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Underdevelopment and hubs of economic and social growth

Sous-développement et poles de croissance économique et sociale
Subdesenvolvimento e polos de crescimento econômico e social

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Underdevelopment and hubs of economic and social growth

The discussion of the growth poles theory [1] often falls into the trap of semantic debate or the exegesis of the founder's ideas François Perroux[2], to whom, sometimes, they bring a lawsuit of intent (Coraggio, 1972).

The notion of growth poles fell victim to its popularity at a time when the idea of planning was itself starting to become a slogan. This contemporaneity may have been fatal to it (Lasuen, 1969, p. 140). Having become a trendy topic, more attention was given to form than to the core, more to techniques and models than to explanations; that is, the deepening of the theory itself was set aside. Although it can be said, with A. Kuklinski (1970, p. 13), that this theory was rarely applied, or ask oneself with B. Berry (1971) whether it is really a theory, it nonetheless inspired a multitude of books, theses, and articles of all kinds, perhaps even because, as Lasuen (1969, p. 137) notes, F. Perroux's ideas were not originally presented as a coherent whole.

Faced with the lack of agreement on the goal of the research, many works limit themselves to just a kind of haze over the essential definitions and continue the

[1]For a bibliography, see, among others, Claval, 1966; Lasuen, 1969; Darwent, 1969; and Hansen, 1971.
[2]Paelinck states: “The concept of a growth pole has often been misunderstood. It gets confused with the notion of a key industry, basic industry, or industrial complex; hence the mistaken idea that a growth pole would be some kind of industrial monument raised to the glory of a future regional industrialization, guaranteeing certain economic growth,” Jean Paelinck, The Theory of Polarized Regional Development, Cahiers de l’Institut de Sciences appliquées, March 1965, series L, No. 15, p. 10.

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careless use of this notion, both in theory and in practice. Such ambiguities have allowed and even authorized all kinds of occasional or deliberate mistakes. But the idea itself hasn't lost its prestige, since people are still looking for ways to argue about the overall quantities in the economy, while at the same time wanting to spread them out across the space between people. The problem of distribution and wealth isn't separate from that of the organization of space.

From the selective space to everyone's space

The question of what type of space the original formulations by F. Perroux (1950) were aimed at goes far beyond the author's intentions. J. Boudeville (1957, 1961) was the first to propose a geographical basis for the idea of growth poles. L. Rodwin (1960) and J. Friedmann (1963, 1966) followed him. Indeed, the concept of a topological space as François Perroux defined[3] it doesn't change the fact that it's about the ordinary space where firms operate. But mainly, it's the economic space that becomes the subject of theoretical constructions and planning efforts.

Thus, the theory of growth poles, in most of its traditional or recent formulations, is concerned with the space of some rather than the space of all. When a common space and a space of firms are distinguished and the latter is favored in theoretical development, it is an aristocratic and discriminatory theory. The total population can hardly be covered by it.

The frequent distinction made between abstract or economic space and concrete or geographical space - the latter being everyone's space - doesn't clearly allow us to grasp all the elements that went into defining a given space[4], and prevents locating the hierarchy of forces. Now, the idea of organization is inseparable from the decision of domination. The dichotomy, geographic space versus economic space, presented as a methodological constraint is, rather, an obstacle to spatial analysis[5].

[3]Economic spaces "[...] were defined by the economic relationships that exist between the economic elements" (Perroux, 1961, p. 127).
[4]Gauthier (1971, p. 15), notes that, "the efforts to develop a geographic dimension for this theory were futile. The laws of transforming economic space into geographic space were never satisfactorily formulated." Jasen (1970) complains about the little interest given to economic-geographic structures.
[5] "It seems, therefore, that one cannot isolate one from the other, the two concepts of space, without consequently depriving oneself of the knowledge of their mutual influences" (Béguin, 1963, p. 573).

Relationships, although so obvious, between the monopolistic structure of production and phenomena such as macrocephaly, impoverished peripheries, or rural exodus, would find a better interpretation through the multidisciplinary perspective of a more commonplace multidimensional concrete space, which is that of firms, institutions, and all people, as well as that of economic, political, and social achievements.

Furthermore, considering space as a system, which is generally accepted now, is not enough. It is still necessary to know how to define a system. If we are satisfied with the classic definition according to which a system is a set of elements and the relationships between these elements and their respective attributes (Hall and Fagen, 1956, p. 18)[6], will be hard to arrive at an operational definition of space. In fact, as M. Godelier (1972, p. 258) states, "a system is a group of structures interconnected by certain rules." These are structures that are defined by "a group of objects interconnected by certain rules."[7].

In this way, there is a big gap between, on one hand, measuring the interrelations between industries as they are studied in input-output matrices, and, on the other hand, considering the relationships between a given structure of production and the rest of the social and spatial system. The input-output approach advocated by Lasuen (1970) concerns economic growth in Rostonw's style, as it only serves to

"[...] Just considering economic spaces is not enough to understand all the factors that affect economic mechanisms; there is no doubt that geographic space also influences them. Both concepts of space should be used together for a better understanding of reality" (Béguin, 1963, p. 573).

[6]"I propose to understand by a 'system': 'a group of structures interlinked by certain rules (laws)'. We are thus referred back to the idea of 'structure' by which we mean: 'a group of objects interlinked by certain rules (laws)'. By 'object' I mean any reality whatever: Individual, concept, institution, thing. By 'rules' I mean the explicit principles whereby the elements of a system are combined and related, the norms intentionally created and applied in order to 'organize' social life: Rules of kinship, technical rules of industrial production, legal rules of land-tenure, rules of monastic life, and so on. The existence of these rules allows us to suppose that, in so far as they are followed, social life already possesses a certain' order."

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capture the relationships between “modern” firms, considered dynamic. But it remains a neutral tool, a value-free model (Miernyk, 1965, p.88), and cannot help in building a spatial theory that is valid everywhere[8]. It's true that Lasuen (1969) had also equally insisted on the interest in analyzing the organizational structures of firms. But what do you do with an isolated piece of data?

It's necessary to go further and try to analyze the global production structures as “elements” shaping the spatial system, that is, the geographical projection of the social system in its broadest sense. Success wouldn't be measured, as currently accepted doctrine suggests, by the maximum efficiency of inter-industry exchanges, confirmed by the increase of output per unit of time under given conditions of capital and labor use. The problem would, in turn, be centered on spatial productivity, defined as the best geographical arrangement of resources, whose organization structure would be previously defined, aiming at a better distribution of outcomes. The idea of spatial planning would thus be enhanced.

For this purpose, it’s necessary to take into account the structures of the economy as an expression of the adopted growth models; the geographical structures, that is, the location of people, infrastructures, and the activities of institutions, as well as their ecological framework; and, finally, the social and political structures resulting from the overlay of the present and the past and the overlap of local, national, and international influences. It’s important to consider people and the supports for their activities from a cross-temporal perspective. It’s from the interaction of these structures that the definition of space as a system is derived, that is, a multidimensional and operational definition.

The structure of space doesn't depend only on the location of firms, as classical regional analysis suggests, but mainly on the structures of the State and production, as well as how available resources are allocated to social layers. An individual's value as a producer or consumer also depends on their position in this space and changes according to shifts in the spatial structure. If the fundamental problem of finding a spatial organization capable of better spreading growth is, above all, inseparable from the idea you have of growth itself, then the conditions for growth and the conditions for

[8]Although with arguments different from ours, Paelinck (1965) and Hansen (1967, 1970, 1971) had already criticized the use of the input-output approach in growth pole theory.

diffusion must be considered together. For that, it's necessary to define the specific characteristics of spatial organization in underdeveloped countries.

Space in underdeveloped countries: The two circuits of the economy and their spatial repercussions

The application of growth pole theory in underdeveloped countries raises the question of whether space can be indiscriminately defined as a developed country and as an underdeveloped country[9]. Most of those who have focused on analyzing and planning space behave as if the theories developed in developed countries, according to their realities, could be transferred to underdeveloped countries.

Such a position has argued that the Third World is “a developing world,” meaning that it is in a transitional phase toward what developed countries are today.

The notion of a similar path model is inadequate (McGee, 1971). It's not about a developing world, but an underdeveloped world with its own characteristics and fundamental mechanisms. Studying the history of countries that are now underdeveloped allows us to identify a specific trajectory of their evolution compared to developed countries. This specificity becomes clear in the way the economy, society, and space are organized.

If the components of space remain the same all over the world and form a continuum in time, they vary quantitatively and qualitatively depending on the place, just as the combinations between them and their process of merging vary. This results in the differences between spaces.

The spaces in underdeveloped countries are basically characterized by the fact that they organize and reorganize themselves according to distant interests and, most of the time, on a global scale. However, they are not massively affected by forces of change, whose impact, on the contrary, is very localized and meets considerable resistance in spreading (Santos and Kayser, 1971).

On the other hand, modernization forces imposed from within or outside are extremely selective, both in their forms and in their effects. Modern variables are not adopted all at once or in the same place. It's a story of selective geography. With each

[9]Researching Minas (Brazil), Boudeville (1957, p. 25) noted, in passing, the difference in structures between, on one hand, the United States and Europe, and on the other, Brazil.

modernization, the impact of these forces encounters lags between different variables, and their combination shapes the character of a place. This results in significant instability in the organization of space, with imbalances and repeated adjustments.

Discontinuous, unstable, the space of underdeveloped countries is equally multipolarized, that is, it is subjected to and divided among a multitude of influences and polarizations coming from different levels of decision-making. The smaller the scale of the place, the more numerous the impacts, which results in a multiplication of time at the local level (Santos, 1972).

Finally, the space in underdeveloped countries is marked by huge income differences in society, which show up regionally as a tendency to rank activities and, locally, as a coexistence of similar activities but at different levels. These income disparities are less significant in developed countries and have little impact on access to a wide range of goods and services. Income level depends on an individual's location, which in turn determines each person's role as both protector and consumer.

The behavior of space is, thus, affected by these huge disparities in geographic and individual situations. This selectivity of space at both the economic and social levels is, in our view, the key to developing a spatial theory. As new tastes spread nationwide, while traditional tastes persist, the economic apparatus must adapt simultaneously to the demands of an all-powerful modernization and to new or inherited social realities. This applies to both the production and distribution systems. Two economic circuits are created, responsible not only for the economic process but also for the process of organizing space (Santos, 1971, 1972, in press).

The city can no longer, therefore, be studied as a massive machine. We call these two subsystems the upper or modern circuit and the lower circuit. The upper circuit comes directly from technological modernization; its most representative elements today are monopolies. Most of its relations take place outside the city and the region that houses it, covering the country or abroad. The lower circuit, made up of small-scale activities mainly concerned with poor populations, on the other hand, is deeply rooted and maintains strong connections with its region. Each circuit forms, in itself, a system or, more precisely, a subsystem of the urban system.

The activities of the upper circuit are responsible for the macro organization of space. The organization of space at the local level is shared between the upper and lower circuits. It is, therefore, at the local level that the dialectic operates between the

two circuits, but macro-spatial decisions also reach the lower circuit (Santos, in press). The existence of the two circuits, as well as their competition, is thus a fundamental element in explaining space and an indispensable part of the planning process, especially because each circuit maintains a particular type of connection with the city's network of relationships: each city actually has two zones of influence.

Well, only the modern circuit has been the subject of systematic research. Economic analysis and, along with it, geographical analysis, for a long time confused the modern sector of the urban economy with the city as a whole. J. Friedmann (1961, p. 89; 1964, p. 346) himself did not state that the folk sector, the “popular sector,” “is in the city but not a part of it.” The result is that most studies are not done on the city as a whole, but on a part of it, which, because of that, prevents the formulation of a genuine theory of space.

Recognizing the existence of the two circuits brings up a new discussion of established theories, such as urban exports, central places, and growth poles, which have served so far as the foundation for many regional planning theories. From then on, it’s necessary to take the lower circuit into account as an essential element for understanding urban and regional reality. In the theory of the two circuits of the urban economy, underdeveloped countries appear as a true paradigm, in the sense given by Kuhn (1962), for whom, in each new historical period, the formulations capable of interpreting reality and offering solutions to the corresponding problems must be recreated, not just readapted.

Growth without growth poles

The theory of growth poles, like all other spatial theories, only deals with the upper circuit. That is, only modernization, with the establishment of driving industries, is believed to be capable of triggering growth. The lower circuit is considered solely as a brake on economic growth, and not as what it actually is - in any case, in its current form - that is, a result of technological modernization.

There are a lot of misunderstandings in this. First of all, modern industries aren't necessarily complementary. Then, they might not have significant side effects. Finally,

industries can take advantage of the agglomeration economies found in a city without, in return, having notable chaining effects, especially in the case of re-export industries.

It's not certain that large industries with a high capital coefficient are necessarily dynamic, as has been suggested. A. Manne (1967) and H. Richardson (1969, pp. 106-107). According to Aydalot (1965), the term “driving industries” should only be used for those capable of creating external economies; these are not necessarily the largest industries. So, it's possible to have growth without a growth pole.

This growth shows up in the privileged spots of space, even more so because, with modernization, new economies of scale geographically limit the creation of new activities. Macrocephalic cities and industrial cities are, par excellence, the geographic place of growth, a manifestation of growth rather than a cause (J. Casimir, 1963, p. 11). At the same time, the entire urban network outsources itself, since modern industry spreads traditional industries, and these, in turn, are unable to provide enough jobs. This is the primitive tertiary sector (J. Beaujeu-Garnier, 1965) and also a refuge tertiary sector (D. Lambert, 1965). He is also present both in cities without secondary activities and in those where industry is important, that is, in both hubs and non-hubs. For this reason, it can be said that growth and the lower circuit happen in parallel. Growth - in any case, as it is commonly defined - does not, therefore, appear as the process capable of eliminating poverty.

The obstacles in diffusion

In the absence of a social diffusion of growth, can we, on the other hand, assume that a social diffusion exists? Hirschman (1958) was perhaps the first to think this way. Applying Schumpeter's (1950) thesis on 'creative destruction' to space, he suggested the need to encourage the growth of a given region, turning it into a driving region of a country; after that, growth would then spread to other parts of the territory. It was in the intertwining of the ideas of Hirschman and Hagerstrand (1967, 1953) that the notions of growth poles and innovation diffusion began to come together. Lasuen and Friedmann were included by Gauthier (1971) in the category of diffusionists. Berry (1972, p. 340-341), in turn, argues that “the role played by growth centers in regional development is just a particular case of the general process of innovation diffusion, and that, in this way, the unfortunately weak theory of growth poles can be enriched if

we turn to the general case, which is better developed." It is also, based on the diffusionist hypothesis, that Friedmann (1963, 1966) developed the notion of core-periphery, a geographic variant of the principles previously developed by R. Prebisch (1949) and Gunder Frank in the context of international relations.

The difficulty lies, again, in applying such concepts without first being concerned with better defining the space, its functioning, and its connections in underdeveloped countries.

The essential conditions of space organization have always been the result of the play, whether free or guided, of tendencies toward concentration and dispersion, although these conditions vary depending on the specific forms of modernization and the types of activities that affect spatial organization. At the present time, due to the demands of technology, the production apparatus is experiencing a growing tendency toward concentration, which also translates into a concentration in space. Likewise, the State, which everywhere has become a modern State thanks to the new conditions of international life imposed and facilitated by technological factors, finds itself endowed with centralizing forces. Centralization is not only about control over political and economic decisions. The exercise of the functions of the modern State requires an organization of transportation whose tendency toward integration favors all kinds of concentration.

Nonetheless, the technological period is the first in the history of the Third World to experience the widespread spread of two of its variables developed at the center: the spread of information and that of consumption, and this is more noticeable in Latin America than elsewhere. This certainly results in a tendency for migration, but it only affects part of the population, due to the very fact that the transport revolution makes the spread of certain goods easier. On the other hand, the State is not and cannot be indifferent to the new needs created in this way, which still remain out of reach for most individuals. He is therefore called upon to provide, either for free or almost for free, a certain number of services, such as education and healthcare, which play a role in retaining people, at least temporarily. Thus, the distribution of goods and the provision of services, which require a minimum level of gathering, are responsible for the creation

of small towns in rural areas, while the concentration of production with the creation of monopolies is responsible for oversized cities.

We therefore have, as factors of concentration, the organization of production and the State, and as factors of dispersion, the population, through its new demands based on the spread of information and consumption, and, once again, the State.

Depending on whether the State uses its resources to directly or indirectly facilitate the concentration of production, or if it uses them to provide services directly to the population, the results are very different. The problem, however, is not just wanting to do it, but also being able to, since concentrations lead to monopolistic and oligopolistic forms of organization, which share with the State not only the people's savings but also the decision-making power, which they use in their own favor; in other words, it further aggravates the concentration.

So, we can, then, with Myrdal (1957), talk about cumulative growth. The idea is that, at some point, the external and agglomeration economies would be replaced by diseconomies and it would only hold true if the big companies took on the costs of infrastructures.

J. C. Funes (1972) criticizes the analogy that people have tried to make between developed and underdeveloped countries by suggesting possibilities of spreading development from a more developed region. Since growth is cumulative in the same areas or regions, reducing regional income disparities cannot be achieved through sustained growth. Funes (1972) also points out that “external economies and agglomeration economies are used by the capitalist sectors of the respective urban centers, while diseconomies are absorbed by the state and the entire population of the country”[10].

In intermediate cities, the location of modern activities, starting with industries, doesn't depend on the importance of demand for innovation, as J. Friedmann (1969,

[10]“This approach assumes the possibility of two types of economies and diseconomies: Global or social, and individual (companies and households). Although there is the possibility of transferring individual diseconomies from companies and people - located in big cities - to the public sector (due to the demands for increasingly expensive infrastructure without a proportional increase in fees) or to the population of the whole country (through the prices and services produced and offered by the big cities), it's clear that there won't be any incentive to move to other urban centers (because of the disadvantages for firms and families), as the theory developed in currently developed countries suggests. This seems to be one of the key points for understanding the urbanization process in Latin America, but it hasn't been considered in research done so far (J. Funes, 1972).

p. 10) had thought [11]. B. Berry was also wrong (1971, p. 116; 1972, pp. 340-342) when he suggested the existence of a hierarchical filtering-down process, that is, according to the rank-size rule[12]. These authors ignore the realities of the current world and their projections in the Third World, such as the role of global production structures in organizing space. Berry (1972, p. 342) presents as one of the reasons for hierarchical filtering the migration of firms from large cities to medium-sized cities in search of cheap labor. Lasuen (1969, p. 150) showed that “wage differences between regions are not a dominant location factor.” It’s in terms of system structures - from Godelier’s perspective, which we’ve already mentioned - that we should think. Forgetting this can only lead to mistakes. That’s why theories like “concentrated decentralization” (Rodwin, 1960) remain without a future, while everywhere, the selective and cumulative concentration of modern production and the widespread diffusion of impoverishment are getting worse.

Centers of development and social justice

How to conceive growth poles that take into account a bipolarization represented by the existence of two urban economy circuits?

It's about finding ways to spread growth geographically and to prevent modernization, by not having positive effects on the lower circuit, from contributing to its expansion and worsening poverty. D. Morse's (1970) estimates, which suggested that 300 billion jobs should be created in underdeveloped countries by 1980, sparked a heated debate about ways to solve the problem. G. Jones (1970, p. 127) imagines, like many others, that the solution would be to introduce intermediate-level technologies into the Third World. Others, like Ramos (1970, p. 229), admit that the coexistence of modern and traditional technologies, in different proportions, can ensure full employment. But the problem is both economic and spatial. Kuklinski (1972, p. 220) rightly states that “we must remember that the main goal of our time is equality

[11]When analyzing the conditions for the diffusion of innovation, Friedmann (1969, p. 10) states that effective demand is a determining factor: The higher the demand, the greater the likelihood of innovation (the greater this demand, the higher will be the probability of innovation).

[12]“[...] the innovation potential of a center is function of its own rank in the urban hierarchy, and the force exerted on it by virtue of its location relative to the other centers in the hierarchy that have already adopted the innovation’’ (Berry, 1972, p. 342).

among people, not among places.” However, the issue of equality among people is inseparable from an adequate organization of space, based on a proper production structure. How can we achieve it? The first challenge is to find a production structure that can both ensure the growth of modern sectors is passed on to non-modern sectors and also better distribute resources.

Let's imagine a moment when it's possible to change the current structure of production and, consequently, that of consumption. This change would go in the direction advocated by R. Gendarme (1963, p. 355) when he stated “redirecting the modern sector to the interior.” Breaking free from international models would, on one hand, reduce the scale and indivisibility of investments and, on the other hand, free up more internal and external resources. The first consequence of this would be a decentralization of “modern” activity, which would become capable of being established outside the core. Freed from the need to share national resources with oligopolistic structures, the state would be able to invest more in the outskirts, both socially and agriculturally. These two moves would result in stronger intermediate and local cities, while citizens would be less poor, since they could use more public services and have better access to goods and services provided by private companies.

Let's take a look at what’s currently happening in the cities of underdeveloped countries. You can see, especially in the big cities and mid-sized towns, a marginal upper circuit alongside a proper upper circuit (Santos, in press). In mid-sized towns, the relationships of the marginal upper circuit with the lower circuit and the corresponding population are more important than those of the upper circuit. These activities are similar to those of the lower circuit because they are created based on regional demand and don’t have a reach beyond the region. In major cities, this marginal upper circuit is, tactically, an ally of the upper circuit. They form a system through shared interests in price setting and market division. But the marginal upper circuit in intermediate cities doesn’t take part in such an alliance; its survival depends on the lack of conditions for upper circuit competition to establish itself long-term. The case of Barquisimeto in Venezuela is typical of this kind of “ascending” industrialization. The progress in technology, management, and transportation, sooner or later, leads to the decline of firms in the upper marginal circuit, and all decision-making, if not all production, happens in the big-headed city. The upper marginal circuit was able to supply neighboring populations while also providing a larger number of direct and indirect jobs locally.

However, it struggles to survive due to the influence of a system that supposedly increases the economy's productivity but weakens the state, weakens intermediate cities, reduces the number of employees, and worsens the problem of poverty.

Actually, it's not proven that large production units are the ones with the highest productivity levels (Messner, 1966, p. 243; Owen e Shaw, 1972)[13]. Plus, we shouldn't forget the abundant labor resources, whose contrast with the lack of capital has long been calling for a more rational solution to Third World problems.

A reduction in the technological gap could allow for less exploitative relations between the upper and lower circuits. Under current conditions, if the lower circuit plays a role in buffering the modern economy and the impoverished masses it employs, it is above all a transmission belt for popular savings, which “flow up” through different channels towards the modern circuit. The latter, dominant one, is the only beneficiary of what G. Bedford (1972) called persistent poverty. Under the conditions we just simulated, simply because citizens would be less poor, the lower circuit would change due to the increase in its productivity and would get closer to the modern circuit. This one would be less modern, less superior; that one, less inferior. Strengthened, the intermediate cities would have a truly regional role. Able, in this way, to effectively lead their region, these cities would have numerous knock-on effects, both economically and socially. They would be true hubs of economic and social development. Migration flows would be redistributed among the various cities in the network, and we would be looking at a system of growth poles, as Hansen (1971, p. 195) had suggested, instead of a single hub. But above all, they would be hubs of economic and social development.

Our model is quite general and needs to be refined to take into account the realities of each country. The combination of economic and political possibilities will determine the measure of success of the initiatives. However, one should not forget that any isolated solution cannot be truly effective, and that it should only be considered as part of a global strategy, never as an autonomous solution.

[13]“The myth of higher productivity in big companies should be scaled down to its real dimensions. Production capacities don’t exactly match productivity indicators” (J. Messner, 1966, p. 243).

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