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H. Inter – and Transdisciplinarity in Science and Technology

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Mobility - polysemy with interdisciplinary valences

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Abstract. The paper aims to demonstrate the inseparable interconnections between "social mobility", "intellectual mobility" and "spatial mobility" (residential and traffic/trips). The broad themes of mobility reveal the unity that emerges from the ontological, sociological, and epistemic connections among various disciplines belonging to the human, natural and applied sciences. This unity of the disciplines involved in the study of mobility leads to interdisciplinarity. Three types of interdisciplinarity are identified and exemplified. The functions of interdisciplinarity result from the multiple structures involved in mobility research. To meet these functions, the contributions of the disciplines from several fields are decisive. But, disciplinary analysis, as a straightforward technique, monotonous and strictly specialized research tends to isolate experts in groups. Therefore, a further interdisciplinary approach is required to reach the finality of theoretical and applied research. Consequently, the path that research has been taken and will repeatedly continue starts from disciplinary research towards interdisciplinary research, and returns to disciplines, for improvement.

Keywords: interdisciplinarity, spatial mobility, social mobility, intellectual mobility, spatial capital, generalized mobility.

1. Introduction

With Latin origin (*mobilitas*, meaning the capability to move or be in motion), the adjective "*mobile*" and the noun "*mobility*" currently have several senses claimed by different disciplines.
The diversity of uses of the concept of *mobile/mobility* is the source of many confusions, and it is also the aspect that requires the identification of the relationships among various uses.

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The roots of mobility lie in the domain of the social sciences. But, considering the globalization of exchanges, increase of the flows, development of the connectivity at global level, sociology and geography face weakening effects, i.e., diminishing to the elimination of the potential of their traditional items - society for the first one, geographic space (anthropic space invested with authority jurisdiction) for the second. Even the concept of society is questioned by the controversial thesis of generalized mobility (source, and consequence of globalization) [1].

For more than a half-century, the term "*mobility*" has been mostly reduced to the interpretation of the right of freedom of movement, consistent with the modern concept of human rights. The right to mobility gained legitimacy through the Universal Declaration of Human Rights [2] which recognizes "the right of everyone to leave any country, including his own, and to return to his country" (Article 13, paragraph 1), and "the right of everyone to seek and to enjoy in other countries asylum from persecution" (Article 14).

A historical view on this right to mobility draws attention to consequences to which the present world seems to become increasingly sensitive. Philosophers, such Kant in his short work "*Idee zu einer allgemeinen Geschichte in weltbürgerlicher Absicht*" ("Idea for a Universal History with a Cosmopolitan Purpose"), published in 1784, contributed to the definition of "*citizen of the world*". His point of view was simple: "The Earth is a sphere, and we must live together on it, we can't go anywhere. Hospitality must be the main rule of humankind". But, after a few years, in 1795, in the work "*Zum ewigen Frieden. Ein philosophischer Entwurf"* ("Perpetual Peace: A Philosophical Sketch"), Kant emphasized the difference between the right to be admitted for a "temporary stay" and the right to be an "active part" of a society by the virtue of the joint possession of the Earth [3].

Returning to the present, we find that the right to mobility, to free movement, unrestricted in an optimistic and more comprehensive vision of Kant, or in the restricted interpretation provided by United Nations, cannot be identified with the mobility that is at the core of social transformation, because it is a phenomenon that manifests itself on several levels - economic, legal, religious, symbolic.

The social structures have been fluidized by the mobility of goods, people, and ideas. Therefore, mobility has become a central topic of sociology. Zygmunt Bauman claimed that we had already lived in the stage of a "*liquid modernity*", a stage of a world within the flows are the core of new social interactions [4]. Other authors [5] examine "*generalized mobility*" by increase of distances, increase of social mobility, diversifying of residences, expanding the ways of getting information. Changing of positions in a real or virtual environment (that can be physical, social, axiological, cultural, affective, cognitive) determines the necessity of the examination of the relationship between increased mobility and individual development.

The priority assigned to spatial mobility does not mean that mobility is equivalent to travel. "*Mobility is everywhere in a permanence of the existential quotidian, of the ephemeral of the definitiveness, of people choices, of the infra-local of the world*" [6]. Lévy [6] also adds that mobility is not only travel but also the possibility, potency, virtuality of travel. We are involved in the movement even when we stop. In

other words, the reference to space, to movement does not deny the social dimension of mobility, as well as spatial mobility is not reduced to travel.

Travel is a derived demand. It is an individual option. Nobody travels without a specific reason (work, study, business, trade, tourism, etc.). Hence, it is necessary to deeply understand the social interactions that motivate travel. Several disciplines are involved in identifying the goals of travel: economics, sociology, geography, and environmental psychology. In the middle of the first decade of the 2000s, these disciplines have experienced a shift of paradigm, with a devaluation of speed [7, 8], a change in the use of travel offers [9], and a reconsideration of the land and cities by returning to the interest in the proximity of the city centres [10].

Consequently, the dynamism of "*ex-ante*" and "*ex-post*" travel demand after the confrontation with travel supply [11] originates in the examination of the extended meanings of mobility that includes "social mobility", "intellectual mobility", and "spatial (geographical) mobility" in an inseparable interdependence [12].

Until recently, social mobility was identified in sociology with the generic term of mobility. The Russian American researcher Sorokin, in "*Social Mobility*", published in 1927 in the USA [13], established the fundamental concepts of the analysis of social mobility, defined as "the phenomenon of movement of persons in the society". He distinguished two types of changes in social status:

- *vertical mobility*, which implies an ascending or descending on a societal scale, and
- *horizontal mobility*, which refers to a change in relative social status or position (e.g., modification of the civil status, change in membership to a religious or political group, change of jobs at the same level of qualifications and income).

The major feature of sociological reflections on mobility consists in the social dimension of the analysis, without reference to space, i.e., without explicit connection with movement. But, in a deeper analysis, the results show that any social change (logged by social mobility) almost always involves a change of location (residential mobility is a good example of this).

Intellectual mobility refers to the mental and intellectual ability and consent to adapt to change.

Spatial (geographical) mobility means the movement of people in geographical space, movement, which can be synthesized relative to time and distance in four forms [14]:

- sedentary mobility, pendular mobility, centred on daily trips between home and place of interest (mainly for persons in rural areas, because in urban areas, the variety of places of interest causes chained travel corresponding to multiple daily activities, spatially dispersed)
- resettlement mobility, corresponding to the migrants
- reversible mobility, specific to the tourists
- cosmopolitan mobility, specific to the businesspersons.

The division of spatial mobility in the four types must be completed by emphasizing the connections between them.

2. Dynamic connections

The general themes of mobility (social, spatial, intellectual), depending on periods and circumstances, have recorded interpretations and specific highlights. The broad areas of mobility appear interconnected with the overall evolution of society, as history, human geography and sociology have acknowledged.

As it has been already stated, there are interdependencies, but also common characteristics among social, intellectual, and spatial mobility. Social mobility, for example, can stimulate (or inhibit) spatial mobility and intellectual mobility, just as intellectual mobility, through advances in knowledge and practical skills, can stimulate social and spatial mobility. In turn, spatial mobility can increase intellectual and social mobility (especially vertical mobility).

Figure 1 summarizes in a broad, comprehensive sense, the dependencies of mobility, by the evolutionary characteristics of the socio-economic and natural environment.

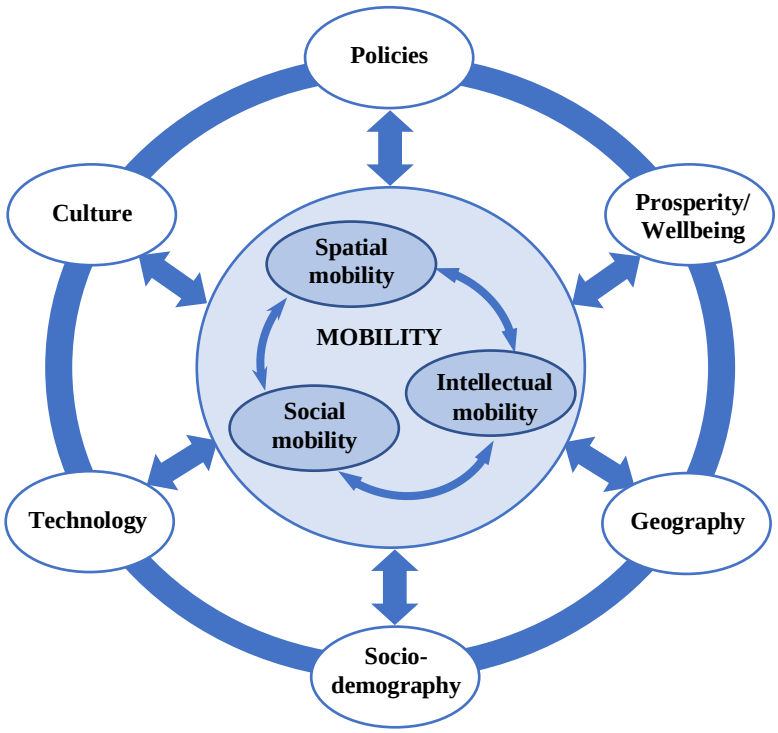

Fig. 1. Dependencies of mobility (after [15]).

Individual prosperity and global social prosperity reflected by specific indicators [16] are interconnected with mobility. Mobility represents the necessary condition for economic development. Particularly, mobility allows the future division of labour and specialization. Obviously, the reciprocal is also true; wealth itself induces mobility. Mobility is both a precondition and a result of wellbeing.

Through the progress recorded over the last two centuries, technology has led to significant changes in global mobility.
Geography has been a determinant of mobility through the peculiarities of places. Thus, mobility was more prominent in cities, along the main trade routes, on major waterways, in seaports. At present, extensive infrastructure, vehicles and technologies have diminished the differences in mobility assigned to geographical locations.
Culture, although more difficult to quantify, influences mobility. Especially, intellectual mobility is the source of differences in spatial and social mobility.
Policies influence mobility through the assumed objective of guiding and controlling development. Mainly, the policies related to traffic infrastructure are more frequently invoked, but also economic, environmental, residential policies mark the attributes of mobility.
Socio-demography influences mobility. Not only the size of the population, but also its structure and distribution are determining factors. Additionally, specific behavioural attitudes, lifestyle, family size, dominant occupations, religious values are relevant.

3. Travel - an essential form of spatial mobility

3.1. Motivation

In the field of spatial sciences, mobility is assimilated with movement, with traffic The motivation lies in the fact that in terms of space, mobility, reflected in the "*system of travels*", must be examined only in correlation with the schedule of activities, with the reasons that generate travel. Travel is a derivative demand. No one travels without a specific purpose. The movement of people, products and goods in the heterogeneous geographical space is the consequence of socio-economic activities and spatial-temporal living in a zone. Through the "*system of travels*", as an expression of spatial mobility, the impediments represented by distances, spatial dispersion are eliminated. Continuity, connections, complementarities, and interactions, required in the functioning of any spatial-social system, are created [17].
Mobility is a fundamental component of every model of spatial structuring. Mobility, expressed in traffic/trips, plays an important role in all functions of society, representing a condition, as well as an effect. Spatial mobility, in terms of traffic/trips, refers to traffic infrastructure, vehicles and traffic/transport technologies.
Because the resources necessary for economic and social life are located in different places and they can be accessed only by travel or transport, it means that traffic is undeniable. It is a substitute for the unsatisfactory diversity and abundance. During economic and technological history, travel has been a constraint difficult to overcome. The distances involved high travel costs and many physical difficulties. Long travel times, uncertainties of reaching the destination in good conditions contributed with significant weight in the value of goods and information. The technical changes of the first half of the 19th century were followed by rapid and

successive advances that imposed an effective equivalent for replacing the difficulty of accessing resources.

If a need or a desire can be stimulated by identifying and locating resources, then travel or transport can be interpreted as the action that makes possible access to resources. In this framework, accessibility designates the possibility or ability to access resources, but also, the required effort. This effort, as a specific measure, is reflected by the access time, financial cost, physical or cognitive obstacles, as well as stress. Overall, it can be assessed as a global investment. Accessibility is considered poor when the investment to reach a resource is high. Identifying and evaluating all types of investments can lead to giving up travel when the motivation is insufficient. From this point of view, travel is placed downstream of the schedule of activities and assessment of accessibility. Relative to the intensity of the need or the desire to reach resources, each person finally decides ”becoming mobile” or giving up travel. Every person also can optimize their travel by associating it with the satisfaction of several needs or tasks.

In conclusion, travel makes sense only in connection with all activities and therefore research must extend to the broader meanings of mobility. Innovation focused on reducing costs and travel times has brought latent demand (unformulated or considered utopian) closer to real mobility, expressed through traffic flow with measurable intensities and structures.

3.2. Timesaving: domains and disciplines involved

In the twentieth century, humankind took three substantial steps: the wealth was 10 times multiplied, the travelled distances 9 times, and the average life expectancy increased by 40% in developed countries. These changes produced in only 100 years are equivalent to those recorded in the previous 900 years. Hence, the permanent feeling of lack of time [18]. More than 50 years ago, Joffre Dumazedier [19] popularized the idea of the “*society of leisure time*”, believing that increasing life expectancy and reducing working hours would mean more free time. Viard [20] calculated that we have about 400,000 hours of free time in our lives, compared to only 100,000 several decades ago.

The significant increase in the budget of leisure time must be examined comparatively to the related increase of revenue. For example, during the twentieth century, in France, the average life expectancy was increasing by about 30%, while the average income of a family was increasing 11 times, i.e., by more than 1000% [18]. This means that the time available per unit of income and consequently per unit of goods and consumed services was considerably reduced. Logically, the gain in labour productivity is accompanied by an increase in the quantity of goods and services consumed in leisure time. Therefore, material, and immaterial changes in the schedule of activities have been recorded. Stimulated by the increase of incomes, the way of life and the schedule of activities has been intensified, passing from one activity to another.

Permanently moving as fast as possible has become the rule. The notions of speed and gained time are the determining attributes of movement. And as ”time means

money", increasing the speed of travel is considered as an incentive for economic development. Therefore, when the construction or improvement of traffic infrastructure needs to be monetary justified, then the beneficial effect of reducing travel time is included in the economic computations.

From the point of view of the evolution of the way of life as an effect of the increase of the speeds of movement, natural questions appear like: Do we truly gain time? Can time be saved as a resource for other activities? It is sufficient to notice that under the conditions of a relative constancy of the time budget for travel ("Zahavi's hypothesis" proves its conservation at about one hour per day [21]), an increase of the travel length is recorded (a daily average of 40 km in France, and 70 km in the USA) [22]. This increase in travel area attracts further consumption of space, and material, and energy resources. In terms of consumed space, the situation of the increasing of the motorization degree is noticeable in developed cities, where moving and stationary cars are devourers of the public space.

Although the requirements for safety, energy consumption, environmental protection, and congested traffic conditions on most road infrastructure determine that the possible speed increases (compared to those already recorded) asymptotically tend to zero, the time saving continues to be a goal. It remains for the contemporary, digitized society, in relation to the motivation of the need to travel, to find the trade-off between the real offer of spatial (physical) mobility and the virtual ones.

This brief representation of the reductionist understanding of mobility through spatial travel (with a permanent purpose to save time), which could be supplemented with references to social inequalities in access or interconnections between land-use and mobility demand, reveals complex issues. Both technical science and political decision-making are involved in searching and finding solutions to increase the quality of life. The knowledge gained by several fields and disciplines is necessary (Figure 2).

Even from this plain and incomplete presentation, it results that the contribution of the fields and disciplines is correlated and conditioned in the study of the dynamics of the decrease of travel time. Obviously, the problem of saving time for travel urges interdisciplinary research.

The scientific achievements of the natural sciences, assimilated in technological developments through the contribution of technical sciences with effects in economic, social, and environmental disciplines, cannot be treated as theoretical-methodological intersections of disciplines in the research process, but as an application of science or scenarios settled from interconnected perspectives, necessary to substantiate decisions. In this regard, interdisciplinarity reveals the social integration of knowledge as a constitutive component of the power interested in applied science.

Through the involvement of engineers and experts, interdisciplinarity is manifested precisely in the study and solving of the problems raised by increasing travel speeds (with simultaneous consequences in reducing travel time and increasing distances) in concordance with economic, social, and environmental requirements of sustainable development. The interdisciplinary analysis of alternative technical solutions in

relation with positive and negative consequences on multiple levels (using "*if ..., then ...*" techniques for the characterization of scenarios,) must be completed by responsible policy decisions and actions.

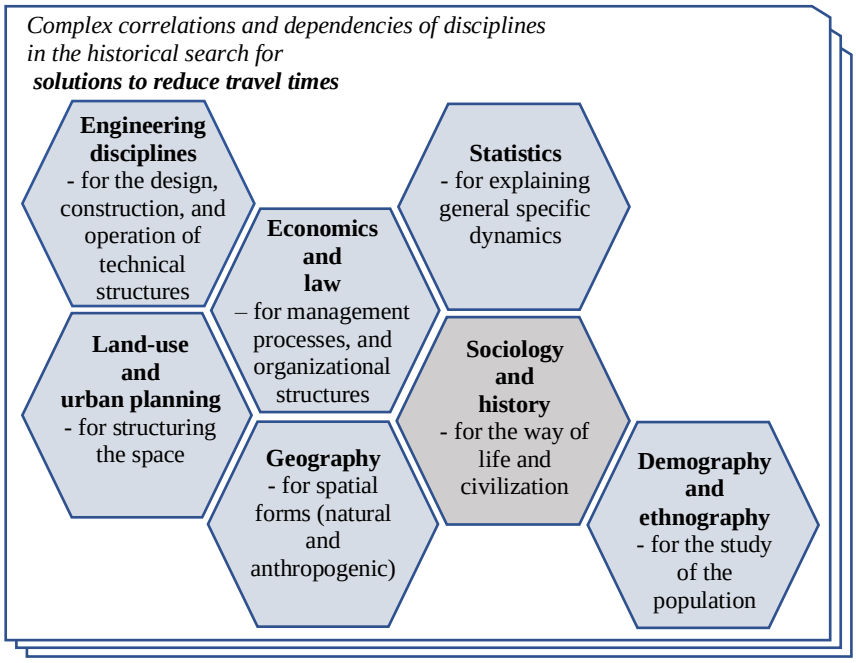

Fig. 2. Areas and disciplines involved in time-saving research.

It is clear that none of the mentioned disciplines for connections in the considered problem is able (even though development) to capture the multitude of features involved in the interdisciplinary analysis that demands coordination and integration of all necessary disciplines. At the same time, it should be noted that the interdisciplinary approach stimulates the evolution of the disciplines. For example, the sensitive issues of monetizing hedonic costs (the value of time, accidents, pollution of various categories, etc.) or the value of land, or the fragmentation of territory caused by traffic infrastructure become new tasks, specific to some specific disciplines.

Consequently, there are a mutual dependency between the disciplinary and the interdisciplinary research: from disciplinary studies to the interdisciplinary studies and from these, back to the improvement of the disciplines (Figure 3).

3.3. Social limits for travel speed

In the 19th century, the effects of machinism manifested themselves less and more slowly in terms of spatial mobility than in social mobility, and even in intellectual mobility. In contrast, in the 20th century, gradually, mobility, in its broadest sense, explosively evolved due to the access to public services and motorized vehicles with speeds difficult to be anticipated more than 100 years ago. Therefore, mobility has

become an object of study for a variety of disciplines because it had radically changed the way of life of families, the whole society, land use and urban planning.
The statement that speed is the characteristic of our age is quasi-unanimously accepted evidence.

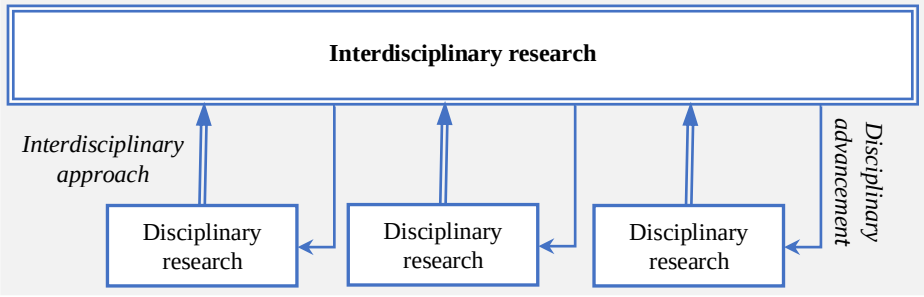

Fig. 3. Mutual dependencies between disciplinary and interdisciplinary research.

The increase of speeds has been a new phenomenon on the scale of human history. Absolute phantasm of the twentieth century, speed has remained a goal in this century, like any other among those considered fundamental to development. However, environmental requirements and increasing inequalities in spatial and financial accessibility for different categories of the population have brought in the foreground a new, sensitive issue that needs to be responsibly addressed. It has long been ignored that speed is a cost that must be identified and evaluated relative to our way of life.
The longing of "*faster and faster*", bringing enthusiasm and admiration, has been prevailed (1960, USA – a car with an aircraft engine exceeded the speed of sound; 1978, France - TGV on the new line Paris - Lyon, with 370 km/h and then, in 2007, on the new East line, 574.8 km/h; or Chuo - Shinkansen with a linear engine that exceeded 600 km/h; or in California, the Hyperloop that exceeded 1000 km/h, etc.).
But the speed revolution is closely connected to technological revolutions. Subsequently, they have directly affected the activity schedules of the population, through increases in productivity and purchasing power, in correlation with the travel time gains. Speed and purchasing power are associated with the "*mobility revolution*". There is a direct relationship between the increase of the net income of the population and the average travelled distances caused by the increase of average speeds.
The increase of the speed and the growth of the power of time purchasing are two key factors of spatial mobility reflected in travels. The two factors, with appropriate quantitative expressions, can be integrated into a composed indicator of "*power of speed purchasing*" or "*economic speed*", calculated as the ratio between the travelled distance and the generalized cost (sum of travel cost and the monetary equivalent of the travel time) expressed in time units for a category of the population (usually the one with the lowest income), or the whole population (with an average net income). Through the direct link with the generalized cost, this "*generalized time*" (according

to which the economic speed is calculated) expresses the socially necessary working time to cover the generalized cost of the trip.
The current concerns regarding the health of the planet, more and more frequently claimed at a high level, have brought "*social speed*" in the theoretical plan of the mobility assessment. But until now, the social speed, defined as the ratio between the length of travel and the time equivalent to its social cost (resulting from supplementing the generalized cost by external costs of the travel or transport), has been extremely poorly reflected in the practice of spatial mobility. The dynamics of the share of car use and road freight transport strongly confirms this situation.
Instead, the analysis concerning the economic speed is compelling in terms of giving up supersonic aircraft in civil aviation. E.g., for the Concord supersonic passenger plane flying at over 2000 km/h, a fare of 12,000 euros was applied on Paris - New York round trip (about 12000 km) in 2001. For a minimum net income of 6 euros/h, that fare was equivalent to 2000 hours of work and an economic speed of 6 km/h. A classic plane provided the same service for a fare of 600 euros, corresponding to an economic speed of 120 km/h [23].
Nowadays, the economic speed or the generalized cost is decisive in the chosen alternative for a certain trip by an informed user. "*Tomorrow*" these attributes must be replaced by social speed and social cost. To reach this "*tomorrow*", the mobility offer must be restructured accordingly to the requirements of sustainable development. Also, the users must be aware that mobility is a cost in monetary terms or changeable units of time. Mobility must be treated as a wide-ranging concept that integrates a set of individual and collective strategies to access opportunities and services. It is the one which must adapt itself to the offer and not contrariwise. The new individual and collective environmentally friendly mobility offer for urban and interurban travels, and contemporary mobility behaviours (in which the logic of efficiency of the public offer gains an increased weight following a correct and responsible equivalence between activities and travel chains) show that freedom of choice and competition are part of the user search for reduced generalized and/or social costs.
In this framework, a special concern is to limit the car dependency, especially for urban trips. Given the expanding contradiction between climate commitments and the encouragement of individual motorized travel, this problem is difficult to solve.

4. Discussion

The wide-ranging areas of mobility reveal the unity that emerges from the diversity of disciplines belonging to the human, social, natural, and applied sciences. Especially this unity of disciplines involved in the study of mobility leads to interdisciplinarity [24].
Relative to the extended meanings of mobility, the most important features are given by the ontological, sociological, or epistemological relationships between disciplines (Figure 4).

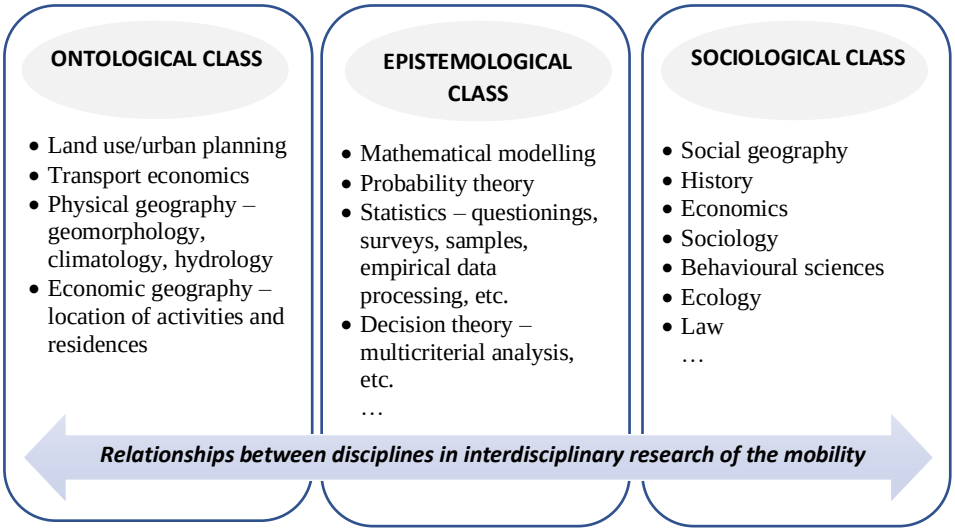

Fig. 4. The orders of the relationships between the disciplines involved in the contemporary mobility research

Different types ("species") of interdisciplinarity emerge from the integrated study of social, spatial, and intellectual mobility:

1. *The interdisciplinarity of adjacent fields* - characterized by the application of common methods of two or more disciplines. E.g., the methods of statistics and probability theory, common to economic, sociological, technical, or behavioural sciences.
2. *The interdisciplinarity of problems or groups of problems* that go beyond the boundaries of a discipline and require the collaboration of several disciplines. In this regard, the problem of quality of life could be mentioned. For the population of a territory, the quality of life essentially depends on the mobility offers and practices. The study on this issue involves the collaboration among disciplines as natural, technical, economic, ecological, and social sciences.
3. *The interdisciplinarity of concepts*, particular to situations in which the concepts developed in one discipline are applied in the study in the field of another discipline. In the current approach of mobility, two examples could be considered conclusive. Examining mobility as a social phenomenon, the geographer Jacques Levy used the concept of "*space capital*", by analogy with the economic concept of social capital [6]. According to him, space capital represents "the set of resources accumulated by a person, which allows him to obtain benefits, depending on his strategy, using the spatial dimension of society". The traditional social structure is maintained, but that person has additional capital in terms of mobility. The second example refers to the concept of "*motility*" [14] taken from physiology, to designate how a person or a group can use a set of opportunities in terms of mobility and even use it. Motility assigns the potential of people mobility. It is

considered (from the point of view of capital) as an essential resource of social position. Motility can be decomposed into factors related to *accessibility* (in a wide sense, the condition in which the offer can be used), *competence* (capability, skill to use the offer) and *achievement* of the offer. These three factors are systemically interrelated and cannot be separately considered. It should be noted that through its restrictions, motility refers to the holistic analysis of spatial, intellectual, and social mobility. At the same time, it draws attention to the artificial character of the attempt to systematize the forms of interdisciplinarity, because motility can be framed both in the interdisciplinarity of concepts and in the interdisciplinarity of problems.

The multiple forms in which interdisciplinarity appears in mobility research indirectly emphasise the functions of interdisciplinarity. At least two relevant functions result from the study of mobility: epistemological and social ones.

Epistemological functions refer to the development of structures of applied knowledge (improvements and conceptual generalizations, developments of theoretical structures, methodological advances), or to general qualitative achievements of scientific knowledge (effectiveness, creative potential, orientations on major objectives). Several epistemological functions of interdisciplinarity could be identified in the current research on hypermobility, fluidization of national societies, effects of technological progress and the information society in the field of mobility.

The social functions of interdisciplinarity, existing in the study of mobility, are emerged in the substantiation of policies coherent and concordant with the socio-economic development for the correct social solution of mobility requirements, according to ecological claims and civil rights ("*kinetic elites*" and "*cosmopolitan under proletariat*" perceive different contemporary mobility, as well as the tourists or tramps). It remains imaginary the society in which the free mobility of reasonable individuals takes place in an ideal, coherent, and homogeneous space, as a judiciously legalized right.

If it is considered only the "ideal city" in terms of meeting the requirements of sustainability, then it is found that maximum adherences are met not even at the conceptual level (*compact* or *energy-saving cities* are criticisable, and *smart cities* are still a utopia with a strong commercial connotation). Consequently, the social functions of interdisciplinarity in terms of mobility remain as insufficiently explored perspectives.

The expression of the epistemological and social functions in the interdisciplinary research on mobility problems is conditioned by the contribution of the disciplines of the mentioned sciences. Without an interdisciplinary approach that provides the finality of theoretical and applied research, the disciplinary study (as a plain, monotonous, and strictly specialized research technique) lies in a limited area, which tends to isolate specialists in groups. The four-step travel models [25] for assessing mobility demand by destinations, travel/transport modes, and routes (quoted in plentiful studies in recent decades) can serve as a good example of the need to move from disciplinary research to the interdisciplinary one and then, again, to the

disciplinary one to fill its gaps. The four-step travel models, developed in the field of transport economics, are used to estimate mobility demand over medium and large time horizons, erroneously based on current user behaviour. Considering that these models are also used to substantiate the strategies of modernization/development of traffic infrastructures, then the deficiencies are even more relevant because the transformation of travel demand into transport flow and then into traffic flow is produced by multiple uncertainties or rough simplifications [26].
In an interdisciplinary examination, in conjoining with behavioural sciences, economics and the disciplines of transport and traffic engineering, the mentioned models could have less ambiguous social results.
Scientific assimilations as an outcome of an interdisciplinary approach can improve and expand the extent of each involved discipline.

5. Conclusions

The historical evolution marked out by the effects of technological progress on the quality of life and its correlations with the requirements of sustainable development has extended the primary meanings of mobility which initially were topics of sociology and geography. Then, due to the intensive use of the car, they became autonomous in the science of traffic and, later, in transport economics. But this metamorphosis of the meanings of mobility has been not comprehensive enough. Any of the involved disciplines has not integrated the various meanings of the concept of mobility (vertical and horizontal social mobility; intellectual mobility; residential mobility - sedentary/pendular, reimplantation, reversible, cosmopolitan) with specific and multiple correlated features. Even only the fact that the number and diversity of categories of specialists interested in mobility have visibly increased (engineers, urban planners, architects, developers, sociologists, psychologists, anthropologists, geographers, biologists, economists, lawyers, historians, statisticians, ...) is sufficient to confirm the multidisciplinary nature of the mobility research. Moreover, the results of the studies of the mentioned specialists need to be integrated to support the substantiation of multicriteria political decisions on the quality of local, regional, and even global life, over long-time horizons.
These aspects strongly demonstrate that the research on mobility problems predominantly extends from the multidisciplinary to the interdisciplinary type. To establish the interdisciplinary perception, firstly, collaboration among specialists from various disciplines is necessary.
Advancement in the interdisciplinary study of the social features of mobility depends on the progress of the disciplines. The existence of interdisciplinarity is conditioned by the existence of disciplines. Interdisciplinarity evolves starting from disciplines.
In conclusion, the researcher must be able to contribute to the double movement of the cognitive process - from disciplinary study to interdisciplinary methodological examinations and then, from them to the continuous renewal of own discipline.

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