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Economic Development as a Social Process of Multiple Space-Time Scales

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Abstract

The article seeks, first, to demonstrate how the concept of development has been used in different ways throughout history. The classical developmentalist authors understood the phenomenon as a complex process, which involved structural changes, sectoral economic transformations, political projects of social change and action and planning by various economic and political actors. Developmentalist ideas influenced sophisticated processes of social transformation that took place especially during the "golden age" of capitalism. From the 1980s onwards, reductionist theories about development have gained momentum. They seek to explain development as the result, for example, of productive specialization, entrepreneurial action or local economic arrangements. The article also aims to establish methodological parameters for the rejection of reductionist approaches to development and for the defence of comprehensive theories, which understand it as a complex social phenomenon that occurs in multiple space-time scales.

Keywords: economic development; methodology; reductionism; development theories.

Introduction

Modernity is characterized by a set of social relations that originated in Europe at the end of the Middle Ages and spread, generally through violence, to the rest of the world in the following centuries. Some of the fundamental social relations that define modernity are national states, capitalist economies, and new worldviews, which include scientism, anthropocentrism and individualism (Berman, 2007; Domingues, 2005; Fiori, 2004; Giddens, 1991). As a consequence of

these social relations, contradictory dynamics have been established in modern societies, causing economic growth, industrialization, urbanization, environmental destruction, inequality, alienation, reification of people and animal species, and permanent transformation and commodification of practices, traditions and human relations (Bauman, 2001; Berman, 2007; Latour, 1994; Marx, 1867/2013; Postone, 2014; Rosa, 2019). Modernity (re)structures social relations, as well as the space-time scales of social life. Although modern society constantly reconfigures itself in different ways in distinct places and times, this does not imply the impossibility of the existence of broad theories, or "great narratives" about modernity – which, however, will not be dealt with in depth in this article (Berman, 2007; Domingues, 2005; Fiori, 2004; Giddens, 1991; Marx, 1867/2013).

Some notable features of modernity, according to Koselleck (1979/2004, p. 235), are the elaborations, or reinterpretations, of various expressions that indicate the "acceleration in the rate of change of historical experience and the enhancement of a conscious working-over of the nature of time". Among these expressions we can mention "Revolution, Progress, Development, Crisis, and Zeit-geist". The expression "development" – one of the words most used by politicians, businessmen and social movements since at least the end of the 19th century – originated in Indo-European languages with the meaning of "unfolding or unrolling of something folded or rolled up". With this meaning, its use was recorded in France in the 12th century in the form of "desveloper" (Koponen, 2020, p. 6). The term was used in the context of biology and, later, in the social sciences, with the meaning of forming something that exists in an embryonic form.

Throughout history, the concept was used, at first, to justify colonizing processes related to resource extraction and modernization of native societies, subjected to the domination of European powers (Esteva, 2010; Koponen, 2020; Satrústegui, 2013). From the beginning of the 20th century, colonial domination came to be seen as an impediment to development, and the expression was appropriated by nationalist independence movements, in addition to being used by different political movements and international organizations, including the League of Nations and the United Nations (Esteva, 2010; Koponen, 2020; Satrústegui, 2013). After the Second World War, in the historical context of the decolonization of Africa and Asia, the rise of nationalism and the reconstruction of countries devastated by war, economic and social development began to be theorized and promoted with greater conceptual rigor.

The classical approaches to development, mentioned in the next section, understood it as a complex process, which involved structural changes, sectoral economic transformations, political projects of social transformation, and action and planning by various economic and political actors. Their ideas influenced sophisticated processes of social transformation that took place especially during the "golden age" of capitalism. Later, due to commercial and financial globalization, the classical ideas about development were left aside and the concept was victim of great reductionism, analysed in the third part of this article. Development was confused, for example, with entrepreneurship, localism, or productive specialization. The last part of the article aims to establish methodological parameters for the rejection of the reductionist approaches to development and for the defence of comprehensive theories about it, which understand development as a complex social process of improving socioeconomic conditions of life, which takes place on several spatial levels and in multiple temporalities, involving several possible projects of modern society[1].

Methodological elements of the classical development theories

After the Second World War there was a great increase in the number of contributions aimed at understanding and promoting economic development. But before that, several historical changes contributed to the flourishing of policies aimed at promoting economic stabilization, growth, and planning. The first major historical shift was the end of the British-led liberal era, which imploded after World War I and the Great Depression. In this historical context, several experiences of state intervention were developed, with varied political-ideological nuances, from Soviet central planning to Nazi-fascist militarism, passing through Scandinavian social democracy, the American New Deal, and the Brazilian Vargas era (Bastos & Britto, 2010).

In the two decades after World War II, the reconstruction of economies affected by the conflict, the geopolitical dispute characterized by the Cold War and the decolonization of territories formerly owned by European powers stimulated the construction of several theories focused on development. In the "golden age" of capitalism, developmental practices, as well as Keynesianism and social welfare policies, helped to promote the era of greatest world economic growth. The contributions of Prebisch, Furtado, Hirschman and Myrdal, among many other authors, fit into this historical context. This section seeks to present some methodological elements present in the works of these four authors, with the aim of explaining how classical developmentalist authors understood the phenomenon in a complex way, irreducible to just one scale of analysis, to just one time horizon and to merely material aspects.

Prebisch, Furtado, Hirschman and Myrdal questioned different positions of conventional economic thought. They rejected the application of abstract and unique ideas to explain the economic dynamics of all countries and regions. They criticized the staged and balanced conceptions of economic development, as well as the hypothesis of the tendency of convergence of income and technology levels at the international level, principles present in several neoclassical approaches. Furthermore, they rejected the theory of comparative advantages, based on the work of David Ricardo.

Prebisch and Furtado, two of the main exponents of ECLAC structuralist thought, sought to understand the reality of Latin American underdevelopment from a historical and structural point of view, which rejects the universality of economic theories and positions them geographically and historically (Bielschowsky, 2000). Complex phenomena such as underdevelopment cannot be understood without an analysis that combines historical, political and cultural investigations. In this sense, Furtado (1973/2013) states: "I have never been able to imagine the existence of a purely economic problem" (p. 34).

Prebisch (1949/2000) considered that underdevelopment was derived from historical and political-institutional differences between central and peripheral countries, in addition to their own distinct sectoral characteristics and differences in terms of income elasticity of demand for exported products, which would make distinct increase and spread of productivity across the planet. While central countries, with industrialized, diversified, less competitive economies and strong unions, would tend to obtain productivity gains that were not converted into lower prices, peripheral countries, specialized in the production of primary goods, which in turn are traded in competitive markets and have low-income elasticity of demand, would tend to obtain productivity gains that

would be converted into lower prices. As a result, the famous tendency for the terms of trade of primary goods to deteriorate would occur.

Regarding development, Prebisch (1949/2000) considered it as a change in the international division of labour (which would fundamentally involve the relative expansion of the industrial sector and a decrease in the importance of the agricultural sector), associated with an increase in the productivity of the economy, the reform of social legislation, wage increases and the rise in the standard of living of the masses. This process would have started, in Latin America, with the Great Depression, which reduced the possibilities of growth directed "outwards" and induced growth directed "inwards". Development was to be continued in a conscious and planned manner by the governments of peripheral countries, which were to induce an "enormous accumulation of capital", especially in the industrial sectors. The accelerated accumulation of capital would depend, in turn, on the increase in savings, which would only be possible with the reduction in the consumption of superfluous goods, desired by sectors of society thanks to the "desire to assimilate, quickly, ways of life which the technically more advanced countries adopted step by step as their productivity increased" (pp. 76-77).

The concept of underdevelopment in Celso Furtado is related to the spatially unequal form of diffusion of modernity and the technical progress that comes from it. While in central countries the accumulation of capital had led to a shortage of labour force, which in this case would have made it possible to channel social pressures towards raising real wages, reducing inequality and creating social protection policies, causing the generation of diversified and vigorous internal markets, in the peripheral regions the accumulation of capital and the introduction of techniques originating from the central countries generated underutilization of the workforce, low wages, technological dependence, productive specialization, income concentration and reduced internal markets (Furtado, 2001). In other words, the way in which technical progress is absorbed by society depends on historical and political-institutional factors that differ in the centre and periphery of the modern economy.

Furtado (1984) understands development as a process of "increasing satisfaction of the population's basic needs and reduction of social disparities" (p. 11), associated not only with technical and instrumental improvement, but also with the expansion of "man's creative capacity" and cultural transformations and with the set of "values that are spread among the collectivity" (Furtado, 1999, p. 17). Underdevelopment, not development, is seen as the typical form of modernization in peripheral societies. For development to be achieved, some conditions had to be met: internalization of accumulation, avoiding the draining of resources abroad; modification of consumption patterns that mimic consumption in rich countries; relatively high "relatively high investment level in human resources, which is what opens the road to social homogenization"; adoption of an "incentive system capable of ensuring utilization of the productive potential"; and social structures that encourage creativity and cultural creation. However, for such transformations to be possible it would be necessary a "powerful political will supported by an ample social consensus" (Furtado, 1999, pp. 20-21)[2].

In the case of Hirschman (1958), he considered that economic growth does not occur in a spatially homogeneous and balanced way: "in the geographical sense, growth is necessarily unbalanced" (p. 184). The author takes as a starting point the analysis of economic concentration and deconcentration in different regions and, later, adds elements to his analysis, to apply it to the

international scope. From the regional point of view, economic and political relations between progressive and backward territories could feed both positive and negative effects, or respectively "trickling-down" and "polarization" effects. On the one hand, we have, among the positive effects of the advanced region on the backward one, the increase in purchases and investments and demand for work. On the other hand, the unfavourable effects include the low competitiveness of manufacturing activities in the lagging region, which can be reduced or transplanted to the more dynamic region, and the displacement of more qualified workers towards the pole of higher growth. Hirschman believed that trickling-down effects would outweigh those of polarization unless economies had low complementarity. In that case, market forces would not diminish income and productivity discrepancies, and only planned state action could reduce polarization.

Hirschman (1958) defines development as a planned process of "calling forth and enlisting for development purposes resources and abilities that are hidden, scattered, or badly utilized" (p. 5). The process undergoes structural changes that involve the expansion of latent capabilities and skills present, both in agriculture and in industry[3]. Development is inherently unbalanced, as structural changes lead to disproportionality across sectors and subsectors, spatial concentration and reconcentration of economic activities, and changes in relative prices. It would be up to the rulers to both generate and manage, or even minimize, such imbalances (Hirschman, 1983). Niederle, Cardona and Freitas (2016) argue, about Hirschman, that "he is an author averse to the idea of a single and better way, as well as to abstract prescriptions, general principles and the belief that there are ultimate, integral and definitive solutions" (p. 38).

The last pioneering author of development theories that will be discussed in this article, Myrdal, stated that conventional economic theory does not provide good explanations for the issue, due to some unrealistic assumptions. One of these assumptions is the framework of equilibrium, the idea, with teleological characteristics, that disturbances in the economic system would lead to reactions in the opposite direction, in "one and the same time-space", towards a new state of rest. The second assumption criticized by the author is the notion that there are strictly economic factors, completely separable and distinct from "non-economic" factors (Myrdal, 1957/1963, pp. 8-11). To overcome the difficulties of reductionist and teleological social analysis, the author proposes the elaboration of the principle of circular and cumulative causation (a process whose most common manifestation is either the "vicious circle" or the "virtuous circle"), a complex mechanism of multiple causalities, temporalities, and determinations, in which a factor is "simultaneously cause and effect of other factors". The idea of circular and cumulative causation consists of a "vision of the general theory of under-development and development which we are all yearning for" (pp. 8-12). The principle was formulated by Myrdal (1944) for the first time in Appendix 3 of the book American Dilemma[4]: The Negro Problem and Modern Democracy, to demonstrate that racism, poverty, and institutions were mutually reinforcing to reproduce the situation of the black population in the United States. Myrdal pioneered the analysis of the relationship between racism and other socioeconomic issues, a significant gap in much of the development literature addressed in this article. Therefore, the principle of circular and cumulative causation is a social explanation paradigm that highlights the complexity and interdependence of the causes and consequences of social issues and should be used as an interdisciplinary alternative to determinism and monocausal explanations (Berger, 2008).

Like Hirschman and Furtado, Myrdal finds similarities between regional and international processes of development and underdevelopment. He identifies the underdevelopment of countries and regions as a result of the circular and cumulative interaction of a wide range of factors. Poorer regions and countries tend to have less healthy and productive populations, inferior educational systems, and less "experimental and ambitious" beliefs and values than those prevalent in developed societies (Myrdal, 1957/1963, pp. 27-30). Furthermore, underdeveloped spaces tend to have a predominance of low-income activities, states with less resources and technical capacity, and a predominance of less democratic and egalitarian political systems. Myrdal considered that "the play of the forces in the market normally tends to increase, rather than to decrease, the inequalities between regions" (p. 26).

The author elaborates a broad conception of development, irreducible to merely material aspects. He argues that "[b]y development I mean the movement upward of the entire social system" (Myrdal, 1974, pp. 729-736), which include the transformation of institutions and the improvement of economic and non-economic aspects, among the which consumption patterns, educational and health levels, availability of public goods, deconcentration of land ownership, social welfare mechanisms, availability of credit, reduction of corruption and distribution of political and economic power in society. Development planning involves the implementation of deliberate policies aimed at promoting changes in various socioeconomic characteristics, with different effects over time, in order to enable the ascending occurrence of circular and cumulative causation: "[…] it is unlikely that a rational policy will work by changing only one factor. Thus, though this theoretical approach is bound to suggest the impracticability, in the political sphere, of all panaceas, it is, on the other hand, equally bound to encourage the reformer" (Myrdal, 1957/1963, p. 20).

The theories of development elaborated by Prebisch, Furtado, Hirschman and Myrdal consider that development should not be reduced to a strictly economic event and should not be understood as a process that occurs on a single spatial scale and a single time horizon. Such approaches gained strength in the 1950s and 1960s, however, from the 1970s onwards they have lost momentum. The transformations of capitalism stimulated the emergence of different reflections on development, discussed in the next section, which emphasize much more the role of economic agents, firms, and localities in innovation procedures[5].

Reductionism of the development question: specialization, entrepreneurship, and localism

Several authors call the period from the late 1940s to the early 1970s Fordism, or the "golden age of capitalism" (Aglietta, 1979; Lipietz, 1988; Piore & Sabel, 1984). In the central economies of that period, main sectors firms (producers of automobiles, household appliances, fuels and food) were large, vertically integrated, and benefited from gains of scale derived from the mass production of standardized goods. During this same period, mainly, national institutions emerged to regulate the economic and social effects of this type of production. Among the main institutions, stand out: workers with collective wage bargaining and great specialization of tasks, and the State adopting measures of social protection and stimulus to the economy.

According to the authors analysed below, since the mid-1960s capitalism has been restructuring itself. These authors (Aydalot, 1986; Aydalot & Keeble, 1988; Carree & Thurik, 2010; Gordon, 1992; Klein, 2009; Kowalski & Cepeda, 2011; Kowalski & Stone, 2011; Piore & Sabel, 1984; Sanyang & Huang, 2010 ; Scott, 2006; Storper & Scott, 1992) emphasize the emergence, from the 1970s onwards, of new technologies and organizational forms, based on more flexible and fragmented methods of production, intensive in knowledge: the "information and knowledge technologies" (IKT). IKT, associated with technological advances in the transport sector and the reduction of international trade barriers, have been driving globalization. The new productive processes and institutional changes would configure a new type of economy, which receives different labels: "globalization", "science-intensive economy", "flexible accumulation", "glocalization", "entrepreneurial economy", "schumpeterian economy" and "new economy". According to these authors, the national State have lost importance due to the internationalization of production and the integration of commercial and financial flows.

As consequence of these technological-organizational transformations, some main strategies should be pursued to raise the level of income, productivity, technological development, and social indicators. Three main strategies will be analysed below. Firstly, economic theories and policies inspired by the principle of comparative advantages, which advocate the productive specialization of countries, derived from free trade, and which have become practically consensual among orthodox economists (Anderson, 2008; Deardorff, 2011; Findlay, 2008; Kowalski & Cepeda, 2011; Kowalski & Stone, 2011; Ricardo, 1817/1982). Second, a literature emerges, partly inspired by the work of Schumpeter, that highlights the role of innovative individuals, or entrepreneurs (Baumol & Schilling, 2008; Carree & Thurik, 2010; Sanyang & Huang, 2010; Schmitz, 1989). Finally, a group of authors emphasizes that development policies should be centred on locations, through the construction of infrastructure, the qualification of the workforce and the search for building institutional forms that favor the connection between different firms (Aydalot, 1986; Klein, 2009; Piore , 1992; Piore & Sabel, 1984; Scott, 1988, 2006; Storper, 2011; Storper & Scott, 1992). The three sets of authors, analysed below, do not exhaust the reductionist conceptual changes about development, but are representative of several contemporary theoretical transformations.

Comparative advantages and specialization in international trade

In the immediate post-war period, the productive capacity under reconstruction in various regions of the planet and the scarcity of international currency favoured the multiplication of protectionist experiences and processes of import substitution industrialization. By the late 1960s and early 1970s, however, the situation had changed. European countries and Japan reindustrialized and regained competitiveness, the United States began to have systematic trade deficits, which began to increase international liquidity. In the 1980s, after the oil shocks and the third world debt crisis, commercial and financial globalization was consolidated, neoliberal economic policies gained ground and, associated with these, theories and ideologies favourable to international free trade became dominant. Among such theories, the most famous were developed from the principle of comparative advantages, elaborated by David Ricardo in the beginning of the 19th century.

According to Ricardo's argument (1817/1982, pp. 97-98), a country with a closed economy produces several goods, some using a greater amount of work, others using proportionally less

work. If that same country opens its economy, it can specialize in the production of the good it produces with relatively less labour compared to another good, produced in a second country. Thus, in the case of trade between two countries, both could produce one good, exchange it for the other good and consume larger quantities of both goods. Such a situation would be advantageous[6] for "consumers in both countries".

Still according to (1817/1982), under "a system of perfectly free commerce, each country naturally devotes its capital and labour to such employments as are most beneficial to each" (p. 97). This is the principle that would determine that "wine shall be made in France and Portugal, that corn shall be grown in America and Poland, and that hardware and other goods shall be manufactured in England" (p. 97).

In short, comparative advantage theory argues that "countries prosper first by taking advantage of their assets in order to concentrate on what they can produce best, and then by trading these products for products that other countries produce best" (World Trade Organization, 2022).

Throughout the 20th century, the Ricardian principle of comparative advantages was developed by neoclassical authors – including Heckscher, Ohlin, Viner and Samuelson (Anderson, 2008; Deardorff, 2011; Findlay, 2008; Schumacher, 2013) –, who replaced the reasoning in terms of labour value by the argument in terms of opportunity costs and made several refinements and extensions of Ricardo's original model, but without replacing the basic principle of comparative advantages and without questioning the fundamental recommendations of economic policy: free international trade and productive specialization.

The principle of comparative advantages is one of the ideas most widespread, accepted, and advocated by orthodox economists and international organizations (Findlay, 2008; Kowalski & Cepeda, 2011; Kowalski & Stone, 2011; Schumacher, 2013). The World Trade Organization (WTO), for example, argues that the principle is "arguably the single most powerful insight into economics"; Samuelson considers that theory is the only proposition of social science that is "logically true" and "non-trivial" (World Trade Organization, 2022); Findlay (2008) stated that this is the "deeper and most beautiful result of all economics" (p. 2032).

It is important to highlight that, since the middle of the 19th century, critics have developed arguments against the principle of comparative advantages. One of the most famous defenders of protectionism, and of the idea later named "infant industry protection", List (1841/1989), argued that "protective duties at first increase the price of manufactured goods", however, over time and after industrialization, the country would have greater "powers of production" that would make it possible to obtain an "infinitely greater amount of material goods" (p. 117). Also, according to List, after becoming industrialized, the country should reduce its tariff barriers.

In general, critics of the comparative advantage theory (Chang, 2004; Furtado, 1999; List, 1841/1989; Prebisch, 1948/2000; Schumacher, 2013) argue that the theory adopts unrealistic assumptions – including perfect competition, equilibrium in the trade balance, and full employment – and static methodology, rather than dynamic and historical. In addition, these same opponents claim that the short-term advantages arising from the consumption of cheaper goods do not compensate for the long-term losses resulting from low production complexity, possible imbalances in the external accounts, reduced demand for qualified labour, restricted technological

sophistication, and lower productivity for countries that specialize in the production of unsophisticated goods. Finally, critics argue that the competitive advantages of countries are not "natural", but historically constructed, and that rich countries did not develop by simple adhering to free trade and opting for productive specialization, but by practicing protectionism at certain historical moments, industrializing, and diversifying their economies.

Entrepreneurship as a key to development

The second group of authors who reduce the issue of development are those who emphasize entrepreneurship. According to these authors, the importance of small and medium-sized companies[7] is central in contemporary capitalism, characterized as an "entrepreneurial economy"; in other words, an economy in which the "Schumpeterian technological regimes" prevail, identified in the "Theory of Economic Development" (Schumpeter, 1911/1983). That is, regimes in which economic growth, rising productivity and innovation are enhanced by the disruptive action of entrepreneurial economic agents (Carree & Thurik, 2010; Sanyang & Huang, 2010).

Development is understood as a result of disruptive actions by firms and entrepreneurs. From Schumpeter's point of view (1911/1983), innovation originates primarily from individual action, from entrepreneurs in search of surplus profits: "The carrying out of new combinations we call 'enterprise'; the individuals whose function it is to carry them out we call 'entrepreneurs'" (p. 74). The Schumpeterian entrepreneur is the promoter of innovation, characterized as "creative destruction", which "incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one" (Schumpeter, 1942/2003, p. 83).

According to Schumpeter (1942/2003, p. 132), innovations, or "new combinations", can be achieved mainly through: (a) "producing a new commodity"; (b) "producing an old one in a new way"; (c) "opening up a new source of supply of materials"; (d) opening "new outlet for products"; (e) "reorganizing an industry".

Due to the fact that the innovative entrepreneur acts in conditions of uncertainty and generates situations of disequilibrium[8], the economic literature of neoclassical inspiration finds it difficult to deal with the subject. However, from the 1970s onwards, several works emerged seeking to incorporate the theme of the entrepreneur into conventional economic thinking (Baumol & Schilling, 2008; Parker, 2009). According to Baumol and Schilling (2008), an entrepreneur is seen as "an individual who organizes, operates, and assumes the risk of creating new businesses". Schmitz (1989) argues that entrepreneurial activity is a "key factor in economic development" and that economies "with a high proportion of entrepreneurs will grow persistently faster than economies with a smaller proportion" (pp. 721-722).

A survey of the literature on entrepreneurship, prepared by Carree and Thurik (2010), indicates that the increase in entrepreneurial activities[9], both those focused on imitation and those focused on innovation, is associated with greater growth in regions, sectors, and countries. However, research that seeks to measure the impact of entrepreneurship has great methodological difficulty related to identifying and quantifying the phenomenon, since statistics from different countries on occupation of workers hardly differentiate the entrepreneur from the low-income informal self-employed worker.

The literature that bases the explanation for economic prosperity on entrepreneurial action argues that "[m]uch of the policy debate on generating growth and jobs has relied on a macro-economic framework and focused on traditional macro-economic policy instruments" (Carree & Thurik, 2010 , p. 587), while the less traditional policies of institutional reform that promotes the market economy, generation and promotion of entrepreneurship would be key to promoting economic growth and development (Baumol & Schilling, 2008; Carree & Thurik, 2010 ; Organization for Economic Co-operation and Development, 1998; Sanyang & Huang, 2010; Schmitz, 1989).

The work of Parker (2009) and documents from the Organization for Economic Co-operation and Development (OECD, 1998) establish some guidelines for the promotion of entrepreneurship, which include institutional changes and the promotion of an entrepreneurial culture, including: macroeconomic stability, deregulation of monopoly sectors, promotion of competitiveness in the public sector, protection of intellectual property, development of capital and loan markets, provision of financing or subsidies for innovation, flexibility in hiring and firing in the labour market, stimulation of entrepreneurial activity in the unemployed population, reduced levels of bureaucracy, tax simplification for companies, reduced costs of opening and closing companies and construction of national, regional and local programs to promote and assist entrepreneurship.

The literature that seeks to explain economic development based on entrepreneurship reduces complex phenomena, such as innovation and development, to the action of firms and individuals. This literature idealizes the actions of entrepreneurs, ignores the historical and structural differences between business activities carried out in the richest countries and those carried out on the periphery of global capitalism, where many entrepreneurs are forced, by competitive pressure, to offer low-income, low productivity and reduced technological sophistication jobs, and even carry out activities that cause destructive impacts on the environment. Furthermore, authors who emphasize entrepreneurship disregard macroeconomic conditions, notably those related to aggregate demand, and the supply of infrastructure and public goods. Other shortcomings of this type of approach will be mentioned at the end of the next subsection.

In a large part of the literature on entrepreneurship, as well as in the mainstream media, notably in business media, entrepreneurs are glorified as heroes, creative pioneers, responsible both for their individual success stories and for the construction and prosperity of countries. The discourse of the mainstream press naturalizes the conditions of contemporary global capitalism and dilutes the different interests of businessmen and workers, often labelled as entrepreneurs (Costa, Barros, & Martins, 2012). In addition, the business media defends the interests of entrepreneurs as universal and harmonious with the rest of society, stigmatizes the performance of public power in economic activities (the State is always synonymous with inefficiency and corruption) and places responsibility for success or material failure on individuals.

Local development analysis level

Another relevant set of authors, whose pioneering work is due to Piore and Sabel (1984), are those who developed the concept of flexible specialization, a productive model that would have replaced Fordism[10]. For these authors, the crisis of Fordism marked, in addition to technological changes, the decay of national spheres of regulation, which would be replaced by local and supranational levels. The productive system, then, would again find itself in a dilemma, which have

been faced throughout the 19th century and the beginning of the 20th century: the choice of the productive model. The options would again be a more artisanal model, based on small firms producing small batches of differentiated goods, or a model of mass production of homogeneous goods carried out by large firms. According to Piore and Sabel, in the "first industrial division", the second system prevailed, not for reasons of efficiency and logic, but for social and political reasons. However, in the "second industrial divide", the craft model could become the standard in several sectors.

Therefore, the changes in the world of production in the last decades of the 20th century would indicate that there could be a change in the technological paradigm (from the paradigm of mass production to that of artisanal production) and the system of regulation of the economy, depending on how institutions and technology were transformed by people. In view of this, it is worth saying that flexible accumulation, characterized by small highly innovative firms, focused on artisanal production of differentiated products with shorter life cycles, could prevail in several countries. In fact, different scenarios could predominate in this system under construction (Piore & Sabel, 1984): regional conglomerates of small firms involved in a network of cooperation and competition; federated systems, analogous to Japanese zaibatsus, with companies owning each other's assets and directors; "solar systems" and workshops, in which a network of subcontracted suppliers is formed, treated as "collaborators" of large companies; hybrid system, in which Fordist factories migrate to the third world and flexible factories predominate in the first world; reconstruction of Keynesianism with mass production.

The concept of flexible accumulation, created by Piore and Sabel, has also been adopted by two American geographers, professors at the University of California Los Angeles (UCLA), Allen Scott and Michael Storper. These authors identify that capitalism is a system aimed at the production of goods based on means of production and work. But this system varies from place to place and from one period to another, due to technological-institutional systems, which include industrial organization, labour relations, technological base, regulatory institutions, among other aspects. In the case of the technological-institutional system of flexible production, the economic geography is characterized, according to the authors, by the vertical disintegration of production, with numerous firms of different sizes, integrated into a network. Such firms tend to be located close to each other, to take advantage of external economies derived from the exchange of goods and information, the sharing of the labour market and infrastructure[11] (Scott, 2006; Storper & Scott, 1992).

According to flexible accumulation theorists, the global economy is best described as a "global mosaic of regional economies". However, in peripheral countries, agglomerations with low qualifications and overexploitation of labour may prevail. As a consequence of this, development policies must involve the promotion of institutions, qualification, and formal education, with the aim of improving local technology and productive system (Scott, 1988, 2006; Storper & Scott, 1992).

In addition to the already mentioned works, linked to flexible accumulation, the European works – French, Belgian and Italian – of the *Groupe de Recherche Européen sur les Milieux Innovateurs* (GREMI), founded in 1984, which aims to study the generation and diffusion of technologies from local development. Several regions in Europe and North America are the main objects of the group's case studies[12]. From these studies, typologies are elaborated to understand the types of firm, network, interaction between agents and predominant kinds of innovation in the

different environments. GREMI highlights the companies' surrounding conditions that influence the adoption or development of new technologies.

According to the founder of the approach, Philippe Aydalot (1986), innovative companies do not precede local means, but are "secreted" by them. Still according to Aydalot, the past of a territory, its organization, its collective behaviours and consensus, its access to technological knowledge, the presence of savoir-faire (know-how), and the composition of the labour market, among other factors, are determinants of the innovative capacity of the region. "The environment is definitely a 'mix' of small and medium-sized companies, segments of large companies and more institutionalized actors, more or less linked together through networks and a local culture" (Tabariés, 2005, p. 5). The environment is not to be confused with the place (geographical dimension) nor with the territory (economic or political dimension), since it encompasses both the territorial element and the articulation of economic, social, political, and cultural relations.

More recently, researchers associated with GREMI have sought to understand the articulation between the different scales of study and the multiplicity of locations in the global economy. This articulation is synthesized in two main axes: territorial innovation models (which include clusters, regional innovation systems, innovative means, etc.) and global production networks (Peyrache-Gadeau, Crevoisier, Kebir, & Costa, 2010)[13]. The synthesis concepts "globalized territorial development" and "territorialized global development" could reflect both the economies of agglomeration and the competitive pressures linked to the search for territories with lower production costs.

From the GREMI point of view, development must be thought locally, starting from the construction and enhancement of "connections", "collective behaviours" and "actors-territory interaction". The enhancement of various sectors, not only the industrial sector, but especially the services sector, is understood as central to the contemporary economy, as well as the enhancement of "eco-industrial", "green", linked to "sustainable development" activities. The construction of competition and cooperation dynamics is also essential to the generation of innovations (Peyrache-Gadeau et al., 2010; Tabaries, 2005).

International economic organizations adopt views similar to those investigated in this subsection. According to the World Bank (2010, p. 2-3), the government is a "gardener", which "waters the plant", "removes the weeds and pests", "fertilizes" and prepares "the soil" for innovation systems, arrangements between governmental and private institutions that serve as a basis for the origin of innovations. In this sense, the various roles that governments should play to promote development include support through incentives, removal of obstacles, anticompetitive and monopolistic practices, and removal of excessive bureaucracy. They should also include improving laws and regulations, coordinating and linking different levels of government, promoting education and training, building infrastructure and agile and flexible agencies, in addition to attracting foreign direct investment. Finally, the government could contribute to the construction of innovation clusters, including technological centres, industrial zones, science parks, export zones and even new cities (World Bank, 2010).

Approaches that seek to explain economic development based on entrepreneurship or local development have several shortcomings, resulting from the attempt to reduce the complex phenomenon to the action of individuals, companies, or an arrangement of companies and local

actors. Among the main shortcomings of these approaches are: one-sided emphasis on the supply side and policies favourable to business rather than the population as a whole; uncritical pursuit of competitiveness, which can be achieved at the expense of deteriorating workers' living conditions; indication that several countries can simultaneously be export platforms; disregard of fundamental strategic and geopolitical aspects related to the technological development of several countries; they do not mention protectionism, technology transfer, encouragement of imitation; do not differentiate between incremental innovations in low-productivity sectors of poor countries and major innovations in the more dynamic and sophisticated sectors present in central economies[14].

Brandão (2012) considers that the authors who defend locality as the appropriate scale for economic development policies elaborate a false dichotomy between, on the one hand, an enterprising, post-Fordist, associative economy formed by small and medium-sized companies, " a clean world, with little conflict, formed by talented individuals living together"; and, on the other hand, a hierarchical, Fordist, authoritarian economy, formed by large companies, "a dark, massified, rigid, politicized, world, with little solidarity and antagonistic social classes" (p. 43)[15].

Theories and ideologies that argue that entrepreneurship, localism and productive specialization are the best strategies for development gained strength with commercial and financial globalization, and neoliberalism, which replaced the Keynesian and developmentalist practices and ideologies that predominated during the "golden age" of capitalism. The next section outlines methodological principles for rejecting reductionist theories of development, including localist theories, those that defend productive specialization and those that seek to understand the phenomenon from the perspective of methodological individualism.

Economic development at multiple levels

The previous section indicated the main characteristics and limitations of the approaches that seek to understand economic development as a result of productive specialization, entrepreneurial actions or as a result of initiatives adopted at the local level. The main shortcomings of the approaches are due to reductionism, which Midgley (2003) characterizes as follows:

> Reductivism comes in two phases. First, there is the monistic move by which we explain a great range of things as only aspects of a single stuff. Thus, Thales says that all the four elements are really just water and Nietzsche says that all motives are really just forms of the will to power. Second, there sometimes follows the separate atomistic move, made by Democritus and the seventeenth-century physicists, in which we explain this basic stuff itself as really just an assemblage of ultimate particles. The wholes that are formed out of these particles are then secondary and relatively unreal. (p. 29)

The reductionist approaches investigated in this article adopt two methodological strategies that cannot be sustained. Theories about entrepreneurship and comparative advantages adopt the principle of methodological individualism, which seeks to explain social phenomena as a result of the actions of individuals only. In turn, theories on local development adopt the principle of methodological localism, as they try to explain economic dynamics from an eminently local point of

view. According to methodological individualism and methodological localism, the broader layers of reality and the distinct durations of the time horizons of the projects of individuals, companies or business arrangements are secondary phenomena, or even completely irrelevant.

In this article, a different point of view is adopted, which focuses on complexity and the multiple levels of reality. Both nature and society are stratified, that is, composed of several layers with emergent properties, not reducible to the properties of other layers (Bhaskar, 1975/2008; Gorski, 2019; Hodgson, 2004; Vandenberghe, 2010). Some examples can be used to clarify this characteristic of reality. It is possible to think of the stratification between physical, chemical, biological, individual, historical and social elements to explain the properties of human action. But it would be a mistake to conceive explanations for human institutions by reducing them to their physical or biological aspects, for example. Likewise, it is possible to think of a multiplicity of scales for understanding a social fact, which include the individual, the local, the regional, the national and the global, but it is not possible to reduce a broad social event, such as development, at just one of these scales. The argument developed in this section seeks to provide methodological elements for expanding the conception of development along three axes: socio-environmental, spatial and temporal.

Development as a total social phenomenon

In the first place, development should not be understood as a purely economic process, but as a "total social phenomenon", which encompasses different dimensions of social life, such as politics, economy, culture and the relationship between people and the other living beings on the planet.

The classic development authors discussed in the first section of the text (Prebisch, Furtado, Hirschman, and Myrdal) understood development as a complex process of political, economic, and cultural change, irreducible only to material logic. It is possible to draw a parallel between this view of economic development and what the French sociologist and anthropologist Marcel Mauss called, in a different context, "total social phenomena". Mauss identified in several hunter-gatherer societies, in other cultures prior to modernity, and even in contemporary society, the circulation of objects, people, festivals and rites following logics and principles that cannot be reduced to economic rationality.

> In these "total" social phenomena, as we propose calling them, all kinds of institutions are given expression at one and the same time — religious, juridical, and moral, which relate to both politics and the family; likewise economic ones, which suppose special forms of production and consumption, or rather, of performing total services and of distribution. This is not to take into account the aesthetic phenomena to which these facts lead, and the contours of the phenomena that these institutions manifest. (Mauss, 1923-1924/2002, p. 3-4)

It is due to the scope of social phenomena that we must understand Furtado's statement (1973/2013) that "I have never been able to imagine the existence of a purely economic problem"

(p. 34) and Myrdal's conception that there are no strictly economic factors, completely separable and distinct from non-economic factors.

> In reality there is, of course, no distinction between facts corresponding to our traditional scholastic division of social science into separate disciplines. A realistic analysis of problems can never stop at such lines of division. The distinction between factors that are "'economic"' and those that are ''non-economic" is, indeed, a useless and nonsensical device from the point of view of logic, and should be replaced by a distinction between "relevant" and "irrelevant" factors, or "more relevant" and "less relevant". (Myrdal, 1957/1963, p. 10)

Because they reject traditional boundaries between disciplines, Prebisch, Furtado, Myrdal, and Hirschman's work on development is transdisciplinary. This methodological posture does not result from the authors' individual choices, but rather from the very nature of the object under investigation.

Every development process brings, implicitly or explicitly, a worldview, a cosmovision, a project to transform relationships between people and between people and the rest of nature. Each development project can be more or less inclusive, egalitarian, violent, sustainable, environmentally correct or devastating. It is up to social movements and political and economic agents to raise awareness, mobilize and fight in favour of adequate development projects and, of course, to stop exploitative and devastating projects, or even any development project, notably in the case of traditional societies that so wish.

The idea of economic development was used, and often continues to be used, as a pretext for various socially and environmentally negative processes, including colonization, imperialism, the expulsion of traditional communities from their lands, the elimination of traditional forms of sociability, and cultural and environmental devastation. All these harmful consequences of development ideologies have led some authors to completely reject any project or idea of socioeconomic development (Absell, 2015; Esteva, 2010; Latouche, 2004; Sachs, 2010).

According to Esteva (2010), the ideology of development indicates a "favourable change, a step from the simple to the complex, from the inferior to the superior, from worse to better", at the same time that it labels two-thirds of the planet's population in an "undesirable, undignified condition" (pp. 6-15). Still according to the author, the acceptance of progress, of modern economic relations, implies the "disvaluation of all other forms of social existence". In turn, Sachs (2010) seeks to contribute to the writing of an "obituary" of the "obsolete" idea of economic development, whose history would be full of "disappointment, failures and crimes" (pp. 15-18). According to the author, the promise of progress no longer makes sense, given that our society consumes in just "one year what it took the earth a million years to store up", and that, if all countries had the same consumption pattern of the richest countries, it would take "five or six planets" to provide resources and receive waste (pp. 15-18).

Several criticisms made by authors who reject the idea of development are correct and should be incorporated into more sophisticated views on the issue. In fact, it is not possible to reproduce the consumption patterns of the richest countries by the population of the entire planet,

a fact already observed by Furtado (1974). Certainly, the notion of progress has been used to subdue traditional peoples and eliminate sociocultural diversity, as Furtado (1999) and Myrdal (1957/1963) have denounced. Most countries have adopted development projects throughout their history, but only a small number of these countries have actually managed to make substantial progress in terms of qualitative and quantitative indicators of income, health, education and culture.

However, it only makes sense to completely abandon the idea of development in two situations: first, if the people in question are not fully inserted in the social relations characteristic of modernity; secondly, if there are alternative modernization projects that completely overcome the idea of development. For a significant portion of people on the periphery of the global economic system, these two situations are not present. Due to centuries of colonization, imperialism, and the destruction of traditional ways of life, billions of people live in big cities and have terrible living and working conditions. It is no longer possible for these people to return to traditional ways of life, and overcoming capitalist economies is not on the historical horizon. In this context, abandoning any development project means accepting precarious living conditions and a subordinate and oppressed position in modern society, both in relation to international agents and in relation to local elites favoured by the condition of underdevelopment. Several countries, especially in Asia, have managed, in recent decades, to carry out successful socioeconomic development processes, while countries that have renounced adequate development strategies have shown deterioration of social indicators and are often subject to greater environmental and cultural diversity destruction.

In this sense, development projects must be reappropriated by communities and subaltern social groups, which need to become aware of the social, cultural, environmental, and geopolitical contradictions of these processes. If these groups do not assume a leading role in development projects, they will continue to be commanded by political and economic elites that direct them in less humanistic and environmentally correct directions. In turn, segments of society not interested in their full insertion in modern institutions must have their cultures and ways of life protected and not be the target of modernization projects.

Development as a multiscalar phenomenon

Throughout the construction and transformation of modern societies, several processes of formation and (re)structuring of historical geography have been taking place. The formation of national states, the construction of the interstate system, colonization, imperialism, the regional and international division of labour, the formation of centres and peripheries, separatism, the independence of colonies, globalization, industrialization, urbanization, suburbanization, the formation of megalopolises, industrial relocation, deindustrialization, the emergence of ghost towns, regional development, the enrichment and impoverishment of countries, regions, cities. None of these processes is natural, spontaneous, definitive, or occur on only one spatial level. All are the result of planned and coordinated, or not, contradictory spatial socioeconomic dynamics. These dynamics establish portions of societies that benefit from these processes and portions harmed by them.

Socio-spatial restructuring dynamics are not reduced to a single scalar direction. Therefore, it is not possible to understand trends towards globalization, regionalism, nationalism, for example, as unique and definitive trends. Nor is it possible to think of these trends as natural, inevitable, or

politically or socially neutral. Socio-spatial restructuring occurs in multiple directions and leads neither to the complete disappearance of a spatial level nor to the total flattening of society to a single scale[16]. The structure and dynamics of a given spatial level "can only be grasped relationally, in terms of its changing links to other geographical scales situated within broader interscalar configurations" (Brenner, 2018, p. 124).

Social phenomena create, reproduce, and recreate the scales (layers or distinct levels) on which they occur. Social processes are not reducible to a single spatial scope of analysis, they are multiscalar. Therefore, the different levels at which processes occur cannot be understood as isolated analytical units. Thus, it is not possible to analyse a layer – such as the local, the national, or the global, for example – as a whole closed in itself (Brenner, 2018).

Critical geography and historical-geographical materialism assume that humans, and other living beings, need to metabolize nature in order to survive. In this process, both humans and nature are transformed. The metabolism of nature is always a historical, social, and cultural phenomenon, involved in power relations, and responsible for producing geographic scales[17] (Swyngedouw, 2004).

Scales are not reified, but temporarily stabilized results of diverse socio-spatial configurations (Brenner, 2018; Swyngedouw, 1997; Vainer, 2006). This does not mean that socio-spatial reality is totally fragmented and indeterminate, as the postmodernists indicate, but rather that it is complex, multiscalar, and multidetermined, and should not be reduced to a single dimension. Even theories and proposals for political action that seek to abstain from considerations about scales are based, implicitly or explicitly, on a scalar conception of the social world, which must be highlighted by the actors involved in theoretical and political debates (Swyngedouw, 1997; Vainer, 2006).

Brenner, Jessop and Jones (2008, p. 394) argue that "there can be no privileged God's eye perspective on social dynamics". It is necessary to analyse the social world in a multiscale way, emphasizing the articulation of different dimensions. This indicates that the multiscalar analysis "requires a spiral movement as first one and then another moment of the spatiality of social relations is stressed" (Brenner et al., 2008, p. 394). The definition of the number of scales mobilized in the investigation of the development process depends on the specific objectives of the research.

Economic development unfolds at different spatial scales. Local development is related both to the socio-economic structures of the national plan and to the structures of the international economic system, to highlight just two distinct levels of socio-spatial organization[18]. Scales are also a result of power struggles. Leaving aside the national and global scales of development implies accepting the socio-economic-spatial distribution of power in these spheres. Hence the importance of mobilizing these scales in the struggles, favourable or contrary, to the different types of development.

Development as a phenomenon of multiple durations

Like all sciences, the humanities are concerned with investigating the structures and properties of the real world. The social fabric is formed by a multiplicity of social relations and by agents (who occupy social positions). Following the contribution of Braudel (1982), it is important to distinguish and analyse, in an articulated way, the effects of structures of different "social time,

the multifarious, contradictory times of the life of men, which not only make up the past, but also the social life of the present" (p. 26).

It is important to highlight that it is not just the human sciences that recognize the existence of different time scales[19]. Prigogine (1996) focuses his analysis on irreversibility, the "arrow of time", in physics. Furthermore, he recognizes the existence of different time scales in geology, biology, chemistry, physics, and the human sciences. Wallerstein (1998) argues that Prigogine and Braudel developed, respectively, the concepts of arrow of time and long duration to describe (natural and social) reality as an intermediate path between absolute determinism and the absence of order and explanation. That is why it is important to highlight that the existence of multiple durations does not imply an absolute, fragmented, postmodern indeterminacy (Gorski, 2019). Social reality is complex and stratified, but that does not mean that it is not subject to regular, structured, and systematic patterns. It is desirable to identify the specific durations of the social structures that one seeks to investigate, instead of adopting theories that flatten social reality into just one rhythm, one speed.

The work of Fernand Braudel (1982) sought to distinguish and analyse various structures with different temporalities, which imply distinct historical trends: "[t]hus we have been brought to the breaking-down of history into successive levels. Or rather to the distinction, within historical time, of a geographical time, a social time, and an individual time" (p. 4). Another historian who reflected on the multiplicity of times, Koselleck (2018), coined the expression "sediments or layers of time", making a parallel with "geological formations that differ in age and depth and that changed and set themselves apart from each other at differing speeds over the course of the so-called history of the earth" (p. 3). The different layers of time[20] in human history analytically separate the "different temporal levels upon which people move and events unfold, and thus ask about the longer-term preconditions for such events" (p. 3).

The author identifies temporal strata with three different durations: short, medium and long term. A short-term duration would be punctual, singular, linked to irreversible experiences, including a military victory, an invention, the death of a prominent historical figure, a revolution. A mid-term duration is linked to "structures of repetition that are not exhausted in singularity". Recurring events, linked to the routine application of laws, to customs, routines, languages. The existence of these recurrences is necessary for social life and to the very existence of singular events, related to short-term temporality. Although relatively lasting, structures linked to mid-term duration also change, but in processes lasting longer than that of singular events. In addition to these two durations, there is another one, because "[s]ome historical times point beyond the experience of individuals and generations". The existence of religions, scientific theories, national states, and several other structures that exceed the lifetime of a few generations would characterize a long-term historical time, whose speed of change is quite slow (Koselleck, 2018, pp. 4-9).

Classic development authors recognize the importance of building theories and policies with different rhythms of duration. Furtado (1984, p. 50), for example, argues that regional development policies replace "economic rationality" and the "relatively narrow time horizon" related to markets and spatial concentration, by a political action based on a "broader vision of the social process". Myrdal (1957/1963), in turn, criticizes approaches based on equilibrium and argues that social changes should not be understood in a "one and the same time-space" (pp. 8-10). The author states that

> The time element is of paramount importance, as the effects of a shock on different variables of the system will be spread very differently along the time axis. A rise in employment, for instance, will almost immediately raise some levels of living; but a change in levels of education or health is achieved more slowly, and its effects on the other factors are delayed, so that there is a lag in the whole process of cumulation. (pp. 18)

Just as economic development cannot be reduced to a single spatial scope of occurrence, it does not happen on a single temporal scale. Authors and economic policies, in general, emphasize, either implicitly or explicitly, only one[21] of the temporal dimensions. However, development must be understood and constructed through the stratification of processes of distinct durations.

Short-term theories and policies, whose effects are felt in a few months, include Keynesian policies to stimulate economic growth. Practices and concepts related to an average temporality include exchange rate appreciation, import substitution policies, as well as cost reduction practices and temporary expansion of competitiveness. Economic policies and theories associated to the longer temporality, normally linked to different generations of economic agents, include the construction of innovation systems, investment in education and qualification of the population, the construction of institutional arrangements capable of allowing high economic growth, a complete import and export substitution process.

Conclusions

Throughout history, the concept of development has been used in a variety of ways. It was used, for example, to justify colonizing processes of resource extraction, to promote the construction of national economies and national states in newly independent countries, in processes that uncritically stimulated consumerism, environmental devastation and the destruction of traditional ways of life. Based on these sacrifices, the socioeconomic conditions of several countries have improved. In the post-war period, the classic authors of development understood the phenomenon as a complex, contradictory process of improvement of socioeconomic indicators, which involved several structural changes, occurring in different space-time scales. The classic authors of development contributed to raising income levels and to the improving of various social indicators in countries that successfully adopted developmental policies, but their contributions have limits, typical of society at the time, such as reduced concerns about the environment, the living conditions of minorities inserted in a subaltern way in the development processes, and the cultural groups that do not wish to be inserted in the modern capitalism. From the 1980s onwards, development has been analysed in a reductionist way, being confused, for example, with entrepreneurship, localism, or productive specialization.

Therefore, this text aimed to establish methodological parameters both for the rejection of reductionist approaches to development and for the defence of comprehensive theories about it, which understand it as a complex social process, which occurs in multiple space-time scales. The experiences of development that took place in the 20th century indicate that development projects

should not be imposed from the top down, or defended in an uncritical way, but rather, they should be reappropriated by subaltern classes and communities and by minorities, who need to become aware of the social, cultural, environmental, and geopolitical contradictions of these processes, which could hardly be carried out within the predominant frameworks of neoliberalism and commercial and financial globalization. Finally, it is reiterated here that communities that do not wish to be inserted into modern society must have their cultures and ways of life protected and not become targets of modernization projects.

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Notes

1. It is not the purpose of the text to build a theory of development, but to establish guidelines for rejecting reductionist approaches.
2. In addition to the formation of centres and peripheries at the international level, Furtado (1984) argued that the capitalist dynamic is also concentrating at the regional level, due to economies of scale, economies of agglomeration, the concentration of public resources and the formation of very uneven consumer markets. The author identified that several countries adopted policies to promote regional development, encouraging the decentralization of industrial activities and, thus, preventing the "cultural and human desertification of economically fragile areas". Promoting the development of regions replaces "economic rationality" and the "relatively narrow time horizon" linked to markets and spatial concentration by political action based on a "broader view of the social process". In the specific case of Northeast Brazil, the development policies defended by Furtado encompass several initiatives, including the renegotiation of federalism, the improvement of basic and higher education, the promotion of industrialization, agrarian reform, and the expansion of productivity and income in the agriculture.
3. Hirschman (1958), like most development theorists at the time, considered that there was a trade-off between consumption and investment: "to achieve higher per capita incomes, current consumption must be reduced" (p. 10). Critics consider this hypothesis mistaken and argue that the external constraint, and not the savings constraint, is fundamental for understanding the macroeconomic barriers to development (Bastos & Britto, 2010).
4. The principle of circular and cumulative causation was also formulated by Myrdal's contemporary Karl William Kapp. The idea of "cumulative causation", less systematized than the principle developed by Myrdal and Kapp, was present in the work of Veblen (1898) since the end of the 19th century (Berger, 2008).
5. Absell (2015), researching the frequency of use of lexicons related to economic development present in digitized books published in English, observed that the expression "economic development" became popular in the first half of the 20th century. After the Second World War until the mid-1970s, there was an explosion in the use of the term development and other associated lexicons, such as "underdeveloped countries". Subsequently, the expression

"economic development" was gradually less used. On the other hand, other terms, more euphemistic and vague, began to be used with great frequency, including "developing countries", "emerging economies", "Global South", "sustainable development" and "human development" (Absell, 2015).

6. "To produce the wine in Portugal, might require only the labour of eighty men for one year, and to produce the cloth in the same country, might require the labour of ninety men for the same time. It would therefore be advantageous for her to export wine in exchange for cloth. This exchange might even take place, notwithstanding that the commodity imported by Portugal could be produced there with less labour than in England. Though she could make the cloth with the labour of ninety men, she would import it from a country where it required the labour of 100 men to produce it, because it would be advantageous to her rather to employ her capital in the production of wine, for which she would obtain more cloth from England, than she could produce by diverting a portion of her capital from the cultivation of vines to the manufacture of cloth" (Ricardo, 1817/1982, p. 98).

7. Carree and Thurik (2010) identify several reasons for the re-emergence of the importance of small businesses, self-employment and entrepreneurship: (a) the technological transition towards new sectors, such as software and biotechnology, would favour smaller and innovative firms; (b) new technologies under development would reduce the importance of economies of scale; (c) waves of deregulation and privatization would increase the competitiveness of various sectors, leading to the emergence of small firms in the deregulated sectors; (d) large firms would be resizing and restructuring, focusing on the core of their activities (downsizing, or rightsizing trends); (e) The increase in income levels would lead to cultural changes in consumers' preferences, related to the increase of product differentiation; (f) self-employment would be more valued, demanded and desired as a career; (g) the growth of the service sector, which generally has smaller firms (except for some activities, such as air and ship transport and financial services). According to the authors, some of these trends may be temporary.

8. From Schumpeter's point of view (1911/2003), the very existence of innovations breaks with equilibrium and leads the economic system to trajectories that move it away from the initial equilibrium: "what we are about to consider is that kind of change arising from within the system which so displaces its equilibrium point that the new one cannot be reached from the old one by infinitesimal steps. Add successively as many mail coaches as you please, you will never get a railway thereby" (p. 64).

9. Entrepreneurship is seen as a behaviour of individuals and not a static state or a profession (Carree & Thurik, 2010).

10. A non-exhaustive survey carried out by Brandão (2012) identified several approaches that emphasize the local scope as the privileged space of economic development, such as: the flexible accumulation, the Italian industrial districts, the milieux innovateurs, the local productive arrangements, the society in network, the Californian school, the new economic geography, the theory of social capital, the new institutional economics, and the popular and solidarity economy.

11. Alfred Marshall (1890/1996) was one of the first economists who sought to describe and theorize the formation of "industrial districts", or the "concentration of specialized industries

in certain localities". In addition to the existence of internal economies of scale, the author noted the existence of external economies, that is, the reduction of unit costs resulting from the agglomeration of similar firms in an "industrial district". In these locations, information, the "secrets of the profession", circulate easily, innovations and technical changes in production processes are easily copied and generalized, a local market for specialized labour is formed, companies supplying raw materials and equipment appear, and different companies can associate to acquire machines that none of them would be able to buy individually (pp. 320-321).

12. Some of the regions studied by GREMI members are the metropolitan regions of Paris, Milan, and Madrid, Catalonia, Silicon Valley, the regions of Marseille, Bergamo, and Newcastle.

13. Another new branch of analysis relates the milieux to sustainable development (Peyrache-Gadeau et al., 2010).

14. Diniz, Santos and Crocco (2006) identify some limits to local development strategies on the periphery of the world economy: "1 - 'Innovative' capabilities are, as a rule, inferior than those of developed countries; 2 - The organizational environment is open and passive, that is, the primary strategic functions are carried out externally to the system, prevailing, locally, an almost exclusively productive mentality; 3 - The institutional and macroeconomic environment is more volatile and permeated by structural constraints; 4 - Subsistence activities predominate in the surroundings of these systems, limited urban density, low per capita income level, reduced educational levels, limited productive and service complementarity with the urban centre, and fragile social insertion" (p. 105).

15. In addition, literature on productive agglomerations idealizes the formation and functioning of the main technological cluster in the world, Silicon Valley, California, where more than twenty thousand companies linked to technology employ more than 500 thousand people, as a result of the interaction between universities (Stanford University) and, mainly, small and medium-sized firms (Scott, 1988, 2006; Piore & Sabel, 1984; Aydalot, 1986). Some recent research underlines the role that subsidiaries of large multi-location firms played in shaping the region (Adams, 2011) and highlights the influence of orders from the American military industrial complex, whose contracts could guarantee around 30% of the region's industrial revenues (Heinrich, 2002).

16. According to Brenner et al. (2018) it is necessary to avoid both the "one-dimensionalism" that reduces a part of the socio-spatial reality to the whole, and the theoretical and conceptual imprecision related to the use of neologisms that seek to merge two or more spatial dimensions and ignore the others. Examples of these neologisms include "glocalization", "glurbanization", "neomedievalism", "territorial networks", "global cities".

17. At the time Swyngedouw (2004) was publishing the text "Scaled geographies: nature, place, and the politics of scale" several facts occurred that illustrated the fusion between "physical–environmental metabolisms" and "sociocultural and political–economic relations": the creation of the cloned sheep Dolly, the epidemic of "mad cow disease", the accumulation of carbon dioxide in the atmosphere and the threat to the ozone layer (p. 129). Still according to Swyngedouw (2004), these facts suggest "how nature and society are constituted as networks of interwoven processes that are human and natural, real and fictional, mechanical and

organic" and show that agents and processes "operate at a variety of interlocked and nested geographic scales" (p. 129).

18. The most notable development case of recent decades, the Chinese one, includes actions at different levels, from the local to the global, such as: expansionist macroeconomic policies; restructuring policies for the agricultural, transport and energy sectors; the creation of Special Economic Zones; industrial and technology transfer policies; investments in research centres and universities; export-friendly exchange rate policy; financial sector restructuring; credit promotion; strengthening of state-owned enterprises; global investments in transportation and infrastructure.
19. Even clocks located at different points in the universe run at different speeds, as explained by Einstein's theory of relativity, which postulates not the existence of a single Newtonian time, but distinct times, that can be described in relation to each other (Rovelli, 2018).
20. Rovelli argues that the different temporal structures are associated with both the pace of change in phenomena and the social perception that people have of them: "To a large extent, the brain is a mechanism for collecting memories of the past in order to use them continually to predict the future. This happens across a wide spectrum of time scales, from the very short to the very long. If someone throws something at us to catch, our hand moves skilfully to the place where the object will be in a few instants: the brain, using past impressions, has very rapidly calculated the future position of the object that is flying toward us. Further along the scale, we plant seed so that corn will grow. Or invest in scientific research so that tomorrow it might result in knowledge and new technology" (Rovelli, 2018, p. 112).
21. The theory of comparative advantages is fixed in the temporality of short-term production, in the logic of consumers, who could benefit from the acquisition of cheaper goods. Approaches on entrepreneurship highlight the short temporality of business logic, while localist approaches adopt a mid-term time horizon, related to the construction of associations and companies' networks.

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