The planning of the space of Transport: hegemony exercises; cognitive errors and false consciousness

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The planning [of the space] of Transport was established as a multidisciplinary field, academically and in operation, in the post-war era of economic euphoria, and in complete alignment with the hegemonic model of the “Trente Glorieuses” of reconstruction of the so-called Western world: a rational state-economy relationship or more accurately the subordination of profit to the [national] political power. Therefore, the origins of the planning tools in Transport are not accidental. They have their roots in the military applications that were to serve the military logistics of American troops in Europe and the Pacific during the 1942-1945 period.

The credo of planning [the space] of Transport is the maximization of the functionality of the transport system. It is a hegemonic model of planning not only for Transport but also for the
space as a whole in all of its scales, and even in harmony with the echo of modernism. The dialectical relationship between hegemony (ideology and politics) and economy is fertilized\(^2\), at different shades but also with commitment, from both sides of the Atlantic, and dominates as an imported planning act (or also inaction/“laissez-faire”) in the Western-less “sophisticated” European hinterland and the so-called third Asian, African and Latin American world.

The models of analysis and forecasting of demand for movement, products of mathematical formalism for the simulation of production, attraction and processing of moving flows, are prominent features in the planning [of the space] of Transport aiming to create low viscosity flow conditions. There are already indications that the simulation of movement flows, i.e. human flows, acquires a mechanistic nature, is reified to the effect that it is studied in terms of Mechanics of incompressible fluids (Bernoulli law) or in terms of classical (Newtonian) Mechanics of solids (law of gravity).

Low values of viscosity in fluids (or measurement for solids repulsion) are achieved in pipes, (or in other infrastructures) with high geometric and operational standards. And in terms of vehicle flows in the city, this condition is satisfied in [enclosed] urban motorways. From their structural constitution, therefore, the models of Transport planning have a rather finite capacity to cope with the often chaotic complexity of typical urban roads with varying cross sections and sidewalks, intersections with other roads at irregular intervals, the coexistence of various types and volume of vehicles, intersections with pedestrian flows and ultimately the frequent saturation symptoms. Or to put it in another way, these simulation tools were set up to serve the sovereignty of motor movement flows (and not only flows of passenger cars but also of public transport with absolutely distinct infrastructure such as subway systems) in a “fast” city, under the doctrine of functional-
ism. De facto, therefore, the models are adapted to the aspirations of the automotive lobbies, heavy urban rail industry and heavy urban transport infrastructure developers. The fact that the usual practice of simulation, more or less, fails in the usual urban road environment, is overlooked. So, this is not a simple cognitive and thus pardonable error, but a conscious one.

A few words on functionalism are useful at this point. It is well known that its applications are aimed at optimizing the resources–effect relationship. Especially in the field of transport and more specifically of road transport in the city, this theory besides that is based on debatable for their correctness assumptions, leads to tautologies and recycling of these assumptions, almost in terms of self-fulfilling prediction: High assumptions of motoring evolution → high assumptions of mobility growth → need for spatial decompression of activities and land use → dependence on privately owned cars → development of new high-standards road infrastructure → and anew high assumptions of motoring evolution, and so on. In fact, in the field of urban transport the attempted optimization of resources–product places emphasis on the quantitative aspects of transport, namely the insurance of high capacity transport for the pursuit of high speeds, which already from the Interwar period is the object of desire of generals, businessmen, and other speed zealots like futurist Marinetti, not only in the capitalist but also in the then existing socialist world.

Let us now see a socioeconomic issue, which in terms of corporatist slang, that of the [transport] planners / modellers, is attributed as [unit] value of time, $\lambda$, which is a dependent on the socio-economic state of the transported person. High values of $\lambda$ push for high speed of Transport that is consistent with the popular saying “time is money”. So, high incomes push for the creation of generously dimensioned transport infrastructures, for a modern, “fast” city, and accept to pay for it, knowing well, that the low incomes, which obviously do not share the same willingness to pay,
will practically release part of the road that normally, that is without payment, corresponds to them. Here rests the mechanism of the so-called urban saturation toll in London, Stockholm, etc., so as to ensure attractive flow conditions to the private cars. In fact, if also taken into account the very high fare of the basic subway ticket (4.30 pounds) in London, low incomes are either repelled to cheaper but much slower buses or curtail their mobility and as a result are forced to exclusion. In contrast, that is for the «slow» city for all, some few dare to speak up (within the frame of social ecology perceptions) and as “marginals”, like Ivan Illich (1974), are held in contempt by the mainstream planners and by all agile by default modellers.

THE TRANSPORT PLANNING TO EXERCISE HEGEMONY: COGNITIVE ERRORS AND FALSE CONSCIOUSNESS

It is necessary at this point to discuss the fundamental notions of economy and hegemony and of their relations. The dialectical thinking of D. Kotsakis (2016) is utilized, as it unfolds in the forthcoming work “Class conflicts and hegemony in the social space. The dynamics of the common”.

Economy: Production of social life in a social system, including the according to Engels (2010) production of means of subsistence, see Origin of the Family, Private Property and the State.

Hegemony: Reproduction of social subjects as constituted persons and reproduction of the social relations amongst them. The hegemony corresponds to, according to Engels [see above], the production of the people themselves. The hegemony, therefore, according to the Gramscian analysis (Gramsci, 2008), refers to the reproduction of the social system. In the capitalist state, the [state] reproduction of social subjects is ideology, and the [state] reproduction of social relations is politics. Therefore, hegemony is the unity of ideology and politics.
By the end of the so-called “Trente Glorieuses”, the national capitalist state (its inter/transnational versions included) exercises sovereignty in accordance with the dialectical relationship of economy-hegemony, where political power has the primacy. And in the field of transport, economy [infrastructures, machinery and labour] ideology [reproduction of social subjects, namely transport operators i.e. owners of means of production - managerial techno-bureaucracy - workers and the transported persons] and politics [reproduction of relations of social subjects] are dialectically synthesized. Thus, up about to 1980, also in Transport, economy subjects to hegemony, in other words, the political power is predominant.

Without doubt, even since the mid-1950-60, the emerging universality of concepts and practice is detected in the planning [of the space] of Transport too, foretelling the new supranational hegemony that is constructed on the basis of an economic-ideological sovereignty after 1980 and consolidated after 2000. Transport, thus from a space of economic production of social life and ideological-political reproduction of the social system, which according to the first constitutional texts of the 18th century is recognized as a fundamental right, is converted into a space of supranational economic-ideological sovereignty with real subordination of the political power to the economic power, i.e. to profit (Kotsakis, 2016). The satisfaction of latent demand (that is the unrealizable desire of vulnerable persons for movement) is deemed irrational by economic criteria. Movement from a right shifts to a tool of [economic] negotiation of social exclusion or integration. And especially for immigrants and the other outcasts, indigenous and foreigners, the administrative [ensuing economic] ban on movement is the primary against them exclusion measure, reaching even to cruel incarceration.

Movement: Transport now becomes an act of economic transaction in terms of profit, therefore, extracting a significant propor-
tion of surplus value, to the extent that Transport even today, and
definitely in the medium term, remains a labour intensive sector,
even with the reversal of the relation demand-supply, or in other
words by replacing the “orthodox” perception that demand dic-
tates supply, from the full liquidation of the demand following
the changes of supply: supply creates demand. Hence, the prima
facie irrational choices, such as the Thessaloniki submerged mo-
torway (finally cancelled), the Thessaloniki Metro, Via Egnatia,
the Betuwe Line (German and Dutch Rhine to the North Sea) and
of course the field of digital services for the demand management
via [hyper] information.

Especially in the field of aids for travel information and for
demand management (typical sample of completion of energy
with information) the production of digital tools (supply) antici-
pates the demand, provokes and binds it. So, Transport follows
at this level too, the market trends, often excessively, since many
“smart” aids have marginal value of use (and disproportionately
high exchange value).

And the scientific events adjust accordingly. The Transport
Conferences nowadays ignore the [basic] research and focus on
innovation. Most “scientific” conference papers approximate
information leaflets and household appliances manuals. Even
the titles of conferences play the game of seduction to attract
financiers and (paid) delegates e.g. “Transport Research Arena”
(sic). And the institutions of management of research and innova-
tion programs (usually of mixed composition, state and private)
amongst them state-owned universities, set as a basic criterion
for evaluating the performance of the scientific staff the proceeds
to be received by the institution from the development and sale of
innovation; or in more vulgar terms, how much money the pro-
fessor / researcher (original publications and conference papers
are now deemed as secondary criteria) brings to the University.

Naturally so, academia joins the uncritical, almost aphasic,
adoption of methodological “mainstream” models and tools from the field of the market: theory of consumption, return on investment capital and exploitation Co-BA and IRR, “bankable transport projects”, “willingness to pay”... The professors-researchers eagerly see to the consolidation of marketable, perpetuating rights through the most lucrative market of continuously updated licenses of proprietary Transport planning software. The University, already estranged from society because of traditional academic elitism, becomes a lever for the market, and claims recognition of that role (poles of excellence, incubators and innovation centres).

Academia now serves grand designs, which consolidate the supranational economic -ideological sovereignty: creation of major supranational Transport networks with prominent examples the so-called Trans-European [multimodal] Transport Networks (continental scale) and Metropolitan Transport Networks (urban - suburban - peri-urban) fully or partially assigned to private funds and with a declared objective of reduced direct government spending, even if the associated external and broader social (non-monetary) cost increases exponentially e.g. the rail link TAV Lyon - Turin, the planned new airport of Nantes (ZAD Notre-Dame-des-Landes), or the urban and rail infrastructure renovation project S21 in Stuttgart (with a budget of almost 7billion euros!) just to mention the most prominent examples from the social-ecological movement’s standpoint but also the “Rethink Athens” project. All these projects do not have a sufficient justification for their main transportation purpose, and there is an attempt to counterbalance this deficit by invoking anticipated external economies of the rehabilitated or renovated space.

Ultimately the planning [of space] of Transport as a field of exercising hegemony, especially in the academic aspect of production and transmission of knowledge, does not only entail serious cognitive errors looming (there will be comments on some
of the important ones) but also the false consciousness according to Marx (Marx and Engels, 1976) - see *The German Ideology*, which is necessary for the preservation of social relations, thrives (the way will be substantiated). Therefore, it does not constitute a cognitive error but a deliberate [ideological] concealment of the truth since:

- The simulation of movement, from its origins, is divided into 4 successive stages: the decision taking to move for a specific purpose, selecting a destination, choice of a transport mode, and lastly route assignment. It is obvious that this division does not correspond to the intellectual function of the transported person or to his/her actual movement behaviour.

- We have already talked about the mechanistic and deterministic type, according to Newton or to Bernoulli, of simulation models (often weakened at their interpretative capacity, with emphasis on the descriptive aspects) of the so reified movement behaviour. But reifying movement behaviour not only it is not abrogated but to the contrary is strengthened by the shifting preferences of the planners / modellers towards description-narration models of the predicted movement behaviour, as consumeristic- market like behaviour, with stochastic credit, according to the standard-theory of consumption by psycho-sociologist Luce, already from the 60s. This strategy wonderfully includes, i.e. expropriates, fundamental concepts such as the right to movement and the right to the city -H. Lefebvre (1968). These concepts are reduced to slogans-normalized in the society of the spectacle -G. Debord (1972) and delivered, as fashionable, products in the consumer society - J. Baudrillard (1970).

- Calibration of the numerical parameters of Transport planning models to the presently existing data. It is a critical
process of spatiotemporal reduction, often with no (or in the case that this is attempted, it is done with an extremely shallow view of a typical time series analysis) reflection at all on the process that leads to the projection of “today” into the future. Future is bound by the present and is planned aiming at verifying the commitment. And this is accompanied by the proper arrogant certainty of expert elite of planners / modellers (Habermas 1972). Here lies the breaking point of passing from the pardonable, perhaps, cognitive error to the unpardonable, to ideology, to according to Marx, false consciousness. There are two possible scenarios: either the resounding failure of predictions (the techno-bureaucratic hegemony sustains a setback, e.g. the case of the submerged tunnel in Thessaloniki, but is not discouraged; how could it be anyway?), or the predictions prove accurate, because they reflect the ongoing commitment to effective targeting of planning, with dynamic small-scale adjustments and gradual implementation of the planning. In this scenario, the techno-bureaucratic hegemony is recognised, takes for granted the emergence of external economies (increase in the land rent, increase in the profits of the invested of private and public capital in construction, etc.) with symmetrical diminution of the ability to exercise the right to movement and to the city, and concomitantly strengthens the exclusion. There is always also the less noble practice of “creative” adjustment of results, as long as it appears to have resulted from a scientific tool either one predicting demand or Internal Rate of Return (IRR) or both. Here the perpetuation of false consciousness is entrusted to misappropriation. And academia characteristically stays ashamedly silent...
WHAT TO DO?

First we rethink the importance of basic concepts and their derivative (cognitive) conceptions. Here the dialectical analysis of D. Kotsakis works as a motivation as well as a solid base for rethinking.

1. To recapitulate what was previously said about the dialectical relationship between economy-hegemony in the national-inter/transnational and later in the new supranational dimension:
   • Transport in the second half of the 20th century: Local, i.e. state (city, municipality, country with its inter/transnational relations) field of production for means of production of the social life on the one hand, and field of reproduction of social subjects and relations in the dialectical relationship between the economy-hegemony on the other.
   • Transport Today: Supranational (global) field of economic-ideological sovereignty and therefore of bio-political production with subordination of political power to economic (or more accurately economic-ideological) power (primacy of profit over politics). The right to movement from an institutionalized recognition of a human existential need turns into a marketable service, and definitely shifts into an exchangeable value.

2. Adding the concept of social space of Transport:
   • The space of Transport as a social space: The physical (primarily material that is) space of Transport consists of extension, time, and energy. This three-dimensional physical space constitutes the physical potentialities that along with the social ones make up the objective potentialities. Those, together with the subjective abilities, complete the social forces of the social space of Transport. So the space
of Transport is not limited to its physical dimensions, as the so-called resource-centred economistic views about space that lead to the univocal, techno-economic planning of Transport systems, maintain. And not just that. The physical space is a force of the social space of Transport. It is contained in it. And certainly Transport, as a social space, is completed with the social relationships developed between social subjects and their way of communication.

3. Concluding with the revision of mathematical formalism:
   • Mathematical formalism and simulation: Revision of the compositional capacity of the existing representation tools of the space of Transport as a social space, in accordance with the above, so as to avoid abstract formulations and simulation amalgams with concepts of either classical mechanics or capitalistic production and [market] consumption.

   With the above three conceptual arguments, I will attempt, in all modesty, the first outline of a charter for the planning of the space of Transport.

CONDITION

Following the dialectical approach of D. Kotsakis (2012) in the “3+1 texts-The Common and the Democracy”, the topos [of Transport] is the lived social space that is contained in it. Though, as aforementioned, the physical space is contained in the social space of Transport, as a physical potentiality. Let us specify this dialectic sequence: The street - She is a street girl...He is a man of the street, etc., is the topos, the social space of which are the adjacent to the street land uses and activities, while the physical space is the road or, more fully, the road infrastructure. Similarly, the square is the topos [of meeting] containing activities [social
space], supported by the natural environment and urban equipment [physical space].

In the teaching of 2000-2010 “Praxis and Space. Space and Topos”, D. Kotsakis (2014) says: “The turning of social space into topos is equivalent to the realization of social relations of space in communication relations and, conversely, the emergence of social relations from communication relations.” Seen in that light, the latent demand for movement stated earlier, is equivalent to the unrealized relations of the [contained in the topos] social space of Transport.

If praxis is two synthesis, firstly synthesis of conception and action, and secondly synthesis of theory and practice, spatial praxis [also in Transport] is the realization of relations that turns the social space to topos, and how the physical space is lived when the social space turns to topos. And surely, the spatial praxis is inherently interdisciplinary and critical [Ibid.]. Based on the above, what is a [transport] planner/modeler? He/ she is part of the social subjects of the spatial praxis in the space of Transport. He / she holds a position in the relations governing the respective spatial praxis in the space of Transport. And not the top (this is held by the owner of the project) or even the central one. So to the composition of the social forces that produce spatial praxis, objective potentialities collaborate with the subjective abilities of social subjects, which as freely constituted persons cannot be substituted by the skills of techno-bureaucracy as carrier of the new hegemony either by assignment or by grabbing. They do not subdue to the power of knowledge nor to the economic-ideological sovereignty, i.e. to profit.

The collective creative conception and action in the planning of social space, or more precisely of the topos of Transport, derives as a spatial praxis. The collective experience culminates in theory and leads to transformation of relations:

- between social subjects and objects that make up the produc-
tion of the means of production of Transport (that is economy, as defined above) and

- amongst [reproduced] social subjects of the space of Transport (that is hegemony, as defined above).

POSITION

A. Understanding the existing potentials of methodology
The systemic view was introduced in the Transport planning, turning it inconspicuously into the planning of the space of Transport in 1970s-80s. It is true that it goes far beyond the search for instantaneous supply-demand balance in terms of flow movements according to the microeconomic models, where the balance is uniquely translated to the market price of a commodity.

The system of Transport is composed of three subsystems: 1st a subsystem of activities and land uses, 2nd a subsystem of transportation infrastructure, of machines and labour and their management, and 3rd a subsystem of mobility and spatial effects. It is governed by interactions amongst the subsystems ignoring, however, the acting social subjects. The scholar is called upon to detect and analyse these interactions, as potential combinations of actions and feedback, which due to their complexity are not considered in pairs but in subgroups of more items. The systemic logic does not accommodate two, by that time, standards in the Transport planning: the time reference of instantaneous value (target year) and, single-branch approach, that of the so-called Transportation Engineer (hybrid branch of so-called spatial sciences. Given the opportunity I’d like to point out the inappropriate use of the term “spatial sciences”, as if there are sciences defined in non-space, in a vacuum or even as if they were distinct from the spatial ones, “sciences of time”, and lastly, distinct from both of the previous categories, «sciences of energy»!).
The systemic view leads to the observation of time series (time continuum: past → present → future) and the study of thus evolving relations that only a multidisciplinary approach can meet, and consequently only a group of interdisciplinary composition can actually attempt.

The methodological advances brought about by the systemic view of the space of Transport is essential to the classical, analytical, original view but up to this, since the computational tools remain subject to the mathematical formalism of the corresponding simulation school (hydro-mechanic, econometric, deterministic, stochastic) bound in any case by the “unavoidable” concepts of the value of time $\lambda$, and the subsequent generalized transportation cost ($C_g$), the IRR, etc.

It could be argued that ultimately, the systemic approach of the space of Transport is typically homeostatic and therefore, a conservative methodological approach of the reproduction of relations within the same [established] system. In fact, the most representative planning exercises of the space of Transport, with stated or latent invocation of the systemic logic, are urban transportation projects that function as locomotives and navigators of wider urban renovation/rehabilitation projects / urban gentrification e.g. The Docklands line in London, project S21 in Stuttgart and similar plans on the tram network in neighbouring Karlsruhe, the known “Rethink Athens” or even yet the incomparably humbler rehabilitation project for the St.Sofia’s axis, in Thessaloniki.

In any case, the systemic approach to the planning of the space of Transport allows, under certain conditions, the understanding of the structure and operation of a Transport system, especially of an urban one. It has, to some extent, good diagnostic capacity. However, the most basic factor for a productive use of the systemic methodology is the beyond the diagnosis overcoming of the systemic approach, the release of planning, as a spatial praxis from the resource-centred and techno-bureaucratic economism and the
fertilization of the social space of Transport as it turns into a topos of Transport.

B. Transcending commitments

If, as discussed earlier, the systemic approach focuses on the system of relations of the space of Transport, as a social space in a homeostatic manner, what is required is the ensuing. That is transcending, as a change of the relations in the space of Transport. Transcending, the change of relations in the space of Transport is subject to the analytical study of the social subjects and the social forces of the space of Transport as well as the communication mode of the social subjects.

Transcending intimates:

- Release from the restrictive classic confrontation of demand and supply, which constitutes the economic-ideological pedestal for the reifying of movement/transportation.
- Release from the concept of the value of time as a measure of the exchangeable value of transport, which thus from right switches to intermediate consumption service to perform personal or collective social activity, of economic, political or cultural purpose.
- Release, by extension, from the logic of negotiation and especially from the logic of trading, the right to transportation; redefinition of it as a sine qua non component according to H. Lefebvre’s right to the city of the people-creators in the production of social life and the reproduction of social subjects and relations in the city.
- Release from the simplistic mathematical formalism and (re)search of suitable tools for the study of movement as a right and not as a commodity. This is translated into: a. Unified (not segmented to four, three or even two stages) view of movement as praxis (unity of conception and action). b. Replacement of the theory of the consumer preferences for
transportation of *individuals* from a certainly much more complex and demanding view of the social forces and the movement of *persons*, as means of their communication.

All these to revisit, as we conclude, the condition with the constitutional view that the [social] space of Transport, turning into a topos (lived social space) is subject to planning exercises for the transcending of [intra] systemic relations. Then and only then the planning of the space of Transport ceases to be field of technobureaucratic hegemony and economic-ideological sovereignty. It is humanized (in contrast to reifying) as a *collective creative action* of social subjects, constituted as free persons to exercise their right to movement and to the city.

NOTES

1. Greek text translated into English by Elisavet Kostaki - Psoma
2. These concepts and relationships will be discussed below.
3. Cost benefit analysis.
4. Internal rate of return [of investment and operation of a system].

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