s/p*). However, it is not just about educating for mitigating and adapting to the CC, but also for going further and seeking the critical overcoming of these modern contradictions and aporia. It is not a question of “saving humanity” from catastrophe, but “humanity is saved” from it and that implies that the human being is the architect of his goal, a human being “subjected to his own destiny”.

This education for change can be used by certain existing budgets in the Latin American region: on the one hand, recent opinions highlight that Latin America is one of the regions where there is more concern for the CC and they refer to the greatest concern that is sense of impact of global warming; on the other hand, “it reflects a permanent tension between autonomous life projects (...) and more instrumental projects” (UNDP, 2016).

Conclusions

The CC, one of the most gravitating global processes facing humanity, is an important consequence of the development model focused on economic growth, which implies an “irrational consumption” of natural resources and “exponential pollution” of the environment, for the production of goods, an object whose hidden but real purpose is the preservation and increase of the domination of a small part of society over a big part of society. Consequently, overcoming this process of global change implies a change in the model of social development, not focused on the production of “things”, but on human emancipation, on the substitution of intersubjective relations of domination by intersubjective relations of emancipation, which necessarily implies a change in the relationship between human beings and this with the nature of which they are a part of.

The adaptive capacity of the human being –essential to the challenges imposed by the CC– does not develop in a means of subordination, domination, or what is the same, is not possible in a relationship where a few are subjects of their actions and many are other objects of those acts, instead, that essential adaptive capacity is part of relationships between human subjects of their own lives.

The uniqueness of the impacts of CC in places and people points to at least two necessary perspectives: the solutions can not be unique and general but singular and local, in agreement with this, the development must be local and endogenous; on the other hand, differentiated impacts on people will lead to a deepening in inequalities between rich and poor; hence a paradigm of social development placed in the coordinates of true human emancipation is needed.

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