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Macro-Micro Linkages and the Role of Mechanisms in Social Stratification Research*

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Abstract: This article explores the role of theory-building in social stratification research, a sub-field of sociology whose theoretical development has not kept pace with methodological, statistical, and empirical advancements. In particular, the article proposes a new conceptual framework based on social mechanisms and the multileveled nature of the stratification process. Conceptual frameworks, which map out general principles of social organisation and social processes, are useful in guiding researchers' choice of methods and research resign. The authors argue that the identification of social mechanisms needs to be a core aspect of sociological explanation, and thus integrated into the conceptual frameworks researchers use. They apply social mechanisms to a conception of social change involving micro-to-macro linkages. The resulting conceptual framework is then applied to stratification research, where the authors observe that the micro-to-macro linkage is one of the least explored, and also one of the most promising, areas of future research, particularly for areas of the world undergoing rapid social transformation.

Keywords: Social stratification research, stratification processes, social mechanisms, macro-micro linkages

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Introduction

There are few sub-fields of sociology that can compare with social stratification in terms of its degree of progress over the last half century. This sub-field has made major achievements in data quality, above all in the development of panel and birth cohort surveys, such as the Wisconsin Longitudinal Study [Hauser 2005], and in the coding and indexing of data, such as occupational scales [Treiman 1977], the CASMIN class schema [Erikson and Goldthorpe 1992], prestige scales, and socio-economic indices. Improvements in data quality had a direct impact on methodological innovations. The development of socio-economic scales led Duncan and his associates to see status attainment as a process best analysed through the new tools of structural equation modelling [Blau and Duncan 1967]. Later, Hauser introduced loglinear modelling [Hauser et al. 1975] in order to move beyond an impasse in the study of social mobility. More recently, rich cross-national data has fostered the use of new multilevel and age-cohort-period techniques. Due to these innovations, a number of scholars have also documented a wide array of empirical generalisations within the subfield [Hout and diPrete 2006], leading Goldthorpe to conclude that, unlike some other subfields, 'a body of generally accepted core knowledge has in fact been established' [Goldthorpe 2005: 70].[1]

However, numerous sociologists have lamented that the theoretical grounds of social stratification research have not moved much beyond the work of founding fathers of the field, such as Weber and Sorokin. In the mid-1970s, Coser [1975: 692] warned that sociologists were so entranced by quantitative models of mobility and attainment that 'the methodological tail was wagging the substantive dog'. After reviewing forty years of social mobility research, Ganzeboom et al. [1991: 278, 296] reached the conclusion that '… with respect to problem development and theory formulation the field has become excessively narrow', and that 'the array of questions addressed in the first generation [of social mobility research] was much wider than in the second generation, and narrowed down still further in the third generation'.

Less than a decade later, however, the same authors [Treiman and Ganzeboom 2000] changed their view and argued that the trends in social stratification

[1] Commentators frequently point to the role of RC28 (Research Committee 28 of the International Sociological Association) as a key factor in fostering scientific innovation by focusing on a small set of solvable questions and building on the research of peers. To Goldthorpe, 'on the basis of RC28, a research tradition has been created, now extending over several generations, through which a relatively large collective of sociologists has given attention to a set of fairly well defined problems *in a sustained manner*…. It is, moreover, the international character of the collective effort of RC28 that has itself helped to protect the possibility of progress against the distractions of ideology and fashion…. Finally, in consequence of the above and also of a strong emphasis on methodological issues, social mobility research in the tradition established by RC28 has been characterized by a more serious concern of with the actual 'do-ability' of projects than has prevailed in many other areas of sociology' [Goldthorpe 2005: 71–72].

research appear to have reversed in the course of the current 'fourth generation'. This is characterised by a return to the broad questions of early stratification research (in particular, the central question of how the stratification outcomes of individuals are affected by their social environment) with improved data, improved statistical tools, and improved research designs, particularly multilevel designs that permit simultaneous estimates of micro- and macro-level effects.

One area where the sub-field has arguably developed the least is in terms of sociological theories of action, continuity and change in the stratification process. While it is well-documented that the type of education system at the secondary level can have a strong effect on the number of pupils aspiring to a college education, theories explaining these patterns are much less established. Social mobility research, while using relatively sophisticated tools of analysis, has largely been a descriptive as opposed to an explanatory exercise, because historical or other factors that could account for continuity or change in the mobility table are infrequently included in the analysis in a *testable* manner. The lack of theoretical (as opposed to methodological) sophistication in the sub-field is arguably due to the entrenchment of sociological functionalism, in which observed changes are accounted for by the perceived exigencies of social systems, such as a societal drive towards openness and education-based meritocracy. Non-functionalist theories aimed at explaining social behaviour, such as rational choice theories [e.g. Breen and Yaish 2006], or theories of individual mobility strategies, are less frequent and have emerged only in recent years.

This article seeks to contribute to theory-building in stratification research by proposing a new conceptual framework based on social mechanisms and the multi-leveled nature of the stratification process. The framework, while relatively simple, is internally consistent and enables the identification of new questions and areas of research for the development of the stratification sub-field. The framework is also based on the belief that sociology should be seen primarily as an explanatory science aimed at the identification of causal mechanisms, with descriptive work being an essential element in the process of explanation. We draw inspiration from the contributions of Peter Hedström and Ralf Dahrendorf, though we seek to integrate and move beyond both thinkers in key ways.

The first section of the article outlines the purpose and elements of conceptual frameworks as they pertain to stratification research. Next, we draw on the work of Hedström, Little and Dahrendorf in order to argue that the identification of social mechanisms needs to be a core aspect of sociological explanation. We then apply social mechanisms to a conception of social change involving micro-macro linkages. The resulting conceptual framework is then applied to stratification research, where we observe that the micro-to-macro linkage is one of the least explored, and also one of the most promising, areas of future research in the sub-field.

Key features of conceptual frameworks

In social science research, a 'conceptual framework' can be understood as a set of key concepts and interrelationships organised in a way that reflects aspects of a process or system, and which helps us guide our choice of methods and research design [Botha 1989; Shields 1998]. Conceptual frameworks organise our thinking about how to approach social phenomena and thus set the course of research investigation. Even if frameworks are not explicitly stated, social scientists usually build upon or assume some implicit conceptual framework, which shapes their vision of what variables are worthy of studying, what cases should be examined, and what methods should be used.

Conceptual frameworks are related to, but different from, models. A model can be understood as a simplified picture of a part of the real world [Lave and March 1993: 3] or as an abstract system used to represent a real system, both descriptively and dynamically [Ziman 2000: 147]. In empirical social research, models are usually understood as a set of hypothesised relationships among variables, which can then be tested in terms of the model's fit with the observed world.[2] Conceptual frameworks, on the other hand, are more general or fundamental than models, since they seek to map out the kinds of elements involved in the explanation of large sets of social processes.

For example, conceptual frameworks make explicit key assumptions about individuals' decision-making behaviour. Cherkaoui [2003] argued that social stratification researchers often make unrealistic assumptions about decision-making, such as that individuals' educational and career choices are made independently of each other. While the 'de-contextualisation' of individuals and the assumption of non-dependency among decisions could simplify what is studied in empirical work, scholars end up making reductionist hypotheses that, even if they are partially confirmed, weakly reflect the complexity of the phenomenon they seek to explain. Clearly, the context in which individual decisions take place (be it family, peers, or wider contexts such as school or community) is very important if we are to build any like 'real-life-like' theories and models.

A large degree of quantitative research assumes a conceptual framework in which there is one key dependent variable and set of independent variables, leaving no space for discussion of the empirical and logical relationships *among* independent variables. This is particularly the case in regression models that assume the non-collinearity of explanatory factors and do not control for measurement error. The assumption of a single dependent variable can also ignore situations in which it would be more desirable to analyse two inter-related dependent varia-

[2] Clarke and Primo [2007: 743] identify five different uses of models: they are either *foundational* (they provide insight into a general class of problems), *structural* (they organise empirical generalisations or known facts), *generative* (they produce unobvious directions for future study), *explicative* (they explore causal mechanisms), or *predictive* (they forecast events or outcomes).

bles simultaneously, such as the determinants of people's perceptions and experiences (of the labour market, of corruption, etc) or the determinants of egalitarian and meritocratic values. Lastly, some scholars tend to be satisfied with identifying a long list of statistically significant explanatory variables in a model with a large explained variance (r-square), which, while valuable, may fail to adequately explain *how* and *why* those factors bring about regular effects, if they have causal force at all.

It is not our intention to simply point out the shortcomings of current research.[3] We rather suggest that conceptual frameworks that can serve as a foundation for building complex models of stratification processes should have four basic features in common. Specifically, we suggest that such a conceptual framework should be: (a) multilevel, (b) dynamic, (c) un-deterministic, and (d) explanatory. We will explain these features below.

Conceptual frameworks should be 'multi-level'. Most questions posed in stratification research (and sociology in general) involve hierarchical data structures. Mechanisms may also be hierarchically nested: that is, they can refer to mechanisms nested within other mechanisms [Craver 2001; Stinchcombe 1991][4]. If we study students in schools, or schools in education systems, it would be methodologically desirable to select techniques of analysis that can simultaneously make estimates of effects at different levels of the hierarchy. In the simplest analyses, we should presume that it is necessary to take into account at least two levels of social processes, usually called micro-level (individual-level) and macro-level variables (groups or contexts within which the micro-level variables are nested). Of course, the number of levels necessary to take into account in an analysis is contingent on the research questions and the nature of the nested phenomena. At a minimum, a conceptual framework needs to enable the development of contextual models for analysing data at the micro and macro levels.

Conceptualising research in terms of hierarchical data is also useful for clearly differentiating types and levels of context, which in turn helps the researcher avoid fallacies in the ascription of characteristics of phenomena at one level to phenomena at another [O'Brien 2000]. For instance, the observation that the percentage of minorities and the crime rate are correlated at the level of police precincts does not necessarily imply that minorities are more likely to commit crimes. It is also possible that two variables positively correlated at the aggregate level can be negatively correlated at the individual level [Jargowsky 2005]. Taking

[3] Obviously, there is a large body of stratification research that avoids making unrealistic assumptions about human behaviour, that take contextual factors into account, that seek to identify causal mechanisms, etc. See Treiman and Ganzeboom [2000] for an overview of these accomplishments.

[4] This is also in line with methodological individualism proposed by Max Weber. This inspiration is actually explicitly stated by Hedström [2005: 35] when he praises Weber for his insistence that 'one should never accept aggregate correlations as explanatory until they have been broken down into intelligible patterns of individual action'.

the example of the role of social capital in society, we may hypothesise that while there is a positive association between the number of social connections and educational attainment at the individual level, there might be zero or even a negative correlation at the community level. One reason for this is that social connections may take the form of informal social networks, which individuals can usefully deploy to secure given privileges [Matějů and Vitásková 2006] like educational access, but may have negative side-effects for society as a whole. There are numerous other empirical examples of such 'paradoxes'.[5] The best way to take into account the multi-level structure of social stratification and avoid such inferential fallacies is to employ a conceptual framework that allows for cross-level analysis.

Second, conceptual frameworks should be 'dynamic' in the sense that they map out a social process transpiring over time. They should also permit the possibility of both stability and radical change. Class schemas and classifications do not provide much insight into the stratification process by themselves, but can be useful as tools in observing upward and downward mobility between those classes or categories over time. Status attainment models, for example, assume a dynamic framework in the sense that they can map out how individuals of different social backgrounds achieve certain statuses at different stages of the life course.

Dynamic or process-oriented frameworks are also important for developing causal models. When a dynamic framework maps out a process, it simultaneously indicates that there is a time-relationship between the variables, that they have contiguity (or proximity), as well as indicates the kinds of mechanisms relating phenomena to each other, all of which are likely to be a part of causal inferences. Of course, scholars making causal inferences with observational data need to make sure that there is no self-selection or other non-random assignment mechanism affecting whether units of analysis belong to the treatment or the control group [Rubin 1974; Holland 1986]. Nonetheless, a conceptual framework should at least strive to map out processes in ways that incorporate the role of time, contiguity and social mechanisms.

Third, the framework should be 'un-deterministic' in the sense that neither objective (also called 'structural') nor subjective (also 'constructivistic') forces are likely to tell the entire story. Social phenomena have an 'objective side' (such as income level and income distribution, level of unemployment, etc.) and a 'subjective side' (e.g. perceptions of income distribution, beliefs about 'who gets what, how, and why', etc.), both of which should be taken into account in a conceptual framework. While the objective side is captured in various background variables and statistical indicators (such as income, wealth, education, occupation, etc.),

[5] Tucker and Herzog [2008], for example, recently demonstrated and analysed a so-called micro-macro 'paradox' in attitudes towards EU membership: economically well-off individuals were more likely to support EU membership, but overall support was greater in economically less successful countries.

the subjective side includes people's values, norms, beliefs and interpretation of these 'facts'. The objective and subjective dimensions of phenomena can influence each other and should thus be clearly distinguished. A pupil's decision to go to college may not just be due to objective factors like his or her academic ability, social origin, and gender, but also to his or her perceived ability and educational values. Beliefs about the justice of the stratification system can be shaped by other subjective factors such as psychological ego-defensive mechanisms and objective socio-demographic variables [Kluegel and Smith 1981]. In fact, at least theoretically, subjective and objective features of the stratification system may develop in quite different ways and thus tensions between them may occur.

Lastly, a conceptual framework should be organised in a way that facilitates explanation as well as description. There are many approaches to and definitions of explanation in the social sciences. But there seems to be some agreement that a basic characteristic of all explanations is that 'they provide plausible causal accounts for why events happen, why something changes over time, or why states or events co-vary in time or space' [Hedström 2005: 13]. Because, as we have noted above, many social phenomena have the characteristic of being nested in multilayered contexts, the most compelling explanations are often those that link these levels together and thus provide consistent, plausible and empirically grounded explanations of social change.

If conceptual frameworks facilitate explanatory reasoning, this does not imply that they privilege either qualitative or quantitative research. Both research traditions involve making descriptive and causal inferences, and good research in both traditions involves usage of the same 'underlying logic of inference' [King, Keohane and Verba 1994: 4]. Social frameworks provide a roadmap for thinking about how to approach and analyze social processes and trends. By making one's framework an explicit part of analysis, both qualitative and quantitative researchers will be more likely to develop determinate research designs, to avoid omitted variable bias from the lack of consideration for context, and to build theories and models that are concrete and internally consistent.

The role of social mechanisms in explanation

A key objective of much social science is to explain the social phenomena we observe, whether the origins of power structures in a remote African village or the causes of global terrorism. There are three main approaches to explaining social change: the *covering-law approach*, the *statistical approach* and the *mechanism approach* (see Table 1). The covering-law approach [e.g. Hempel 1965] is the view that an acceptable explanation consists in subsuming the event to be explained under a general causal law (i.e. a law of nature). Any event is explained by referring to one or several general laws and the conditions that make these laws applicable to the specific case [Hedström 2005: 15]. Deductively, we can explain that

Table 1. Main types of explanations

	Covering-law explanations	*Statistical explanations*	*Mechanism explanations*
Explanatory principle	To subsume under a causal law	To identify statistically relevant factors	To specify a social mechanism
Key explanatory factors, entities and/or activities	No restrictions, except that the factor must exhibit a law-like relation to the event to be explained	No restrictions, except that the factor must be statistically relevant for the event to be explained	Actors, actions, and the way in which these are temporally and spatially organised

Source: Hedström [2006: 7].

'Donald quacks' because 'Donald is a duck' and 'All ducks quack'. Inductively, we can explain an event due to law-like empirical regularities among the observed variable, such as necessary and sufficient conditions; in this sense, causation does not imply a causal nature or power, only the regularity of an event. For the social sciences, this approach can be problematic, owing to the very limited nature of societal laws and thus the restricted nature of the explanatory world that the social sciences are supposed to focus on.

The 'statistical approach', explicitly or implicitly, represents the popular view that a variable is 'explanatory' if it is statistically relevant for the dependent variable to be explained [Hedström 2006: 75]. If a statistically relevant variable is introduced in a linear regression model, the change in r-square brought about by that variable is often seen as the degree of variance "explained" by it. In qualitative research, King, Keohane and Verba [1994: 82] advocate a version of this using counterfactual argumentation: '*the causal effect is the difference between the systematic component of observations made when the explanatory variable takes one value and the systematic component of comparable observations when the explanatory variable takes on another value*' (italics in original). While this approach facilitates explanatory claims, it is problematic in that it is not able to provide the reasons for or identify the mechanisms behind the observed relationships. Moreover, the observed correlation does not necessarily prove that a causal relation exists between the given variables.

The core idea of the 'mechanism approach', developed by Little [1990, 1998] and Hedström [Hedström and Swedberg 1998; Hedström 2005, 2006], is that an explanation of social phenomena is an one that identifies social mechanisms, which are 'a constellation of entities and activities that are linked to one another in such a way that they regularly bring about a particular type of outcome' [Hedström 2005: 11]. Theories of social mechanisms are based on causal realism, which holds that causal inferences always involve the presupposition of the presence of

a causal mechanism linking the cause and the effect. According to Salmon [1984: 132], 'causal processes, causal interactions, and causal laws provide the mechanisms by which the world works; to understand *why* certain things happen, we need to see *how* they are produced by these mechanisms'.

Explaining social facts via mechanisms means that scientific research ought to focus on the specific pathways how change is brought about, particularly in terms of the agency and characteristics of the individuals that constitute the social world. Analyses of social mechanisms are entirely compatible with covering law and statistical approaches; what matters is that research should provide empirical evidence that can assess the credibility of the social mechanisms linking cause and effect. Proponents of the mechanism approach emphasise that all the properties of the social world are conveyed through the myriad of individuals who constitute that society in time and space. In other words, explaining societal change (e.g. changes in social structure, prevailing norms, or typical behaviours of individuals in different social settings) requires the identification and testing of specific mechanisms at the level of individual actors and their interaction, with the assumption that different configurations of actors (i.e. different values, properties, etc) would constitute different outcomes at the societal level.

Mechanism approaches to sociological explanation require the possibility of breaking down human and social behaviour into discrete components, or so-called micro-foundations, of action, such as Hedström's conception that human action is rooted in individuals' desires, beliefs, and opportunities. To Hedström [2005: 38–39], a 'desire' is defined as a wish or want for something to happen (or not to happen); a 'belief' is defined as a proposition about the world held to be true; and 'opportunities' are the menu of action alternatives available to the actor, that is, the actual set of action alternatives that exists independently of the actor's beliefs about them.

Hedström has identified a number of social mechanisms as specific combinations of desires, beliefs and opportunities that regularly occur in society. For example, he identifies the mechanism of 'rational imitation' as the process in which the action of one individual shapes the beliefs and subsequent actions of others (such as how a crowded restaurant may make pedestrians believe that the restaurant is good, thus luring them to dine there as well), which tends to override peoples initial desires, if they had any at all. While mechanisms of this sort are useful for understanding the social-psychological or rational choice bases of human behaviour, it is difficult to see how all higher-level social phenomena can be reduced to individual desires, beliefs and opportunities.

In the mechanism approach, social processes always involve individual actors as agents of change and bearers of institutions, value systems and networks. To Little, 'the "molecule" of all social life is the socially constructed and socially situated individual, who lives, acts, and develops within a set of local social relationships, institutions, norms, and rules' [Little 2006]. How, then, can we build realistic accounts of how social mechanisms at the individual level contribute to

and shape large-scale processes, such as systems of social stratification, that take place around us? To answer that question, we need to turn to theories of levels of social action and the possibilities of causal influence from one level to another.

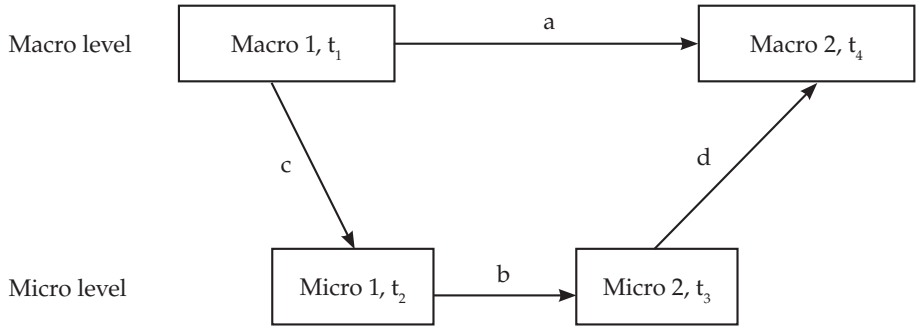
Micro-macro linkages and the levels of social action

According to Treiman and Ganzeboom [2000], the introduction of multi-level research designs is one of the most distinctive features and far-reaching innovations of 'the fourth generation' of stratification research. However, most of the research in this tradition seeks to explain individual-level beliefs, actions, and trends by 'controlling for context' of higher-order variables. There is much less attention to how properties of individuals aggregate and shape the social institutions within which stratification processes take place. This is all the more surprising since it is individuals, not 'contexts', that have agency and thus causal power.

To understand how individual actions can contribute to and shape large-scale processes, it is useful to return to Lazarsfeld and Menzel's [1969] classical distinction between properties of collectives and members (see also O'Brien [2000], Luke [2004]). *Analytical properties* are obtained by aggregating information from the individual members of the collective, such as the proportion of blacks in different cities. *Structural properties* of collectives are based upon relational characteristics of collective members, such as the density of friendships in a school classroom. In contrast to analytical and structural properties, *global properties* of collectives do not use information about the properties of individual members either singly or in relationship to one another. Examples include democratic or non-democratic forms of government, the proportion of gross national product (GNP) spent on education, or the characteristics of social policies. The relevant sociological question then is: how and why do the global properties of collectives change (or do not change), particularly given their degree of remove from the individual-level?

Following Coleman [1986], there are four types of relationships linking macro (collective) characteristics and micro (individual) actions (for theoretical perspectives see, for instance, Alexander et al. [1987]). The relationships include (a) the macro-to-macro link, (b) the macro-to-micro link, (c) the micro-to-micro link, and (d) the micro-to-macro link (see Figure 1). The macro-macro link is typically not causal, since social institutions, policies and other macro-level conditions do not have the agency to bring about change. Rather, those conditions can influence the beliefs and actions of social actors (citizens, politicians, elites, etc), who over time interact and can influence conditions in society as a whole. The micro-macro relationship thus can be analysed using two distinct theoretical questions [Liska 1990]: 1) How do micro actions combine to yield macro characteristics (the micro-to-macro link)? 2) How are micro actions shaped and constrained by macro characteristics (the macro-to-micro link)?

Figure 1. Macro-micro linkages



Source: Coleman [1986], modified by the authors.

Sociologists have addressed predominantly the macro-to-micro link, asking how individuals are influenced by context (such as the school, community, state, etc.). Research on the micro-to-macro linkage often involves the analysis of descriptive analytical properties, such as the aggregation of individual preferences in creating public opinion on a given issue. The micro-to-macro linkage, however, becomes very difficult to analyse at higher levels of social complexity, such as how personal preferences and resources combine to change the structure and regional distribution of educational institutions, or how the dissatisfaction of many individuals combine to produce global social movements. The micro-to-macro linkage is particularly important for societies undergoing rapid change, such as those in Central and Eastern Europe, where an array of new social actors have sought to bring about fundamental reform in policies, institutions and norms inherited from the past. The question is how to create a framework in which we can analyse the micro-macro links empirically. The solution, we suggest, is to articulate a more refined notion of levels of the social, as well as a more refined notion of social mechanisms as being able to operate at higher levels of interaction.

If we want to explain, for example a complex process like trends in higher education enrolment, we cannot look only at the desires, beliefs and opportunities of prospective students, as enrolment can also be shaped by changes in institutions or educational policies. Although changes in policy can also be modelled in terms of interaction among individual actors, these would be very different actors (mostly politicians and public officials) than students, and who have efficacy at a high level of social context. Thus to take into account changes in institutional or policy context, we have to also combine those sets of actors, their interactions and their preferences. This does not mean we have to engage in game-theoretical reasoning at every level of social interaction, but it does suggest we need to specify the kinds of actors and preferences involved in policy changes that in turn affect changes in university enrolment.

We do not want to replicate methodological individualism at higher levels of the social. Taking into account the context of human action does not necessarily mean that actors would be able to change entirely the context and the rules of play. Rather, we need to take into account some of the insights of theories of new institutionalism, according to which institutions are not only human constructs, but can also constrain actors' preferences and policy choices [e.g. Karl 1990]. Weingast, for example, sees institutions as humanly devised constraints on action that delimit 'the sequence of interaction among actors, the choices available to particular actors, the structure of information and hence beliefs of the actors, and payoffs to individuals and groups' [Weingast 2002: 661]. While some institutions might be more structured, and thus less susceptible to change, endogenous institutions like norms and policies emerge as the bases of social cooperation and can be influenced by social actors. In other words, we want to not only take into account different layers of social action, but also allow the possibility that social mechanisms can involve the role of institutions as well.

While Hedström's approach has the basic drawback of being reductionistic (i.e. explaining all social into pre-social-like configurations of desires and beliefs), we can avoid that by emphasising the diversity of levels of the social and the possibility of human interaction at each level. Collins [1981] argued that the distinction between micro and macro is one of degree; he proposed five levels according to a 'space scale': one person, small group (i.e. families, peer groups, etc), crowd/organisation, community and territorial society. Following Collins, we can also add the supranational level as well, which includes supranational institutions and global forces (e.g. Klein, Dansereau and Hall [1994]).

Distinguishing between more than two levels (micro and macro) has profound positive consequences for theory-building. Adding new levels to our conceptual framework allows us to avoid black box theorising (i.e. to leave the macro phenomena unexplained), but also to avoid the unrealistic assumption that higher-level phenomena are directly influenced and caused by individuals. For instance, as was demonstrated by Sabatier and his colleagues [Sabatier 1988; Jenkins-Smith and Sabatier 1994], changes in public polices are best explained by focusing upon changes in beliefs in coalitions of actors, and not individuals. By this we can explain changes in the global properties of collectivities (such as reductions in taxes, restrictions on higher education enrolment, etc.), and also see how the analytical, structural and global properties of collectivities are created by different processes.

By emphasising that there are multiple, overlapping levels and dimensions of social life, we can also relax the notion that social mechanisms exist only in terms of the combination of desires and beliefs. For example, let's say we want to explain differences in the labour market returns to education over time in a single country. A complex explanation would probably want to focus on key changes in labour market and educational conditions (i.e. 'market mechanisms'), such as shifts in the economy towards the service sector and other areas that increase

firms' demand for highly educated employees, and shifts in the supply of university graduates in different fields. We may also observe changes in employers' beliefs about the best ways to structure human capital within the firm and to compensate employees for their educational qualifications, which may serve to increase productivity. The aspirations of pupils to pursue higher education or to pursue particular fields, and the desire of university rectors and other actors to adjust university education to labour market conditions so on, may also be relevant. By focusing on these different contexts of decision-making, we are better positioned to actually explain changing returns to education than if we were to focus only on societal-level conditions that are correlated to those labour market returns.

Our explanation of returns to education identifies possible sets of mechanisms, such as individuals' educational aspirations and economic supply-demand conditions, but those mechanisms are coherent only within the social world in which they take place. This differs from Hedström's approach in which 'rational imitation' and other mechanisms are universal conditions that transcend specific contexts. While similar mechanisms may operate in different contexts (or countries), whether that is the case can be determined only inductively. What matters is that, as a rule, we should specify the concrete mechanisms through which change is brought about (and not simply rely on analyses of variance), we should seek to empirically test the causal efficacy of those mechanisms, and we should specify the level of the social order at which we attribute those mechanisms to individuals or groups.

What this also means is that desires, beliefs and opportunities are not the only mechanisms relevant to the study of social change. This does not mean that there is an infinite list of social mechanisms, but that there might be a broader set of mechanisms relevant to different areas of social life. In social stratification research, for example, Ralf Dahrendorf's [1979] concept of life chances, which he conceives as a function of options (choices and possibilities of action made available by the social structure, similar to Hedström's 'opportunities') and ligatures (social bonds and values that provide meaning to one's life and actions), can be employed more usefully that simply beliefs and desires. Life chances, which is a key theme in stratification research, depend on the consistency of ligatures and options, and in two ways: not only do they both need to be present to make decisions across the life course meaningful and coherent, but also that an expansion of one's prospects in life depend on the continued development of both ligatures and options.

While life chances are often understood in terms of the prospects of concrete individuals, they can also be applied to the societal level. Large-scale social change – such as modernisation or the social transformations following the collapse of communism – can be accompanied by dramatic changes in the life chances of different types of individuals, often measured in terms of their upward and downward mobility. While previous liberal thinkers, particularly those in

the tradition of John Stuart Mill, believed that individuals and societies increase their options or prospects by abolishing the 'tyrannical yoke' of customs and values (i.e. by dissolving ligatures), Dahrendorf argued that ligatures and options not only *reinforce* each other to create life chances, but also that it is possible for both options and ligatures to develop and expand side by side. It is precisely in contexts like Central and Eastern European societies where we should be able to observe significant change in both ligatures and options, as well as their possible incongruence, such as in the uneven development of the objective and subjective sides of the stratification system.

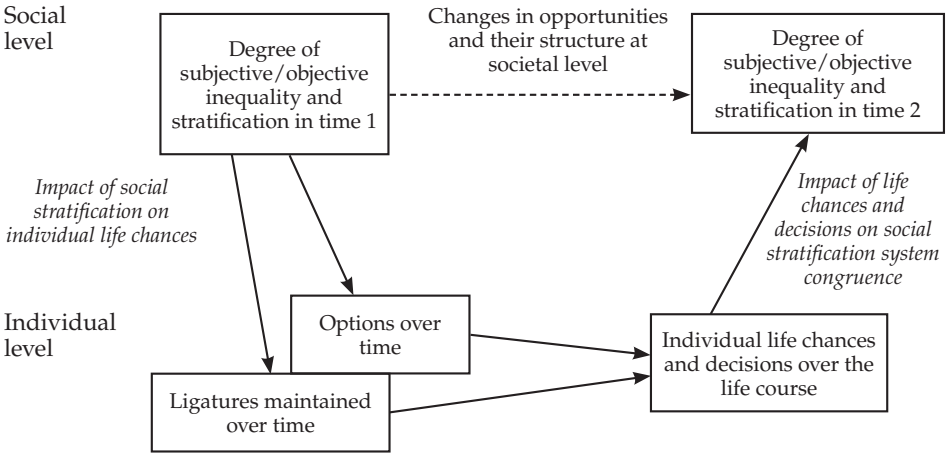
The applications of stratification research

Hedström's model of the social process and Dahrendorf's theory of life chances can be usefully combined into a single model of change in the stratification system (Figure 2). Changes in the opportunity structure of society over time are best explained in terms of how the objective structure of stratification system and subjective perceptions and beliefs initially shape individuals' options and ligatures, which in turn determine their life chances. As individuals make decisions based on their individual prospects, those decisions in turn impact the degree of objective stratification and inequality over time, as well as the aggregate beliefs in the opportunities available to them and to others in society.

Figure 2 illustrates that various types of processes can run coincidently and at least partially independently. First, the framework incorporates individual level processes that can be related to the so-called social psychological or socialization model of social stratification (see Matějů [2005] for a review), which operates at both the individual and group levels. Second, the framework enables the possibility for 'allocation models' [Kerckhoff 1976] of status attainment. There is a wide range of social structures and institutional arrangements that limit some individuals' opportunities, such as ability groups and curricular tracks in educational systems. These processes operate at the individual, group and institutional levels and their orientation is from macro to micro. Third, the micro to macro link involves what we call 'structure creating processes', by which we mean processes that (re)create institutions, collective actions, policies or even polities.

Although the third type of process is at the heart of sociological theory, much of the research in this area has been conducted by political scientists. This link was, however, an important part of early stratification research. Lipset and Rokkan [1967] pioneered the study of how class relationships that emerged during different periods of European history created the social cleavages from which political parties and voter alignments were formed. The impact of social mobility and stratification on political orientations (e.g. volumes by Turner [1991] and Matějů and Vlachová [2000]) and party systems [Lipset 1960] are fundamental to research in political sociology, and have become the accepted wisdom in how

Figure 2. Combined Hedström-Dahrendorf framework



social stratification structures politics and policies. While stratification research has advanced considerably from the time of Lipset and Rokkan, research on the importance of the micro-macro link for the stratification process has arguably made much less progress.

The framework is contoured to describe the process of change in stratification systems, that is, how higher-level social institutions, norms, values and policies frame the context of status attainment of members of that society, how status attainment takes place at the individual level, and how individuals might contribute to the maintenance or change of that system over time. The 'congruence' (or lack thereof) of the objective and subjective sides of the stratification system refers to the possibility that there can be a degree of fluidity in the relationship between the social institutions that 'objectively' constrain and enable stratification processes (such as merit-based educational or employment policies), and the internalised values, beliefs, and perceptions through which individuals understand specific choices and life prospects.

We can illustrate the usefulness of the framework with an example of a typical status attainment process, such as the role of aspirations in educational attainment. According to TIMSS and PISA data, Czech pupils from low status backgrounds are much less likely to aspire to a college education than their higher status peers, even when controlling for ability. Cross-national research [Matějů et al. 2007] has shown that these inequalities are not simply the result of family processes and individual decision-making on the part of pupils, but also a consequence of institutional context. In the macro-micro link, the key social mechanism

is that the structure of Czech secondary education constrains the internalised 'options' of pupils at different types of school, which, when combined with 'ligatures' from family and school context, shape pupils' educational decisions. In the micro-macro link, the aggregation of those decisions would likely contribute to the composition of the pool of students in tertiary education, and subsequently also the class-based distribution of the occupational structure for that cohort later in life. Occupational status and related characteristics are then transmitted intergenerationally, leading to the replication of the attainment process for future generations.

The Hedström-Dahrendorf framework outlined above thus shows how different levels of analysis can be fruitfully combined together to provide a dynamic explanation of empirically found facts, such as the role of educational aspirations in the example above, in the incongruence between subjective and objective aspects of social stratification system, and many other cases. Frameworks should be designed to incorporate a wide array of research questions, to facilitate multi-level analysis, to enable the identification of social mechanisms, and thus contribute to explanations of how social processes work.

In this article, we have tried to demonstrate that social stratification research, despite its recent broadening, may still be fruitfully widened to include findings and concepts not only from other sociological fields but also from other disciplines such as political science. We have limited our discussion to the role of social mechanisms and micro-macro linkages in explaining social processes. Our modest, but holistic, conceptual framework is intended to counter fragmentation within the subfield, to focus on the role of social mechanisms in making causal inferences, and to raise questions about under-explored areas of stratification research, particularly in the micro-to-macro link. We hope that researchers can benefit from explicitly embedding research questions within in a larger picture or framework that can clarify what is and is not empirically examined in the project.

It is true that many questions relating to how social stratification structures higher-order institutions are very difficult to answer because of the lack of suitable data (e.g. data gathered at different levels and different time points) or methodological problems. Some scholars would argue that there is no sense in posing research questions that cannot be fully verified by empirical research. However, we believe that it is very important to pose questions about future research prospects even though we may currently not have the observational data to test them in their complexity. In other words, we suggest that methodological development in the field should be driven by theoretical (or even policy) questions, and not vice versa.

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