

Global Governance as a multi-level process

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Introduction

The levels of analysis problem has spurred scholarly debate in IR research for a long time and is largely seen as a major impediment for an integrated research program that would allow a more comprehensive analysis of international politics. Particularly in regard to theorizing global governance the need to overcome the strict separation of levels of analysis has become more pressing than ever. The present paper takes up the challenge to look for a new way to conceptualize global governance as a multi-level process.

Global governance is understood in a broad sense as processes and institutions, both formal and informal, characterized by complex interactions among and between different levels that create and inhabit the emergent collective pattern of ideas and behaviours. The concept of global governance takes explicitly account of the international system as a complex system encompassing all institutions and rules that affect social relationships with transnational effects. It is thus not confined to international agreements but takes explicitly account of the circumstance that a lot of international coordination takes place outside formal regulations. Rather instead global governance refers to a process of cooperation and diffusion based on some hybrid form of rule-following, self-enforcement, and management.

Following Joseph Nye on his metaphor of the three-dimensional chess game (Nye, 2004:4), the paper addresses specifically problems at the bottom board like climate protection, fighting terrorism, protection against infectious diseases and so forth. On the one hand these are problems at the interface of domestic and international politics that require active participation and support by the population at large due to needed financial, administrative, technological, and ideological support and on the other hand, they are truly transnational and global where power is widely distributed and not under hegemonic control. This implies that any solution to these problems has to be self-enforcing, depending on all states implementing respective policies at home.

Due to their specific characteristics as being global as well as decentralized, these problems require a specific analytical framework that is able to take account of not only multi-agent but also of multi-level interaction. Dealing with large group interaction across various levels of analysis, however, poses great conceptual challenges that traditional approaches have not yet been able to overcome.

That group size has a decisive influence on the emergence of cooperation is common knowledge. At least since Mancur Olson's seminal work on *The Logic of Collective Action* (1965) it is widely acknowledged that the larger the group the more unlikely cooperation becomes, or at least the level of cooperation within the group will decrease. In small groups there still is the chance that the added benefit to the actor herself due to her own contribution may sometimes exceed the cost of cooperation. Social incentives such as social approval for cooperation and negative interpersonal sanctions for defection also play a more substantial role in members' decision in small groups than in large anonymous groups where they may have only a minor effect.

This line of argument is based on strict individualistic traditional rationalist thinking. The logic of collective action is a direct transfer of economic laws to politics ascribing the free-rider incentive a central role in impeding cooperation¹.

Theoretically, however, one could also take a different perspective. Particularly in large heterogenous groups one could imagine that a coalition of large countries could more easily tolerate the free-riding by some countries. When groups are heterogenous, some powerful and influential actors can have a smaller critical mass. This means that a hegemon or a group of first-movers could more easily emerge and exert its influence in favour of a certain common cause. This would provide a rationale for a more realistic step-by-step approach as it is most unlikely that all countries get engaged in global cooperation at the same time. In such a case it is important to explore the dynamic of such a coalition and networks formed by them.

Through networking with other countries and soft power resources they may be able to force new standards and to change issue specific structural arrangements making it attractive for other countries to jump on the bandwagon and thereby leading to a reinforcement of the new emerging incentive structure. Countries may conceive it increasingly disadvantageous not to be part of this development.

In this sense it could also be possible that positive frequency dependency effects materialize from large group interaction. A logic of collective action that, however, cannot be derived from traditional rationalist models but that nevertheless empirically

¹ While economic research takes free-riding very serious, empirical research is kind of ambivalent. It is, for example, not clear what behaviours exactly qualify as free-riding as non-compliance may occur also for other than strategic reasons. It is certainly difficult to draw a sharp line, unless one argues that generally all cases where actors do not contribute to a public good (for whatever reason) qualify as free-riding.

bears increasing plausibility as a number of studies particularly in regard to climate protection show (eg. Social Learning Group 2001; Jänicke 2006; DeSombre 2000). A consistent analytical framework to theorize such phenomena that could shed some new light on the emergence of global governance, however, is still missing.

The second, but related challenge refers to the conceptualization of multi-level interaction. Even though most IR scholars acknowledge that the domestic as well as the international level are together necessary building blocks of a more systematic and integrated analysis of international relations the conceptualization of such a multi-level framework poses fundamental ontological and methodological problems that so far have not yet been overcome. Most research therefore remains committed to the traditional levels-of analysis approach based on a strict separation of the domestic and international spheres. This means that the research focus either lies on top-down or bottom-up explanations (Frieden, 2002).

Top-down explanations discuss the advance of regulatory reforms as a response of national policy maker to exogenous pressures from various international sources on national policy communities. This is a standard approach likely to be adopted by scholars of international relations who focus on systemic changes. Bottom-up explanations examine the advance or stagnation of reforms as the outcome of domestic balances of power and specific national styles and are particular popular among area specialists and comparativists.

The separation of levels of analysis, however, becomes increasingly unsatisfactory in regard to international problems at the interface of domestic and international politics that demand a more integrated approach. Multi-level analysis needs to acknowledge that causes do not run in one direction, from interacting units to produced outcomes, but rather in two directions. Since variations in unit-level causes do not necessarily correspond to variations in observed outcomes, it seems reasonable to assume that causes of international outcomes are located at the level of the interacting units as well as at the structural level whereby they all interact. If it were possible to integrate both unit-level and structure-level causes, then it would be possible to cope with both the changes and the continuities that occur in a system².

The problem a multi-level approach is facing arises as levels are not immediately combinable due to qualitative differences that defy lineage by aggregation, homology or any kind of

² The level-of-analysis problem in international relations was laid out in principal by David Singer (1961)

conflation (levels of analysis problem). Accommodating the effects of characteristics operating at different aggregation levels thus bears the risk of holistic or reductionist fallacies (eg. Singer 1961, Alexander 1987, Mayntz 1999).

The approach presented here aims to overcome this problem by introducing an analytical meso-level based on the presumption that one has to include horizontal patterns of change in order to bring the bottom-up and the top-down tradition together. New governance structures are thus theorized in the context of endogenous change driven by a complex process of interactions among multiple actors and among actors and the international environment that reproduce and transform systemic structures and bring about certain collective behavioural patterns.

The goal of the paper thus is to develop an analytical framework for global governance formation as a multi-level process based on an endogenous theory of coordination and change. It is based on an interdisciplinary research program aimed at exploring in how far advances in evolutionary economics could benefit IR theorizing. Already Snidal (2002) and Fearon (2002) have pointed out that it would be a mistake to assume that a scientific approach to the study of international relations would necessarily be confined to traditional micro-economic models. Models derived from evolutionary economics may be better suited to overcome the difficulties of explaining the effects between individual action and social structure that are notorious for traditional rationalist analysis and may provide the ground for a closer dialogue with constructivism in order to narrow the increasing ontological-methodological gap that has emerged in recent years.

The paper first outlines the characteristics of multi-level governance and how multi-level analysis has been conducted so far. It then discusses the specifics of global multi-level governance that need to be addressed by a conceptual framework pointing to the need of a processual ontology based on self-organization. To capture the link between levels the paper introduces the idea of a meso level that comes into effect as relationally defined property that is based on some own dynamic and allows the analysis of coordination and change in one model. The dynamic of the meso-level is then further specified as activator-inhibitor interaction that combines a relationalist logic as well as a sequential temporal logic. Some final remarks conclude the paper.

Multi-level governance

The term multi-level governance was first introduced by Gary Marks (1992) to capture developments in EU structural policy following its major reform in 1988³. Subsequently, Marks and others developed the concept of multi-level governance to apply more broadly to EU decision-making. Marks defined multi-level governance as a system of continuous negotiation among nested governments at several territorial tiers (1993:392). The multi-level governance concept thus contains both vertical and horizontal dimensions. The vertical dimension implied by the term multi-level refers to the increased interdependence of governments operating at different territorial levels, while governance is typically understood in horizontal terms signaling the growing interdependence between governments and non-governmental actors at various territorial levels.

Multi-level governance thus directs attention to multi-level political systems where competencies are assigned to particular levels, but where tasks are interdependent so that decisions have to be coordinated among levels. This demands to look at coordination and control processes spanning various levels of governance including inter- as well as intragovernmental politics (Bache 2004, Hooghe 2003, Benz 2004, 2006).

The underlying problem of politics in multi-level systems is that requirements for political control in different structural contexts have to be fulfilled. Change of the status quo demands for policy coordination among levels or entities as the power that could bring about change is split up. Agreement to such changes, however has to be achieved within the levels that means within societies or representational organs that are in various way territorially constrained in their perceptions and horizons to act (eg. Bache 2004, Benz 2006).

It is not too surprising that dealing with such complex phenomena at a more analytical level that goes beyond mere description creates great difficulties. Analytical research on multi-level interaction in international politics has so far been primarily concentrated on bargaining or negotiation strategies and strategies of political leadership under the condition that political actors have to do justice both to the national as well as to the international level without privileging one level over the other. This kind of research has come to be known as multi-

³ Multi-level governance approaches also run under the names of multilateral cooperation, fragmentation (Rosenau), multiperspectival governance;

level game modeling. Groundbreaking in this regard was the rationalist two-level game by Robert Putnam (Putnam 1988).

The two-level game approach by Putnam

Putnam introduces the two-level game as a metaphor signifying a setting where national governments stand between the domestic and international levels, intermediating between them in ways not reducible to one or the other level and in ways that bring interaction between the levels to the fore. The crucial point is that decision-making must be concerned simultaneously with domestic and international pressures. The central domestic institutional actor is assumed to be the chief of government (head negotiator), operating at both the domestic and international levels. Putnam, however, explicitly departs from the unitary actor assumption by placing parliamentary figures, spokespersons for domestic agencies, representatives of key interest groups, and the leader's own political advisors right behind the head negotiator. The unusual complexity of this two-level game is that moves that are rational for a player at one board may be impolitic for that same player at the other board. Nevertheless, there are powerful incentives for consistence between the two games (Putnam, 1988:434). The most important subsystemic factor is the win set of the government that means the number of negotiation results likely to be ratified in parliament. The most important systemic factor is the intersection and the relative gains of the win sets of all participating governments.

The model may be a good starting point but does not provide a meta-theoretical concept for the level-of analysis problem. The shortcoming of the game-theoretic approach in this regard is that the situations are viewed through the eyes of several single individuals in turn. In so far as this succeeds as an analysis of interaction, it does so without departing from the level of individuals. Individual's choose their best reply strategy according to their own preferences.

This line of argument based on a sequence of alternating best replies, however, invites the objection that it obscures the strategic dimension of choice. Arguably, the device of treating other agents as temporarily fixed, while each agent in turn calculates, fails to capture intersubjective notions of mutual expectations and their potential generative effects.

The crucial point in regard to global governance thus is that this approach is based on face-to-face interaction and concrete decision-making. Global governance, however, may be based

less on face-to-face interaction but resemble more a playing the field game⁴. In this case the payoff to an individual country adopting a particular strategy depends not on the strategy adopted by one or a series of individual opponents, but on some average property of the population at large (population of global actors), or some section of it. The win-set describes the fitness or competitiveness of a strategy in a particular population of actors

This suggests that indirect interaction mechanisms may become more important in providing a link between individual decision-making and collective behaviour. Indirect interactions signify that changes in individual strategy are influenced by the overall socio-configuration or to put it differently by the distribution of strategies within the system⁵. This ensures a certain feedback effect between individual and collective behaviour. Such indirect interactions occur when behavioural changes are induced by some collective or systemic phenomena (intersubjective understanding) where media, information, and the general socio-cultural and economic environment play a major role (cf. meso-level in later chapter).

It is a general presumption here in the paper that international (global) cooperation is not something that is achieved (or missed) at a single given point of time (eg. through negotiations). On the contrary, it tends to emerge from a long and often arduous process through which individual actors come to realize, against the background of their own demands and priorities, the need and advantages of joining forces with others.

Global-multi-level governance

Concepts of multi-level governance can only be applied to global multi-level governance with some reservations as the latter shows some specific characteristics that also demand specific answers. The distinctiveness of global multi-level governance originates not only from the fact that it is not regionally or territorially restricted but most importantly hierarchical orders are not so well established and institutionalized and thus also less reliable to count on. In regard to global governance coordination largely takes place in a less formalized way and is rather based on self-organization. A conceptual framework for global governance has to take account of these particularities and thus demands a specific theoretical approach that gives more emphasis to structures and processes that link levels based on the assumption that there

⁴ Evolutionary game theory may provide the more suitable metaphors than traditional game theory. (eg. Weibull 1996, Fudenberg 1998).

⁵ The idea of modeling indirect interactions as part of self-organization processes has been applied for example in Synergetics (eg. Haken 1990, 1993) and Sociodynamics (Weidlich 1983).

is a connection between the processes and regulations among the levels and those within the levels. Global governance is thereby primarily understood as a process of global pattern formation.

Conceptualizing global governance has to take account of the complexity of the international system. Here it is important to note that complexity is not primarily understood as institutionalized complexity that refers to sophisticated multi-level mechanism of coordination, authority and compensation that assures orderly functioning and performance in more formalized multi-level systems. Global governance leans towards a different form of complexity, one that emanates from microstructural arrangements that give rise to some macro-level regularities and ordered structure which in turn feed back into the determination of micro interaction. The challenge is to make sense of the complicated dynamic system of recurrent causal chains connecting individual behaviours, interaction networks, and macro structures. The point of multi-level governance thereby is that one cannot explain or even predict social pattern formation on the basis of lower level structure alone. One has to include the effects of higher level structure whereby each level has its own characteristics⁶.

For analytical purposes it thereby makes sense to distinguish two different kinds of levels: the micro (or subsystemic) level as the level of individual agency and the macro level (systemic level) as the level of aggregation⁷. Defining what the micro-units and the macro level are supposed to be is, of course, somehow arbitrary as we are typically looking at a whole cascade of interacting levels and stages of aggregation with each level having the potential of being macro to a lower level and micro unit for a higher more aggregated level. As Esser has pointed out, whether a social phenomenon is micro or macro is a question of aggregation and not of the number of actors (Esser, 2000:14). This is certainly also true for the multi-level interaction process of global governance formation. Possible candidates for micro units in the international system are states, TNC's, international organizations, and NGO's that surely also have all their internal structure that could further be disaggregated and has a strong impact on the agents actual behaviour. The macro level on the other hand is represented by some complex institutional ensemble – it is a collective action phenomenon predicated on the basis of international institutionalized corporate norms and practices.

⁶ These are thoughts derived from complexity theory and self-organization theory that find increasing attention also in the social sciences. (eg. Anderson 1973; Stephan 2002; Sawyer 2003)

⁷ This is common practice when dealing with the micro-macro link in social systems (eg. Alexander 1987)

Self-organizing global governance

Instead of relying on game and decision theory the approach presented here is based on self-organization. In this sense global governance is understood as an emergent (emerging) order in international relations through endogenous structural change without an orderer. This takes account of the formation process of order as not being controlled or coerced from the outside. The underlying idea is that structures form and maintain themselves – those controls that do exist are provided by mechanisms of competition and coordination between units⁸.

It is a central claim of the approach that the process itself most likely decides over the outcome. The very process of learning and adaptation and the feedback from the consequences generates a highly complicated dynamic that, even though may not converge to any standard (optimal state) equilibrium⁹, still shows some specific characteristics that may allow for some analytical treatment and generalizations. Instead of seeking explanations for collective outcomes in terms of equilibrium analysis and optimization the evolutionary approach explicitly directs attention to the study of mechanisms¹⁰.

It is thus central to the approach that the emerging collective order (pattern) cannot simply be understood as the aggregation of isolated national policies (individual actions). Any serious aggregation attempt has to take account of the specifics of aggregate outcomes due to existing interdependencies. The organizational, communicational, and learning structure that usually turns out to be quite complicated has a major impact on the aggregate variables due to its activating and selective role to which the emerging order is linked.

A general presumption thus is that there are specific group dynamic effects in terms of coordination and adaptation that transform individual micro-unit interaction into a new

⁸ Even though self-organization plays an important role in economics, in IR it has not really caught up yet. Rosenau may be the one so far most open to explore the potential benefits for IR research (eg. Rosenau 1997, 2003)

⁹ An important implication of self-organization is that it is not confined to a particular outcome. It is an ongoing process with a plurality of possible pattern that may emerge over time that cannot be captured by simple optimization which would imply some goal or end state orientation.

¹⁰ Mechanisms as an explanatory mode have gained increasing attention in the social sciences. Mechanisms are no strict causal laws on which variable-based explanations are typically based. *If then* generalizations between independent and dependent variable are unsuited for explaining complex phenomena and processes. Mechanisms make no claims to generality over outcomes, rather they direct attention to the underlying generative structure that produce the outcomes. The task of a mechanism based explanation is to identify the processes through which social phenomena are generated. They do not allow definite predictions but they do allow to explain what brought certain relationships into existence. (cf. Swedberg, 1998; Tilly, 2001; Mayntz, 2003; Campbell, 2004;)

collective pattern, which then feeds back to the micro-level. The concept of emergence¹¹ thus comes into effect as relationally or structurally defined processes that create a link between the micro and macro level.

In evolutionary terms, this process is associated with selection and diffusion whereby the underlying selection logic is explicitly distinct from natural selection in the narrow biological sense¹² in two particular aspects: first, the replication process based on random mutation is replaced by some cultural, economic, and social transmission processes that already channel the innovation and selection process into a particular direction and second, the clear separation between agent and structure is dissolved through endogenous processes of change as human actors are capable of anticipating and creating environmental changes. Exogenous selection forces are, thus increasingly replaced by endogenously generated processes.

A major driving force thereby may be what Witt (1987) called ‘internal selection’. Internal selection stands for the anticipation of external selection forces that lead actors to change their activities deliberately to avoid unfavorable selection consequences. This process may be characterized by some cumulative directionality as the aggregate of individual learning and instrumental adaptation will in turn affect, even create, the very environment (structure) that imposes constraints and opportunities on the actors within that system. This kind of selection is specific for cultural processes as it works directly through actors’ capacities for cognition, rationality, and intentionality so that one may also speak of some ‘guided’ evolution within conceptual schemes that channel explorative enquiry and selection forces into a particular direction (Pelikan 2001, Allen 2001). Concretely this means that collective understandings and actions become selected, anchored, established, and spread across institutions in different nation-states. A process that may be associated with endogenously generated expectations that guide individual action and potentially lead to a self-fulfilling prophecy. In this regard, it is decisive how actors influence each other.

¹¹ Emergent properties stand for the sudden appearance of a new property through a special self-organizing dynamic driven by feedbacks between orders of patterns that arise from bottom-up and are thus creating a link between the micro and macro level. Even though the resulting pattern is based on the activities of the components, it cannot be reduced to isolated actions as this would ignore the activating and selective role of the system structure to which the emerging order is linked. (eg. Krohn 1992, Heintz 2004, Sawyer 2003, Stephan)

¹² Natural selection is based on the idea of a struggle for existence forced by an exogenous, competitive selection environment (eg. Gould 2002). It is assumed that those organisms that are best adapted to the exogenously given environment will continue to survive where as those that cannot meet such demands will die out in the long run.

Agency

Traditional self-organization theory, particularly formal or quantitative approaches have been primarily concerned with studying how a large number of elements display new properties that do not exist in single elements, but arise from their collective interaction¹³. The focus thus lies on cooperative interaction rather than autonomous action. In order to deal with complex social systems, however, a more sophisticated approach to individual agency is needed. This implies that actors have to be modeled as reflexive agents as opposed to simple reactive agents that simply react to signals from the environment without referring to internal knowledge. This signal-response type of action implies the same reaction to the same signal. A reflexive agent on the other hand has an internal model or at least some knowledge about its environment that allows it to draw conclusions about certain actions in a given situation. The reflexive agent may act on either knowledge-based or behaviour-based rules; its deliberative capabilities may allow it to perform complex actions, such as believe, desire, intention, based on what the agent thinks is true, what it would like to achieve, and how it expects to do it. Other features are learning either in terms of adaptation or specialization, or genetic evolution of the internal program. Taking cultural (cognitive) processes into account, however, makes it more difficult to conceptualize the link between individual and collective behaviour.

The concept proposed here in this paper are we-intentions¹⁴. The presumption is that individual behavioural choice is linked to a collective. We-intentions are assumed to be the intentions of individuals and not the intention of groups. Individual we-intentions are what individuals think are the intentions of individuals in a group generally. They are not what individuals think ought to be the intentions of the group, nor are they the intentions of the group from any individual's own particular point of view.

¹³The study of self-organizing systems is closely associated with computer simulations (eg. Cederman, 2004; Sawyer, 2003; Epstein, 1996; Banks, 2002;). A lot of complex phenomena can already be studied based on simple rule-based paradigms. Also agent based modelling (ABM) which has become the method of choice to simulate complexity relies on adaptive behaviour. ABM is able to capture multi-agent interaction but not multi-level interaction. Multi-level interaction demands reflective agents. There may, however be a tradeoff. The more intelligent agents become the greater the danger that simulations lack the possibility of investigating the influence of specific interactions and parameters systematically and in depth. This means that on the one hand, the agent should not be assumed as a physical particle reacting only to external forces, but on the other hand, should not already have the same complex capabilities as the real system.

¹⁴ The term we-intentions or collective intentionality has been introduced by Raimo Tuomela (2005, 2000) and is here specifically adapted to suit international politics. The concept of collective intentionality is aimed at developing a new way of theorizing social sciences to explain collective action and phenomena generated by it.

An individual's expression of a we-intention basically involves the individual's best guess regarding a structure of intentions on the part of different individuals regarding what they all think everyone else believes is the intention of the group. The business of removing oneself from one's own circumstances is less a matter of seeing things from someone else's point of view, and rather more a matter of grasping how a structure of we-intentions emerges across many individuals.

The concept of we-intentions is distinct from rationalist as well as constructivist thinking in IR. The rationalist research program suggests that individual choices based on individual preferences and external constraints are combined through certain coordination mechanisms to obtain certain collective outcomes. The macro level as a constraining force is thought to consist of material structures. The difference of the micro and macro levels and their non-reducibility is constitutive for the individualist program. This bears the fundamental problem that intention and implementation of individual action and social results may be falling apart leading to difficult coordination problems¹⁵. Unintended consequences that often turn out to be the rule rather than the exception create major conceptual challenges to the rationalist research program.

The constructivist research program on the other hand postulates that the macro structure is made up of norms – constitutive rules for micro social behaviour. The macro level is the location of normative or cognitive symbolic structures and individual actors are assumed to obey a logic of appropriateness and to act as norm followers¹⁶. In so far constructivism is lacking any substantialist account of agency.

The concept of we-intentions is committed to intentional individual behaviour, but presumes that rational choice needs to be embedded within a broader social and historical context which allows for some greater intersubjectiveness and conformity to rules and norms. We-intentions are thus closer to the concept of bounded rationality which acknowledges not only the great uncertainties and limitations of decision-making in regard to the decision input but also regarding the decision process (e.g. Simon 1955 and 1972; Conlisk 1996). Bounded rationality assumes that decision makers have finite cognitive resources regarding their ability to gather and process information, which

¹⁵ Here one may think for example at simple matrix games like the prisoner's dilemma that are widely applied to study international cooperation problems.

¹⁶ Cf. for example Wendt (1999), Finnemore/ Sikkink (2001);

prevents a fully rational decision. The concept of bounded rationality brings the focus back to the rationality of the process of choice (compared to the choice itself). Even if actors intent to behave rational the complexity of the problem and the decision making process make it impossible of doing so. We-intentions may thus be seen as a heuristic program to cope with complexity. This, however, is not the same as the constructivist notion of norm-following, rather it is assumed that individual actors are geared to and adjust to a perceived global trend or project. Looking at a first-mover strategy in regard to climate protection may clarify the concept a bit more.

As the term first-moving already suggests, it is a strategy that is based on the assumption or better the expectation that other actors will follow suit otherwise it would be just unitary action. Only the expected reaction of other actors makes the move a rational strategy as it may then be possible to capitalize on first-mover advantages. As one does not have control over or direct influence on others' behaviour the decisive point is to make a realistic assessment about future trends and developments. This assessment may not only be based on actual present behavioural patterns but also on norms and necessities that may guide future developments. First-moving is thus neither based on mere adaptive behaviour, which would be neutral in regard to the direction a certain development is taking nor is it solely normatively founded. Rather norms and ideas play into the way agents form expectations about the future that may lead them to change their behaviour in order to avoid unfavourable selection consequences later on and thereby help certain developments to come true (cf. cumulative directionality, p.11)).

We-intentions thus combine materialist and normative components in guiding or channelling collective behaviour.

Empirically we observe indeed a flurry of first-mover initiatives by various kinds of actors around the globe. Also empirical research on climate protection has long recognized the important role of domestic initiatives, which are often vital in creating the political and regulatory environment for more effective and widely accepted international cooperation (Underdal 2000:7; DeSombre 2000; Jaenicke 2006). Also the Social Learning Group (2001) speculated that there may exist an effective linking mechanism in terms of diffusion and learning in the wake of early movers given the remarkable degree of similarity in timing of the rise and fall of attention given to climate protection across countries. Such behaviour, however, cannot be explained by the traditional rationalist

model based on the concept of the homo oeconomicus that stands for individualism, optimality and self-regard. Even though constructivists also emphasise the role of intersubjective knowledge, their sole focus on idealist factors that define international structure and lead to shared expectations is misleading and a misrepresentation of the underlying problematic nature. Climate protection policies can hardly be explained solely on the basis of an institutionalized norm or a perceived obligation but only by intentions.

The meso-level approach

The approach presented here may be seen as an attempt to come to a better theoretical understanding of collective pattern formation based on innovation-diffusion. Diffusion has generally become an alternative or supplementary mode of global governance across a broad range of cases. Diffusion processes may well be the first step in the emergence of global governance¹⁷.

Diffusion processes generally occur along a horizontal line and vertically. While horizontal diffusion – the accumulation of individual cases of imitation or learning regarding one and the same policy item – may eventually lead to a de facto regime where a majority of countries implement similar policies without any formal multilateral agreement, vertical diffusion – the direct transfer of ideas or programs from the national to the supranational level – inspires or leads directly to the adoption of international laws. There has emerged a consensus among students of international diffusion that these are typically not separated processes but that analysis needs to embrace a combination of top-down and bottom-up explanation in an integrated model

It is argued that the key to such an integrated model is the study of horizontal mechanisms and channels of diffusion, particularly in regard to systemic change that is essential for global governance formation. This is not to deny that the domestic setting and the effects of international institutions are not important. Indeed, one of the most important challenges facing the horizontal approach is to interpret top-down and bottom-up institutions and actors in a horizontal manner¹⁸.

¹⁷ Diffusion has gained increasing attention in IR research in recent years to study to study processes characterized by uncoordinated interdependence (eg. Simmons 2005, 2006, Jordana and Levi-Faur 2005)

¹⁸ The idea to study horizontal mechanisms of diffusion has already been proposed by Jordana and Levi-Faur.

In order to link micro and macro level I propose the introduction of a meso-level¹⁹. The concept of the meso-level takes account of international processes (eg. associated with globalization) that create some intersubjective perceptions of international trends and developments. The meso-level thus primarily refers to the arrangement and positioning of actors in the international system based on interaction and relational patterns that together make up the socio-economic international environment. The meso thereby may be identified with a rule structure that shows some generic movements that have an impact on both, micro and macro level. Change is the defining property of the meso and coordination occurs as micro and macro structure adapt and constrain meso change. The concept takes account of the observation that structural variances can no longer be explained with an exclusive recourse to certain individual actions.

The underlying idea thus is that micro-level interaction lead to some aggregated interaction pattern that shows some own empirically inferred regularities and that feed back to the micro as well as the macro level. These interactions unfold some own dynamic and form patterns and configurations that cannot be reduced to specific actors and their actions, nor does the emerging dynamic necessarily converge to any standard equilibrium. Nevertheless does the dynamic still show some specific characteristics that may allow for some analytical treatment and generalization. The approach is thus explicitly based on a specific processual ontology implying that the fundamentals of the social are relational and fluent. The process itself most likely decides over the outcome due to a combination of a relational and a temporal-sequential logic.

The relatedness of the parts represented by the meso-level is the key element in the causal chain. It is not only central for explaining the institutional make-up of the international system but also for the explanation of the behaviour of its parts. The relatedness of the parts or better the new kind of relatedness of the parts that emerges over time is the place for downward causation and thus responsible for endogenous change.

Activator-inhibitor interaction

¹⁹ Dopfer et al. (2004, 2005) introduced the Meso to identify and conceptualize the dynamic building blocks of an economic system. It originated in evolutionary economics and is here specifically adjusted to international politics;

As the general presumption of the approach is that the meso is assumed to inhabit some own dynamic that can be examined in its own right I suppose that this dynamic can analytically be described as activator-inhibitor dynamic²⁰.

The underlying idea is that global governance needs to be seen in context of an international endogenous process (eg. processes typically associated with globalization) enabled and constrained by domestic and international institutions. This dynamic is thought to be represented by some activator-inhibitor interaction. It is aimed at creating a hypothetical relationship between the (individual) actions and the (expected) structural or collective effects. Activator and inhibitor thereby form together a dynamical, two-dimensional, non-linear system intertwined by feedback mechanisms and characterized by self-organization.

Activating and inhibiting forces are thereby assumed to represent different rule populations that together form certain configurations that determine the relational structure and positioning of micro unit actors in the international system. These configurations are subjected to endogenous change due to activator-inhibitor interaction as change is the defining characteristic of the meso. The idea thus is that international systemic change is the result of some activating and inhibiting forces that inhabit domestic and international structures. The activating forces comprise all influences (material and non-material) that affect the growth of the political pressure in favour of a particular goal or project (eg. climate protection).

Activation, eg. in form of new knowledge or innovation (eg. new political strategies), however, does not already bring lasting change to the system as the prospect of change typically initiates some opposition by those negatively affected. This is the inhibitor, representing all influences in opposition to the activator. Activator growth is thus limited or even cut off by the inhibitor while inhibitor growth at the same time is spurred by the activator. The inhibitor is a response to the activator – without activator there is no inhibitor, which is quite reasonable as it does not make sense to be against something that has not even yet been proposed. There are, however, some autocatalytic forces driving activator growth or decline due to learning.

²⁰ Inspiration for the activator-inhibitor model came from the so-called Gierer-Meinhardt model that studies diffusion processes and pattern formation in biochemical systems. (Meinhardt 1982, Segel 1989)

The decisive feature is the interactionist character of activator and inhibitor – they are interdependent and interacting forces. Their interaction leads to a diffusion process that describes how a new political alignment may or may not evolve over time as an endogenous process of change.

Activator and inhibitor are thereby both based on material as well as immaterial forces. In the early stages the activator may be most likely dominated by immaterial factors while the inhibitor may be largely driven by material forces. Successful diffusion of an innovation (eg. climate protection policies) depends primarily on a decline of the inhibitor, which may be most effective if the decline is accompanied by structural change so that forces that originally supported the inhibitor can be redirected in support of the activator, which would imply a coevolution of material and immaterial factors. It is assumed that material and immaterial forces are both an integral part of the overall learning and adaptation process and a driving force for behavioural change. In regard to climate protection to become a dominant strategy one may think for example at capability building in terms of financial and technological resources necessary for implementing respective policies. Capabilities simultaneously drive inhibiting forces down and activating forces up as capabilities are typically interlinked with ideas and interests. The emergence of intersubjective awareness and expectations goes hand in hand with technological progress and the development of capabilities which in turn may implicate changing business practices and consumption patterns via changed preferences, which may further reinforce the political pressures on activator and inhibitor. Thus, it may be said that material factors matter through ideas as well as that ideas matter through capabilities, whereby ideas and capabilities co-evolve.

Relational implications of activator-inhibitor interaction

The approach is relational in so far as both agents and macro structures are understood to emerge from social relations and interactions and thus treating relations and interactions as main source for emergence²¹. Competition thereby functions as the key driving force for meso-level change. In regard to global governance competition is defined foremost in the context of improved computing, telecommunications, and increased mobility and exchange of

²¹ Relationalism has been proposed by Emirbayer 1997 and Jackson/Nixon 1999. The underlying presumption is that relationship has a structured existence independent of its participating individuals – they are an embedded structure within social systems. A relational approach concentrates on an ongoing process of social transaction. It is the focus on networks of transaction, on relations between and among entities rather than on the putatively dispositional qualities of those entities that gives relational approaches their name.

ideas, people, goods, and services. Competition is thus not limited to material factors. Actors are thus assumed to compete primarily for reputation, investment, best practice, human capital and so forth. This is distinctively a different logic of competition than traditionally assumed by IR scholars, particularly neorealists. Instead of implying a self-help logic in an anarchic world (Waltz, 1979) the approach presented here looks at international competition in terms of increasing one's attractiveness (culturally and economically) to others whereby soft power resources²² rather than hard power are decisive. The authority and legitimacy of new policy initiatives and strategies at the international level may thus strongly depend on how successful they have already been tried domestically so that they may function as an international trendsetter.

Competition is thereby seen as having two major effects that provide for a persistent tension between diversity and selection. On the one hand, it puts actors under pressure not to fall behind and to follow international trends by accommodating their ways to the economically and politically most acceptable and successful practices which implies a rationale for imitation and adaptation. On the other hand, competition entails a permanent incentive to innovate as countries strive to increase or at least maintain their competitiveness.

A strategy is competitive to the extent that in the way it corresponds to the problems it is supposed to address, generates successful outcomes and attracts other actors to follow suit. The crucial point here is that competitiveness or fitness is itself a dynamic concept – continuously newly defined in course of activator-inhibitor interaction. In this sense, an actor's competitiveness is ultimately the ability to transform herself continuously in response to economic, political, and technological changes. The decisive point is that the selection environment is itself endogenous to interaction. The criterion for how we define competitiveness (fitness) is not fix – competitiveness is thus not a given property of units but depends on circumstances and on the issue as well as on the capabilities of potential competitors. Competitiveness thereby determines a country's position in the international system in relation to other countries and is thus a defining element for the role and identity of actors.

The way new ideas and practices become an established part of the global governance system is thus not only determined by the characteristics and abilities (capabilities) of individual

²² The importance of soft power in international relations has been stressed for example by Joseph Nye (2005).

actors, but also very much by the different kinds of relations between them and the ways they interact with each other. The character as well as the change of these patterns of interaction (activator-inhibitor interaction) are central parts of the governance formation process.

In order to theorize endogenous change in the international system it further needs to be shown how processes of international diffusion and convergence are compatible with persistent micro-diversity as otherwise the process would come to an end at some point. The general presumption of the approach, however, is that the international system is principally open and not following some predetermined path. Nevertheless, is it possible to distinguish cycles of self-organization based on an interplay of self-reinforcement and selection that show some regularities and ordered structure (eg. Ebeling, 1986). Micro-diversity thereby remains a continuous source for innovation that may either reinforce or challenge the existing order and thus trigger endogenous change.

Micro-diversity will prevail to a certain extent as social and economic factors, which partly regulate adoptive behavior, set limits on diffusion and convergence. Thus, the features or practices that become internationally common are typically adjusted and modified by institutional differences internal to each country. A policy that works in one country may not necessarily fit exactly for another one with its specific domestic characteristics. The result is that certain policies in various countries may look similar but not identical, because each act of imitation produces a unique blend of what is exogenous with what is endogenous to a particular country – not everything at the micro level is controlled by the macro level, which is consistent with the observation that we find more convergence at the macro-level than at the level of national institutions (Gilpin 2001: 186).²³

These phenomena can be explained by the relationalism at the meso-level. The new relational pattern (order) at the meso level that emerged from competition among micro units requires a response by micro units (downward causation), but the character of the response is largely determined by internal factors. Changes at the level of organization of the system also imply a change of the selectivity of the organization. This leads to higher degrees of differentiation or convergence at the micro level as the greater selectivity of system organization invokes that

²³ In regard to international norm diffusion Acharya recently introduced the term localization to describe a complex process and outcome by which norm-takers build congruence between transnational norms and local beliefs and practices. In this process, foreign norms, which may not initially cohere with the latter, are incorporated into local norms. The success of norm diffusion strategies and processes depends on the extent to which they provide opportunities for localization.

not all system components receive the same inputs any more. This leads agents to respond in very specific ways due to their internal structure providing for a unique mix of constancy and change.

The temporal sequential logic of activator-inhibitor interaction

The approach is temporal sequential in so far as several stages in the diffusion process can be distinguished as micro and macro structures that enable and constrain meso-level change adjust and modify in course of a cycle of self-organization.

The meso-trajectory can be viewed as a three-phase process (Dopfer, 2004, 2005) of origination (innovation), diffusion (adoption and adaptation) and retention (maintenance; due to lock-in effects) of a new governance structure. The governance formation starts as new ideas, knowledge, or technological or political practices enter the international debate. Such innovations either have the effect of renewing and thus reinforcing prevailing ideas and practices or challenging them by offering alternative ways of doing and organizing things. In the latter case innovations may lead to a critical juncture (or bifurcation) with the potential to induce a new self-organizing dynamic. Bifurcations thereby stand for the possibility that a development changes course due to endogenous processes as political innovations are typically embedded into a broader social context rather than being random events.

Typically, the positive feedbacks that drive the dynamic tend to possess a multiplicity of asymptotic states or possible emergent structures and it is the specific selection and diffusion process of activator-inhibitor interaction that pushes the dynamic into the domain of one of these asymptotic states to which the system eventually locks into until a new cycle is set in motion. Endogenous structural change is thus brought about by endogenously generated selection mechanisms (cf. competitiveness) as new modes are amplified and existing structures are replaced by new boundary conditions selecting for a new relatively stable evolutionary state. Stability or at least quasi-stability occurs when the microstructures of a given level are compatible with the macro structure they both create and inhabit.

The point here is that for effective global governance structures to emerge domestic and international institutions do not have to be the same but just compatible allowing for some persistent micro-diversity. As long as defectors are not able to distort common expectations about the overall development path, reinforcement of emerging governance structures is likely

to continue to be self-reinforcing and defectors may get under greater pressure to adapt their policies than that cooperators were lured into defection. Self-organization thereby provides a model where frequency dependency effects outweigh free-rider incentives.

The crucial question for international political change thus is whether policy innovations lead to a bifurcation and thus to the transition to a new trajectory. The underlying problem thereby is how new policies could enter the international system and become an established part of the global governance system in terms of ideas, practices, and organizational forms. This pretty much comes down to the question whether first-movers come to the scene and will be imitated by others. The question whether to step forward and proceed new policies is largely a strategic one as it needs to be considered how the new initiatives may play out internationally (we-intentions). Even if respective policy measures are only implemented domestically they potentially have a strong impact on interactions with other countries. These international effects, however, strongly depend on whether new policies pass the test of competitiveness. This means they have to be perceived as successful and future-oriented. In this case, also other actors may start experimenting with these policies as well and we may enter a phase of exploration, differentiation, and integration. It is phase of testing for the compatibility or coherence with prevailing norms and the overall socio-economic environment and whether trade-offs and conflicts of interests can be overcome. Activating and inhibiting forces form a complex interaction pattern and it is still open in which direction the development may be heading and whether existing lock-ins and inertia can be overcome. As more actors may find it in their interest to adopt the new policies the rule structure may shift and inhibiting forces decline so that a self-reinforcing process could set in reducing the variety of policies to de facto standards.

The coordination process may be summarized the following way. Actors are assumed to guide their actions on the basis of observed consequences, or in other words, actors adjust their strategies based on perceptions about the success or failure of previous strategies – a process that may be called domestic reinforcement. At the same time, countries, by observing closely what other countries are doing, also form expectations about future international trends and adapt accordingly, thus helping to make these expectations come true. This process may be accompanied by positive feedbacks and frequency dependency effects that lead to the generation of a new collective pattern, institutions, and regulatory environment – a process that may be called international reinforcement. The underlying diffusion process could then

be summarized as a combination of path dependency and changing patterns of domestic and international reinforcement.

Conclusion

The goal of the paper is to present a framework for multi-level global governance formation based on an innovation-diffusion process that leads to endogenous structural change and thus to the self-transformation of the international system. The basic idea is that transnational processes based on complex interaction and feedback mechanisms exert a major influence on domestic as well as international institutions and provide a link between levels of analysis.

Instead of simple aggregation, integrating levels is seen as a matter of theorizing their mutual impact and import – which need to be reciprocal. The paper therefore stresses the necessity to look at global governance as a process of self-organization that brings about change in domestic and international structures. Global governance does not result immediately from the actualization of structural possibilities and constraints of individual action but is conveyed through the interaction process and its own dynamic that links individual actions. Global governance cannot be understood without some specific group dynamic effects in terms of coordination and adaptation that cannot solely be reduced to individual intentions.

The concept thus seeks to achieve a synthesis connecting individual actors to the international system within the framework of a single model. It takes account of the influence of the grouping of individual actors on its members and, conversely, the influence of members on the group's future. Ignoring this reciprocal relationship would lead to an incorrect analysis of individual behaviours as well as collective behaviour.

To capture these processes analytically the paper introduces the concept of a meso level. The meso-level comes into effect as relationally defined property and allows the analysis of coordination and change in one model. Even though the emerging interaction patterns are based on micro-unit interaction they cannot simply be reduced to the properties or actions of individual actors but generate some specific dynamic that can be studied in its own right. It is assumed that this dynamic is represented by an activator-inhibitor interaction process.

The concept of self-organization thereby aims to bring ontology and methodology closer together again. From an ontological perspective global pattern formation is endogenized

as an interactive process among different levels whereby structure itself becomes endogenous to interaction. Methodologically, self-organization provides a model to study the self-transformation of the international system as a complex dynamic process.

As modelling decisions exert a major influence on the questions being asked and researched and thereby on how we view the world, the availability and choice of research methods may even have far reaching political implications given the potential danger of a self-fulfilling prophecy. Whether, for example, we set out to explain a problem as a logical consequence of rational choice or as the product of complex interaction may trigger different policy responses. Actors who see themselves caught in a dilemma situation may follow other strategies than actors who see themselves as part of an activator-inhibitor process. This becomes particularly apparent in regard to a first-mover strategy.

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