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From the regulation of space to the space of regulation

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In the second half of the 1970s a new approach to economic problems developed in France, "the approach of regulation". During the 1980s it spread on the one hand from a little circle of French economists to other disciplines like geography and industrial relations, and on the other hand to other countries, in particular the Anglo-Saxon countries. The article which follows attempts to present the effects of this approach on those sciences which take account of the organisation of space : geography and urban, regional and international economics.

The approach of regulation is first of all an amendment of the structuralist approach. Instead of noting the permanence of the structures and evaluating their effect on the behaviour of agents, one questions the very stability of these structures. How are structures, in spite of their contradictory character, reproduced through the a priori divergent expectations, interests and actions of economic agents ? The answer is in the analysis of habits and institutional forms which induce or force the agents to behave in a way which is not antagonistic to the reproduction of the structure. This unity of "rules of the game" and procedure of resolution varies in time and space, in such a way that the structures can "function" in different ways, which are relatively stable between two crises. This method of functioning is called "the accumulation regime".

There is a terminological problem with the translation of the French term "régulation" into English. In French one distinguishes between the word "régulation" (a cybernetic term which indicates exactly the way the evolution of the elements of a system are adjusted to the functioning of the unit) and the word "réglementation" (group of institutionalised rules which can in effect serve the "régulation"). The English word regulation has more the second sense, but the English translations of "régulation" have only given the broadest sense of the French word.

The method of regulation and the accumulation regime first studied by this approach form. the model of capitalist development dominant after the Second World War, "Fordism". Fordism is characterised (very schematically) by :

- a "Taylorist" division of work between activities of conception, skilled production, and unskilled production, all governed by hierarchical procedures;
- a system of accumulation based on the redistribution of the gains of productivity to the workers, in a way that will guarantee the growth of effective demand;
- a means of regulation that guarantees this redistribution through social legislation, collective agreements and Welfare States.

Since the first works of the School of Regulation translated into English were dedicated to the study of Fordism, the impression spread that "the theory of regulation is the theory of Fordism". This is untrue. The approach of regulation is a method that can be applied to many objects : models of economic development pre or post-Fordism, or even... theatre plays! The essential thing is to concern oneself with the relationship between a structure and its elements. Here we are going to concern ourselves with the relationship between a structured space and the agents within it, or with the relationship between global spaces and constituent sub-spaces.

Spatial metaphors offered an inexhaustible reserve of images to the approach of regulation. And this is normal: as it was necessary to study the changes in time and modes of regulation and accumulation, these were themselves conceived as "synchronies" susceptible to spatial representations (cycles, stationary regimes). The reflection on the structuring of human geographical spaces became themselves fields of application of the approach once it was developed, whether they deal with the emergence or the reproduction of innovative territories or of forms of industrial organisation, or whether they deal with relations between local space and global space.

1. Preliminary work

In a preparatory work, still very structuralist (Althusserian even) on urban land rent, Lipietz (1974) began with a kind of spatial regime : the Economic and Social Division of Space, and asked himself by which mechanisra this space reproduced itself or transformed itself under the private initiative of the property developers. He showed the role of the land prices and the institutions for urban planning, but underlined (especially Lipietz, 1975) two modes of regulation and production of urban space : competitive and monopolist, according to which the property developer or the public agency subjected or organised the modifications of the division of space resulting from multiple initiatives. This terminology was adopted as soon as the CEPREMAP (1977) report distinguished between the existence of many ways of regulation. In turn, the reflection on the prices of land, their active role and their divergence in relation to the Marxist "law of value", will clarify the distinction between the "esoteric" level (the world of structures) and the "exotérique" level (that of behaviour) (Lipietz 1983, 1984).

In the same way, the co-existence of different types of regions in the national space was conceived in Lipietz (1977) as the spatial spreading of the technological paradigm and of the regime of Fordist accumulation in the assembly lines. But already this very structuralist vision was qualified by the relative autonomy of the regions, and therefore raised the question of interregional regulation and the active role of regions in integrating themselves or not in the "inter-regional division of work". Once transposed to an international level, the approach of regulation was fully developed and this duality was underlined in Lipietz (1985a) : against the structuralist visions of dependency theories of the international division of labour that made the features of one region or country depend on its place in the global space, he outlined the fragility of the "international configurations", and the difficulties of their regulation, and above all the autonomy of spaces included, in this case the national States.

Following the same path, Aydalot (1984, 1986a) put forward the autoproduction of local territories... which would open the immense field of local regulation.

2. The territories : from industrial organisation to gouvernance

Following the breakthrough by Aydalot and by GREMI (who did not initially relate to the problem of regulation), the work which put forward the territorial analyses of innovation and economic and social organisation has experienced a revival since the end of the 1970s. The success and the growth of industrial regions would be due essentially to their internal dynamic. This vision broke as much with global structuralisrn (which can without doubt take into account the decline of regions : (Massey and Meegan, 1982) as with the theory of "stages of development" initiated by Rostow.

Schematically, one can distinguish many large categories of work. Initially there are those that one can group around the notion of industrial district, with three typical cases : the technological conglomerations (e.g. Silicon Valley), self-employed or small and medium sized entreprises (Third Italy), and financiers and services (the big metropoles). These works lean on the old intuition of Alfred Marshall, reinterpreted in accordance with the theory of transaction

costs or the evolutionary theories of changing technique. The analyses tend to privilege the bargaining relations between firms, but under the influence of those who support regulation, the new research takes more and more into account the other forms of co-ordination between enterprises, the type of capital-labour relations prevailing over the territory, the politics of local development led by the elite etc...

a) Research on the industrial districts

At the beginning research was carried out in Italy. Giacomo Becattini (1992), Arnaldo Bagnasco and Carla Triglia, while working on "Third Italy", and insisting on the socially endogenous character of the development (the "social construction of the market"), analysed the type of industrial organisation of these regions, which presented themselves as a mixture of competition - emulation and co-operation at the heart of a system of small and medium sized firms. The method of regulation and the technological paradigra of this productive environment allowed for an old concept to be reintroduced : the "industrial district" described by Alfred Marshall in 1900, that is to say, the co-ordination, by the market and by reciprocity founded on geographic proximity, of a social division of work (vertical disintegration) between small firms specialising in a segment of the productive process.

Piore and Sabel (1984) interpreted the success of industrial districts as a particular case which is part of a much more general tendency. Referring to the approach of regulation, they only advanced to Fordist mass production, which is rigidly structured and which would be followed by a regime founded on flexible specialisation, the spatial form of which would be the district, just as the assembly line was a spatial form of the deployment of Fordism. This new industrial divide was attributed in effect on the one hand to the professionalism of the work force and on the other hand to decentralised innovation and co-ordination (by the market and reciprocity) between forms : two features of the social atmosphere of the industrial district.

In a similar way, and in interaction with these numerous influences, research was carried out in France on localised "industrial systems" by a team from Grenoble under the impulse of Courlet and Pecqueur (1991, 1992) while Gilly and his collaborators in Toulouse are working on the territorial aspect of industrialisation and innovation.

b) The approach of the "costs of transactions"

At the same time, the Californian school of economic geography represented essentially by Allen Scott, Michael Storper and Richard Walker, impressed by the growth of their state and particularly of Los Angeles, arrived at similar conclusions on a slightly different basis, indeed in extremely large centres, in which they later recognised patchworks of districts. Then, although knowing the approach of regulation from which they borrowed some terminology, they drew heavily from neo-Marxist or neo-classical analysis (those of Coase, 1937 and Williamson, 1975) on the dynamic of the division of labour and the external effects of agglomeration.

One saw also the emergence of a "Coase-Williamson-Scott paradigm", according to which industrial organisation arbitrated between the costs of internal organisation to the firm and the costs of transaction between firms. The agglomeration of firms in the same place minimises the costs of transaction. When the growing importance of economies of scope and the flexibility of their productive systems on the concentration in big firms is favourable to economies of scale, then Fordist spatial systems (vertically integrated) will disappear in the face of agglomerations of firms looking for minimal transaction costs (Capellin, 1988).

In the same way Strorper and Walker (1989) proposed a model of emergence of poles of growth which arose from nowhere in California. Allen Scott (1988a, b, 1993) progressively enriched his analysis of systems of contemporary production : social division of labour, transactions between the actors of a production space, different types of systemic relations, a Marshalian atmosphere and institutions, role of political or almost political agents ...

One specific form of districts was studied by economists, geographers and sociologists, under the name of "technopoles", (Benko, 1991; Scott, 1993; Castells, Hall, 1994) spaces created by a voluntary industrial policy (Japan, Germany, France) or as a first stage for moving towards flexible accumulation.

From the smallest Italian district to world-wide megapoles, the new technological paradigm of "flexible specialisation" would boost not only the return of factories and offices towards urban areas, but more so the revival of the quantitative growth of the metropoles : a spatial form found at the end of the Fordist crisis. The future hierarchy of world wide urban towns and regions would result from the internal strategy of these districts or collections of districts.

c) The innovatory environment

At the cross-roads of reflection on districts and evolutionary approaches to the diffusion of technical change, another approach considers the territory itself as an "innovative environment". This possibility was particularly developed by the European team GREMI (Group for European Research on Innovative Environments - Association Philippe Aydalot). At the outset, one asks oneself what external conditions are necessary for the birth of the firm and for the adoption of innovation. The researchers considered that the firm did not exist before the local milieux, but that it was exuded by them. (Aydalot, 1986). One seeks to theorise about the different forms of interdependence which weave themselves into the territory and intervene in the technological development, in incorporating very different elements. Recent studies recuperate the work carried out in the domain of the theory of industrial organisation, and the analysis of industrial districts (Maillat and Perrin, 1992). They return more and more explicitly to the approaches, that have revolutionised the approach of the emergence and diffusion of innovation. Taking the opposite path, the evolutionists have put emphasis more and more on the "environment", and therefore, on territory favourable to innovation (Dosi and Salvatore, 1992).

d) Post-Fordism and their territory

Facing this work that everyone was theorising about as a canonical form of "post-Fordism", borrowing some elements from the approach of regulation, Dani»le Leborgne and Alain Lipietz (1988) attempted to develop a framework using this approach more systematically. This first reflection was completed by two other essays (1991, 1992).

In this widely translated triptych, they underlined many points.

*Territories are not geared towards a "flexibility" of the wage contract. Some yes, but others privilege the negotiated involvement of the workers and their qualifications, and this option is contradictory to a very great flexibility.

*The tendency towards "vertical disintegration" of the processes of production is in effect general, but there exist very different forms of co-operation and hierarchy between the firms.

*The territories or the capital-labour relationship are the most flexible, often presenting quite "brutal" market relations between the firms themselves; contrarily those where "fidelity" between capital and labour prevail, often see forms of partnership prevail between the firms.

*These diverse forms of evolution of territories (among which the authors propose a bringing together of the different types of localised productive systems proposed by geographers) correspond with the "defensive" or "offensive" strategies of their elites.

One can see : the French who favour regulation remain sceptical about the uniqueness of "post-Fordism", flexible accumulation, and its spatial expression (the district). On the other hand, Belgian economists and geographers who work according to the same methodology, advance a more united vision of post-Fordism: Moulaert and Swyngedouw (1988, 1992).

e) Network and gouvernance

The remarks of Leborgne and Lipietz on the variety of forms of inter-firm relations strongly drew attention to the relevance of the model of "Marshalian districts", regulated by the combination of market relations and an "atmosphere" of reciprocity. Economists, geographers and engineers went on to examine more attentively the forms of organisation of relations between units of production and their spatial deployment: the hierarchical form of the assembly line, and the purely market form of the district of a "Coase-Williamson- Scott-type" are only two extreme and caricatured forms.

We will call "network" the spatial dimension of one form of regulation of relations between productive unitics, and "governing" the mode of regulation of these relations, which is in general the combination of different forms : hierarchy, subcontracting, partnership, "atmosphere", public agencies or para-public. Storper and Harrison (1992) show the great variety in ways of gouvernance. Veltz (1990, 1992), an engineer, worked on the systems of big firms and the territorial hierarchy of production. The logic of externalisation does not necessarily signify the return of the market. The hierarchical organisation transforms itself into a network organisation, built around notions of partnership, contractual relations, flexibility, and inter-firm co-operation. The same terms appeared of course in the analysis of districts and environments.

f) Gouvernance, conventions, institutions

Storper and Harrison (1992), we have already seen, introduced into spatial analysis the notion of "gouvernance", as a form of inter-firm organisation, going beyond market relations. It is a question of a complex theorisation resulting form increased reflections in the domains of industrial organisation, the division of work, the institutions, the conventions, and the possible location. But it is understood that this concept can extent to every system of human territorial relations.

Salais and Storper (1993) analyse the possible forms of economic coordination between people, products, conventions, elementary action registers and the forms of uncertainty to which are compared economic actors, and the "possible worlds" of production in this way envisaged are compared with real worlds, through regional empirical studies. Salais and Storper construct also national economic identities for many countries.

In this way a broad sense of the concept of gouvernance emerges : the collective ways of regulation between the pure market and pure politics (of the Nation-State), that is to say what Gramsci called "civil society". The School of Regulation owes it seems a great deal to Italy.

3. The local and the global

Earlier, it was argued that those who favour regulation took up the problem of the articulation of local spaces and global spaces. It even served as a paradigm for the modal reflection on the regulation approach : the individual social relationship processes of Fordist production tended however to establish itself. Lipietz (1985, 1986) was in complete agreement : there is indeed a "world economy", but it hasn't a causal force. Multinational firms are not any longer the

creators of the "New international division of labour", and this division is rather a configuration, an encounter, weakly regulated by national trajectories, certain of which, present a strong dependence on the global context (whence their names of primitive Taylorisation, peripheral Fordism, etc...

This notion of a vague regime and of weak regulation confirmed the point of view of the specialists of "international regimes" like Krasner (1982) and Koehane (1982), and more generally the School of Cornell and the International Organisation review. But it also opened a new way to reform "neo-structuralism" that could resolve itself to apprehend the territories (they were innovative districts) like monads exchanging products.

The debate caused a storm among geographers, sociologists and regional economists who were divided into two camps that drew on different versions of the regulationist heritage : those who privileged the structure of the local; and those who privileged the constraints of the global and were critical of the "mythical geography of flexible accumulation" (Amin and Robins, 1992) and underlined the weight of oligopolistic structures (Martinelli and Schoenberger, 1992) and the dominant megapolises (Veltz, 1992). Three collections develop this debate (Storper and Scott, 1992; Benko and Dunford, 1991; and in French Benko and Lipietz, 1992).

It must be admitted however that behind this debate (local/global) is hidden a certain incapacity on the part of those who favour regulation themselves to identify the traits of post-Fordism. The weight of the hypothesis on flexible specialisation in the area of the influence of regulationism in the midst of the Anglo-Saxon world (see for example the journal Society and Space) has often clouded the issue taking too literally the hypothesis (that originated in the earlier work of Mistral) that the transition of an area from Fordism to post-Fordism implied the adoption of a single new model of development. French doubts about the singularity of post-Fordism (Boyer, 1992; Leborgne and Lipietz, 1992) re-opened the debate by asking if différent models of development coexisted in a single global arena.

4. Conclusion and research directions

As has just been shown, the richness of the regulation approach to the analysis of space leaves, for the moment, more questions unanswered than answered, all the more so because "space" is by nature an interdisciplinary terrain.

It is first of all the "regulation of the local" and the concept of governance that it should develop. There is also the question of interlocking spaces. Between the resurgence of the "local" (as a condition of competition and of social regulation) and of globalization as the space in which the economy and, indeed, culture develop, the regulation approach allows for a profoundly renewed concept of international relations. Some explicitly regulationary texts (Lipietz, 1992, 1993, Leborgne and Lipietz, 1989, 1991, 1992a) took on board the question as such : the influence of international modes of regulation on the selection of technological paradigras, the macro economy of continental agreements (CEE, ALENA), and the possibility of the coexistence of different models of development in the same area of freetrade. These reflections rejoin the evolution of "neo-structuralists" (Palan and Gills, 1994) and are manifest in the launching of the *Review of International Political Economy*.

Finally, it is possible to observe a certain "rapprochement" between the Anglo-Saxon sociological (and even aesthetic) reflections on space, inspired by Giddens (1984), his "structuration theory" and the debate about "structure versus agency" and the problematic of regulation. This convergence is further accelerated by the even more ambitious bringing together by Harvey (1989) of "post-Fordism" and "post-modernity" (in architecture and urban planning). Works such as those of Gregory and Urry (1985) mark out this convergence which makes a link between the French approach of regulation and radical Anglo-Saxon geography (represented for example by Antipode) and even with Feminist geography, which poses the dual question of the spatial deployment of relations of gender and the social (and hence localised) construction of gender (MacDowell, 1992).

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