

Reading Record

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Date

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1 Introduction

Preface by Raffestin :

Network and Territories : two notions that can represent both geographical materiality and theoretical domain.

Crucial notion : articulation space-network-territory. Need for a theory, some “laws of progressive composition”.

Sketch of a theory (from Nicolas Curien) : territoriality = projection of a system of intentions into space ; systems of intention are expressed within material and social networks. Successive temporal imbrications [dynamical causalities ?]. Importance of power in the process (network operators) : role of governance.

Role of information : modification of mobility but no decrease. Role of social networks and company networks. Network of cities : also conceptual indetermination.

2 Linear Reading

2.1 Introduction

Various questions from crossing of different disciplines : do networks contribute to territorial fabric ? correspondance between network and territory types ? Deconstruction of territories by increasing networking ?

→ different significations and notions across disciplines.

First technical networks : materialisation ; II : network operators ; III : communication networks and IV social networks ; V and VI : companies and city networks. *Overview of semantic variations linking networks and territories*

2.2 Technical Networks

A contradictory discourse

Functionality of technical networks. Simple to define but complex to qualify : various agents involved. Structuration and destructuration of territories : cf Curien. Three layers in network : support (infrastructure), service and information.

Geographical Scales of Technical Networks

Dupuy : technical network as a functional entity of territorial systems.

Morphogenesis of Technical Networks Morphogenesis = transformation of networks. Material complementarity in first phase of network development, more free later (territorial coverage). No general rule for territorial limits or contribution to hierarchy of nodes.

Scale formatting, or connection against boundaries Historical role of networks in structuration of national spaces. Dialogue between scales of network and territories. Network fixes reference scale. Territories disappear while other are born ; homogenization only in rare cases of a covering network. Technical network contribute to scale definition. Correspondance between **Institutional territory** and **functional space** not necessarily direct.

Interconnections and scale skipping Example of RERA : difficult to define a reference scale (multiplicity of usages : multi-scale integration ?)

→ so-called scale skipping, not strictly hierarchical interaction between scales. (// rq : different to hierarchy in more simple CAS ?). phenomenon induced by network interconnection.

In this multi-scale context, network becomes *relay* between territories at different levels. Furthermore, no more correspondance between network scale and territory scale. Not to be confused to a “disparation” of scales.

Network vertices, between nodes and poles Importance of network vertices. Increasing role because of evolution of network structure (hub and spokes). Nodes becomes a “pole”, structuring space around it. Difficult question : what is required for a vertex to become a pole (in many complementary ways).

Network Material Insertion : Street Network example

Definition of *voirie* (no english term) : public domain.

Spaces and flows Different public administrators ; collective functions. role of public space : more than support (transportation) and services. *Genie Urbain* : ensures multi-functionality of public space.

Conflicts of use and heritage management Conflicts between actors of *aménagement*, accentuated by variety of scales.

Voirie as a concretization of interactions between territories and networks : has characteristics of an heritage.

Voirie as road network participates to construction of individual territories, but *voirie* as territory on which administrator can control uses.

Transportation Networks, Cornerstones for Territorial Dynamics

Transportation Network can be infrastructure or services using infrastructure.

Effects on accessibility Accessibility : link between places and resistance to exchange flows (as a function of distance, time, cost).

Transportation Network as links and vertices, through which one accesses the service.

Transportation Network Morphogenesis : decision processes of implantation and local realization. Morphogenesis is decision processes of construction and localization.

Morphology of transportation network ensures more or less territorial connectivity.

Evolution in time of the role of infrastructures : apparition of “tunnel effect” (Bonnafous). High speed networks (rail and motorways).

Different homogeneity and isotropy parameters depending on network type (ex : road nw vs TGV) ; loss of spatial equality through tunnel effect. Hubs and interconnection : increase of polarisation effects. Impact of TGV on importance of nodes of the old network. Also impact on local reorganisation of urban functions.

Socio-economic impact of transportation networks Direct rapid effects : choices of mode, mobility modifications, local economy. Long term : indirect effects (structuring effects).

Difficult question of structuring effects : no determinism. Defenders of this rhetoric base their discourse on technical determinism, mechanical metaphor, pure rationality economic model, positivism. Position linked to economical context ; in stagnation apparent causality does not exist anymore. Transportation networks as product and support of socio-economic activity. TGV can have very different effects : Le Creusot vs TGV Atlantique.

Socio-economic effects of transportation networks translate territorial dynamics. Congruence of both evolution at a macro-economic level (offer of innovation satisfy needs generated by socio-economic evolution). Innovation are locally appropriated, yielding local impact ; linked to representation of networks: opening, power, efficacy. Local adaptation can take the form of opportunities or resistance (nimby). Strategy of local and global actors are determining and can be illustrated in different ways.

High Speed Transportation Territories become closer ; spatial division of work increases, increasing mobility and concentration of transportation networks in high population density areas. Issue of too strong differentiation of territories, condemning some. Coordination problems between institutional territories yield difficulties for solidarity between territories.

Temporalities

- Very different temporalities in interaction between networks and territories
- Geographical scales as object of study and instruments
- potentialities, opportunities and strategies
- other approaches than dynamical : network as public territory
- relations between different types of networks : operators as mediators ?

2.3 Network Operators

From Infrastructure Management to Territorial Service Offer

def of network operators depends on how def of network is broad : can be manager, but also a set of actors in the case of a network of transactional projects. Operator is necessarily territorial.

Territory following Roncayolo : belonging, power, globality, representations. how do operator change different dimensions ?

Technical networks : expression of a system of actions

Insertion of networks in institutional territories is understood through specification of relations between actors.

Public service : unique and monopolistic exploitant.

French specificity in France, cooperation between public and private sectors ; equilibrium between productive and political functions.

Historically, appears in technical transfer for local public service ; later regulated and nationalized. different evolution of local and centralized, local closer to users.

Deregulation against monopolistic situations.

Network operator is the key for public service, has a composite role : technical, economic and juridicial.

Scales of territorial regulation of networks depending on scale, very different role of regulation and relation between operator and political.

French regions :local scale. deterritorialisation because of high speed network. consistence of intermediate scale ?

european networks : greater level of governance.

Network management, spatial and territorial implications manager change space through technical infrastructure ; and socio-economic relations through offer ; creates territory.

Different roles of network manager → technical, commercial, economic, investor, etc. - in relation for each with institutional territory and social territory

Morphogenesis and Extension **Morphogenesis of networks : extension and space, beyond territorial boundaries.**

Network externalities : production costs and scale economies depends on which network.

Functional space of nw ; its functionalities are essential in its morphogenesis.

Equipements and Functional Logics Territory of operator : depends on function. adaptation of institutions to functional territories.

Dichotomy between functional and institutional territories.

Network Public Policy : Regulation and Opening