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Contested terrains: Politics of scale, the national state and struggles for the control over nature

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ABSTRACT

The *scale debate* has significantly enhanced our understanding of the spatial dimensions of the transformations of statehood. Its crucial merit lies in a process-based understanding of scale which helps to overcome the limitations of more static concepts like multi-level governance. More recently, the usefulness of the scale concept, as well as the relationship between scale and other spatial categories, has been increasingly discussed. This paper aims to contribute to these discussions from the perspective of a materialist state theory. The paper's argument is that the scale concept needs further clarification with respect to its understanding of hegemony, the national state and societal relations with nature. It elaborates this argument by analyzing the rescaling of the protection of intellectual property rights on genetic resources, with particular reference to the WTO-TRIPs Agreement. The paper concludes by stating that the production of new spatial scales of the state can be an important element in the reorganization of control over nature. However, the strong structural selectivities in favor of dominant social and political forces which characterize international state apparatuses negatively affect their hegemonic capacity. Thus, the role of national states in the regulation of contradictory social forces remains crucial and may even be strengthened by processes of rescaling.

KEYWORDS

Scale; multi-level governance; state; societal relations with nature; genetic resources; TRIPs Agreement.

INTRODUCTION

Since the 1990s, social scientists and geographers in particular have intensely discussed the spatial dimensions of the social transformations

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associated with 'globalization'. An important strand of research in this context is the *scale debate*. It originates in the Anglo-American *radical geography* of the 1980s (Smith, 1984; Taylor, 1982). Most of the contributions have, however, been published since the mid-1990s (for overviews see Herod and Wright, 2002; Keil and Mahon, 2008; Sheppard and McMaster, 2004). The scale debate has convincingly criticized the 'methodological nationalism' (Brenner, 2004a) of many social scientific concepts, i.e. the taking for granted of the national scale as the principal scale where socio-economic processes take place and compromises are negotiated. The main *theoretical* argument has been that scale cannot be treated as simply given, but that it is socially produced and thus changeable. In the words of Erik Swyngedouw (1997: 141), '[s]patial scales are never fixed, but are perpetually redefined, contested, and restructured in terms of their extent, content, relative importance, and interrelations'. On an *empirical* level this argument was supported by the results of investigations in areas like labor-capital relations (Herod, 1991), the transformation of statehood (Brenner, 2004a, 2004b; Jessop, 2002a: chapter 5), urban and regional governance (Jones, 1998; MacLeod and Goodwin, 1999a, 1999b), social movements (Mayer, 2008a) or society-nature relations (Köhler, 2008; Swyngedouw, 2004). It was shown that even if there may be a privileged scale for certain social relations like the national state for the regulation of the wage relation during Fordism, this is a historical product of social conflicts which can by no means be generalized. Instead, the research perspective has to be 'multiscalar' and has to take into account 'the continuous reshuffling and reorganisation of spatial scale' as 'an integral part of social strategies for control and empowerment' (Swyngedouw, 1997: 141).

More recently, the terms of discussion within the scale debate have shifted. Since it has been largely accepted that a comprehensive understanding of ongoing transformation processes also requires a scalar perspective, the critique of a disregard of scalar issues in social sciences is no longer seen as a priority and the concrete analysis of the changing spatialities of the state and of society has given way to a debate on the usefulness and limits of the scale concept itself. This is not to say that there were no conceptual discussions in the past. The controversy about the relationship between scale and other spatial categories, for example, has been an important element of the debate for many years (Brenner, 2001; Howitt, 1998; Marston and Smith, 2001). However, more recently one can observe two new developments. First, the critique of the scale concept has become more fundamental, in the sense that the entire approach is called into question by authors who until a short time ago positioned themselves *within* the scale debate. Sallie Marston, for example, who has contributed significantly to introducing issues of social reproduction into the debate (Marston, 2004) now proposes the wholesale abandonment of the scale concept due to its 'foundational hierarchy' (Marston *et al.*, 2005: 419). In her and her

co-authors' view, 'hierarchical scale is a classic example of form determining content [. . .], whereby objects, events and processes become pre-sorted, ready to be inserted into the scalar apparatus at hand' (Marston *et al.*, 2005: 422). The scale concept should therefore be replaced by a 'flat ontology' which is assumed to be more adequate to make visible not only power structures but also other, emancipatory, social practices (see also Amin, 2002; Escobar, 2007; Gibson-Graham, 2002). Second, within the scale debate the warning against an overstretching of the concept and a reductionism, which interprets sociospatialities only as scalar phenomena, has been superseded by more explicit attempts to clarify the relationship between scale and other spatial categories. With this in mind, Bob Jessop, Neil Brenner and Martin Jones (2008) have recently proposed a framework which takes into account various spatial categories (territory, place, scale, network – 'TPSN') and their interconnectedness in order to grasp the changed spatialities of the state and of society in their complexity. Within this second strand of the debate, in order to escape the 'territorial trap' (Agnew, 1994) of sociospatial research as well as the hierarchy trap of scalar thinking particular emphasis has been put on the relationship between scale and networks (Bulkeley, 2005; Leitner *et al.*, 2002; Mahon and Keil, 2008: 44ff).

The shift towards more conceptual discussions on scale can be interpreted as a reaction to, and a reflection on, the fact that the scale debate may have gone too far: Having successfully introduced a scalar perspective into geography and social sciences, it now runs the danger of reducing complex spatialities to scalar ones or at the least 'to privilege scale over other spatialities' (Leitner and Miller, 2007: 116) (let alone the temporality of social processes; cf. Jessop, 2002b). Against this background the recent conceptual debate on overcoming a reductionist perspective on the production of space is very important and insightful. However, as Margit Mayer has pointed out in a comment on the TPSN framework as proposed by Jessop, Brenner and Jones, a problem of the debate is that the largely conceptual contributions may lose sight of concrete social practices and their potential to stabilize or to challenge social relations of power. And it is these issues which according to Mayer have to be the starting point of a spatially sensitive scientific inquiry:

The relevance of a particular spatial form – either for explaining certain social processes or for acting on them – can be measured only from the perspective of the engaged actors. Thus, in order to define criteria for the relevance of (a specific form of) spatiality, we need to start, both in our theoretical endeavors as well as in political practice, from concrete social processes and practices rather than reifying spatial dimensions. (Mayer, 2008b: 416)¹

Taking into account this observation and critique, the following article aims to contribute to current conceptual discussions on scale by analyzing

concrete conflicts over the rescaling of the state. Its empirical subject is the contested process of establishing a new scale for the protection of intellectual property rights on genetic resources in the form of the TRIPs Agreement (Agreement on Trade-Related Aspects of Intellectual Property Rights) of the World Trade Organization (WTO). The argument will be threefold. *First*, the scale concept offers a suitable framework for interpreting this process of rescaling. However, due to its focus on the social *production* of scale it tends to sidestep the *structuring effects* of scalar configurations as well as the social struggles through which these effects may be challenged. Thus, the scale concept requires a clarification of its theoretical implications for the understanding of hegemony and the state. *Second*, a further question which has to be addressed is the relationship between state rescaling on the one hand and the role of the national state and international power asymmetries on the other. It is largely accepted that the national state does not simply disappear when 'new state spaces' (Brenner, 2004a) are produced. However, up to now the relationship between the two has not been sufficiently clarified. I will argue that here, as well as regarding the first part of the argument, a combination between the scale debate and historical-materialist state theory is particularly promising. It allows to conceptualize scale as spatio-institutional condensation of power relations between social forces and between national states, thus stressing the structural selectivities of scalar configurations as well as the importance of the international system of states for the reproduction of capitalist social relations. *Third*, the scale concept needs a further elaboration of its relationship not only to spatial dimensions like territory, place and networks as proposed by Jessop *et al.*, but also to the physical dimensions of space as they are shaped by societal relations with nature. As shown by Bryant and Bailey (1997), Smith (1984) and Swyngedouw (2004), and as shall become clear in this analysis too, struggles for the control over societal relationships with nature are an important dimension of the ongoing processes of state rescaling.

The article consists of three steps. In the first step, I will highlight the strengths and the problems of the scale debate. The strengths will be shown by contrasting the scale debate with an approach to the spatial dimensions of the transformation of the state from political science: the debate on multi-level governance. Following this, I will develop the argument concerning the necessary conceptual clarifications and enlargements of the scale debate. In the second step, I will test my argument by analyzing the rescaling of the protection of intellectual property on genetic resources, with special reference to the creation and contestation of the WTO-TRIPs Agreement. Thirdly and building on the results of my case study, I will discuss how the scale concept could be inspired from the perspective of a historical-materialist state theory.

STRENGTHS AND PROBLEMS OF THE SCALE DEBATE

Multi-level governance and politics of scale

In political social science, the changed spatialities of the state have been addressed within the multi-level governance approach rather than in the framework of the scale debate (Bache and Flinders, 2004; Brunnengräber and Walk, 2007; Hooghe and Marks, 2001). The main topic of the former is the scalar transformations of state politics and policies as they have occurred in the course of the accelerated European integration since the mid-1980s. The result of the integration process up to now is described as an open and dynamic system within which the national state has not actually disappeared, but interacts to an increasing degree with state institutions and actors on other spatial levels. According to Hooghe's and Marks' definition of multi-level governance a 'dispersion of authoritative decision making across multiple territorial levels' has taken place (Hooghe and Marks, 2001: XI). These shifts are seen to have major implications for the procedures of policy formulation and implementation: Since the actors and institutions of the different levels are formally independent but functionally interdependent (Grande, 2000: 14) there is a need for coordination, which is fulfilled within the framework of negotiations among state actors, as well as between state actors on the one hand and societal actors on the other. 'Governance' thus becomes the main *modus operandi* of the state. As Pierre and Peter (2001: 76) put it:

the (still) relative weakness of formal transnational institutions, coupled with the negotiated nature of the links between these institutions and domestic ones, necessitates other and less formal arrangements to promote collective interests and to resolve political problems in the absence of a single authority.

As the debate on multi-level governance has shown, it is necessary to take up a scalar perspective at least implicitly in order to understand the recent transformations of the state and to substantiate the term 'governance': given that there is no monopoly on the legitimate use of physical force on the supranational and international level, the traditional concept of 'government', based on the sovereign territorial state, *per definitionem* cannot be applied here. Thus, to follow Renate Mayntz (2005: 16), the 'semantic turning point' which forms the basis for the shift in perspective from government to governance is 'where political science begins to intensely address the politically increasingly meaningful processes on the European and the international level, i.e. those levels where the "subject of governing" appears only in a generalized and at the same time fragmented form'.² It is here that the significance of the multi-level governance approach can be found: in introducing the scalar dimension to the debate on

the transformation of statehood and thus contributing to the clarification of the governance concept.³

This merit cannot however hide the fact that the multi-level governance approach is rather weak in analyzing the domination and power dimension of the state (cf. Görg, 2007: 94f): Especially in German contributions to the debate, where the emerging scalar forms of the state are analyzed in terms of an institutional restructuring, they are hardly reflected against the background of the social and economic transformations which underlie them. This is an important omission since, as Jessop (2004: 74) has pointed out,

it is only by situating the changing political forms of the European Union as part of the ongoing transformation and attempted re-regulation of global capitalism as well as part of the more general transformation of statehood in response to major socio-cultural as well as politico-economic changes that one can adequately understand what is at stake in these changes.

Even where broader socio-economic processes are taken into account, the conceptualization of the relationship between state and society often remains problematical. For example, it is certainly correct, when Harmes (2006), drawing on Polanyi as well as on Gill's concept of a 'new constitutionalism', emphasizes the crucial role which market-enabling regimes and the lack of social and environmental regulations on the international level play for the neoliberal transformation of societies. However, identifying a vertical separation between the economic and political, 'where the "economy" always operates at least one level above that of the "polity"' (Harmes, 2006: 743) as the central axis of a neoliberal project for multi-level governance ('disembedded federalism') runs the risk of missing the complexity of the state and its recent spatial transformations. By assigning the economic and the political sphere to different spatial levels, Harmes awards a spatial shape to the external relationship between state and society, which underlies even many progressive approaches. As a result, the character of the state as a material condensation of societal power relations (which makes it not only guarantee the interests of capital but also regulate societal contradictions) remain underexposed in the analysis, as does the dynamic multiscalar form of the state and the contested character especially of international state apparatuses.

The strengths of the scale debate now become clear. At first sight, both approaches, scale and multi-level governance, address a similar issue: the rescaling of social and political processes. Furthermore, both stress the necessity of a relational understanding of scale: Scales can only be understood in their relationship to other scales. However, there are significant differences between the two approaches in at least three respects. *First*, the scale debate is far less state-centric than the debate on multi-level

governance. Whereas the latter mainly addresses changing institutional configurations and new forms of governance, the former focuses attention on social struggles and changing power relations. *Second*, within the multi-level governance approach the emergence of multiscale forms of governance is mainly interpreted as a search for the solution of problems which transcend the problem-solving capacities of individual states. In contrast, within the scale concept the same processes are understood as a means of social conflicts through which power relations are stabilized, shifted or challenged. *Third*, the scale concept is more process-based than the multi-level governance approach. Whereas the latter is concerned with the *effects* of institutional configurations and the *interactions* between state levels, the former stresses the *social production* of scale or the politics of scale. It is emphasized that it is 'not so much the scale as such which has to be analysed, but the processes through which scale is produced' (Schmid, 2003: 222). As Erik Swyngedouw (1997: 141) puts it,

scale (at whatever level) is not and can never be the starting point for sociospatial theory. Therefore, the kernel of the problem is theorizing and understanding 'process' [...]. The ontological priority for a process-based view [...] refuses to tackle global-local interplays in terms of a dialectic, an interaction or other mode of relating a priori defined thing. [...] A process-based approach focuses attention on the mechanisms of scale transformation and transgression through social conflict and struggle. (Swyngedouw, 1997: 141; see also McMaster and Sheppard, 2004: 16; Smith, 2000: 725)

Problems with the scale debate

The relationship between rescaling as process and scale as structure. In spite of these crucial insights (and connected to them), there are three problems with the scale debate. The first one refers to the relationship between rescaling as process and scale as structure. On a general level this seems to be quite clear. Scalar configurations are the product of social struggles; power relationships are inscribed in them and make them structurally selective. As such scalar configurations shape social processes. They create incentives and restrictions which favor certain problem perceptions and patterns of action as opposed to others. In doing so, they determine to a certain extent what is negotiable as a social problem and shape the corridor for problem solutions. It is thus the production of spatial scales which essentially decides to what extent social contradictions can successfully be regulated or to what extent subaltern actors succeed in politicizing these contradictions and in challenging existing relationships of power. As Neil Smith says, spatial scale is 'the geographic organizer

and expression of collective social action' or 'the *spatial* resolution of contradictory social forces' (Smith, 1995: 61; cf. Brenner, 1998).

Nevertheless, within the scale debate there is a lack of concepts and empirical findings as to exactly how societal contradictions are processed through the production of scale and furthermore how this processing is contested and may ultimately fail. 'An investigation of the contextually specific conditions under which scalar structuration [. . .] generates sociologically or politically significant social, spatial and scalar effects remains a crucially important, if largely neglected, research task' (Brenner, 2001: 606). This statement from Neil Brenner in 2001 seems still to be valid today. Indeed, to quote Ulrich Brand (2008: 174), there is a 'strategic overhang' in the scale debate, a tendency to too quickly conclude from the scalar strategies of powerful social forces on hegemony and successful regulation. The scale debate and the multi-level governance approach are thus characterized by contrasting deficits. While the latter tends to neglect the significance of social struggles, the former underexposes the structuring effects of institutions which consists in organizing social compromises and giving them a certain continuity.

These problems cannot be resolved by merging both approaches, i.e. by investigating the production of scale from the point of view of the scale debate and analyzing its effects on the basis of the multi-level governance approach. Even if both approaches can learn from one another, the epistemological and theoretical differences forbid a simply mashing of the two together. When, as is the case in the scale debate, the focus is on the production of spatio-institutional configurations, the effects of the latter appear in a completely different light than in the multi-level governance approach. The question is not how institutions and processes on different levels and their relationship to one another influence the decision-making and problem-solving capacities of states. Instead, the regulation of contradictory social relations moves into the foreground. In order to understand if and why this works or fails, that is in order to understand the effects of scalar configurations, one has to take into account the structural selectivities which are inscribed in the latter. And understanding these selectivities presupposes an analysis of the contested processes of the production of scale. Thus, the requirement is to take into account both rescaling as process and scale as structure: to understand the effects of scale in the light of the structural selectivities created through the social production of scale. As will be shown in the case study below, the structuring effects of spatio-institutional configurations are far from being guaranteed, even if the production of the latter was successful from the point of view of powerful forces.

The conceptualization of the national state. The second (and related) area requiring further theoretical and empirical work within the scale debate is that regarding the role of the national state and the international

system of states. Marxist state theory has highlighted the significance of territorial fragmentation for securing social cohesion in capitalist societies. As Joachim Hirsch has shown, the successful regulation of the structural contradictions of capitalist societalization essentially rests on the fact

that the classes which face each other in the context of global valorization and accumulation are *in themselves politically separated* through the existence of competing states. The capitalist class relationship is modified through the state system in a way that the members of classes – wage earners and enterprises – who stand in competition to each other are bound together on the level of the state and thus brought into opposition to the corresponding classes beyond the state territory. It is particularly for this reason that, on the level of the single state, the possibility emerges to form *class-spanning coalitions* in order to secure common competitive advantages on the world market. (Hirsch, 1995: 32; emphasis in original)

In addition to the role of the national state and the international system of states in securing social cohesion in a structurally contradictory society, are the power relations between states. There is a lot of evidence that, in spite of the ‘vertical’ differentiation of power and domination along various spatial scales, ‘horizontal’ power asymmetries between national states have not lost their significance (see e.g. the recent debates on imperialism and geopolitics; Callinicos, 2007; Harvey, 2003).

The persisting importance of the national state is acknowledged in the scale debate, too. However, the national state is ‘relativized’ in the sense, that it is said to have lost its position as the primary scale for political and socio-economic organization which it had held during Fordism, without any other single scale having acquired this position (Jessop, 2002a: 179). Based on this, more attention is focused on the scalar and, more recently, also the network dimensions of the state than on its territoriality. There is a certain tension between this development, on the one hand, and the above cited assumptions of Marxist state theory as well as the current debate on imperialism and geopolitics on the other. At the least, it is necessary to further elaborate the relationship between the emergence of new state spaces and the continuing importance of the national state and the international system of states. Following Cerny, this relationship is the ‘heart of the issue of rescaling’ (2006: 687). Nevertheless, within the scale debate, the (necessary) critique of a ‘methodological nationalism’ has for a long time dominated the attempt to clarify the role of the national state in an increasingly multiscale political constellation.

The relationship between scale and nature. The third aspect of the scale debate which this paper seeks to emphasize is the relationship between scale and the physical dimension of space which is shaped by societal relationships with nature. As shown above, considerable efforts have been

made to distinguish between scale and other spatial dimensions and to develop a framework which allows researchers to theorize sociospatiality in a comprehensive way. In particular the relationship between scale and networks has drawn much attention since combining both promises to correct the increasingly criticized vertical and hierarchical perspective of the scale concept. In contrast, the relationship between scale and nature is often neglected in these conceptual efforts. However, this is a very close relationship inasmuch as the social production of nature also has scalar dimensions and, vice versa, the production of scale can be an important means to reshape the conditions of access to, or control over, nature. As Erik Swyngedouw puts it:

I insist that nature and environmental transformation are also integral parts of the social and material production of scale. More importantly, scalar configurations also produce new sociophysical scales that shape in important ways who will have access to what kind of nature, and the particular trajectories of environmental change. (Swyngedouw, 2004: 132; see also Köhler, 2008)

Thus, there is a need for an approach which focuses the social struggles over the definition of environmental problems and over the scalar-institutional configurations through which the problems are to be processed. In the following I will argue that a concept of scale which is further developed with respect to the three aspects highlighted in this section – the relationship between scale and nature, the role of the national state and the contested structuring effects of scale – has the potential to going some way to fulfilling this requirement. My empirical case is the rescaling of the protection of intellectual property on genetic resources, with special reference to the conflicts over the TRIPs Agreement of the WTO.⁴

CONTESTING SCALE: CONFLICTS OVER THE RESCALING OF THE PROTECTION OF INTELLECTUAL PROPERTY ON GENETIC RESOURCES

Shaping the TRIPs Agreement

The TRIPs Agreement came into force in 1995. It is one of three pillars of the WTO (beside the General Agreement on Tariffs and Trade [GATT] and the General Agreement on Trade in Services [GATS]) and provides for internationally binding minimum standards for the protection of intellectual property. The emergence of the agreement has to be seen against the background of the rise of the so-called ‘information economy’, in the course of which the immaterial components of a product, i.e. the knowledge incorporated in it, have gained importance. This is most visible in the sector of information technology. It is, however, also a crucial issue with respect to

pharmaceuticals and agro-business (on the former, see Zeller, 2008: section 3). Here, the progress of biotechnologies has created new possibilities to utilize the information contained in the genome of plants and animals. It has thus formed the material conditions of the constitution of *genetic resources* as a new field for the valorization of capital. At the same time, however, this development has posed new questions of the protection of intellectual property: Whereas the development of a knowledge-intensive product can be very time-consuming and costly (e.g. the development of a new drug or the breeding of a new plant variety), its imitation is much easier (see the production of a generic medicament or the reproduction of a plant variety) (cf. Nuss, 2006: 180).

In the US and Western Europe, the protection of biotechnological inventions had been strengthened from the 1980s onwards, a fact which essentially contributed to stimulating investments in biotechnology research in these parts of the world (Ostergard *et al.*, 2001: 646ff). However, the resources which Northern biotechnology relied upon were to a large part to be found in Southern countries. Thus, '[w]hile most of the technological developments in the biotechnology industry are centred within the developed world, most of the biological resources that are used in this research are located in the developing world' (Ostergard *et al.*, 2001: 644). For the pharmaceutical and seed industry, this became a problem insofar as the protection of intellectual property rights (IPRs) in Southern countries as a rule was much weaker and shaped for different purposes than in the advanced capitalist countries of the global North:

In most developing countries, IP regimes were geared towards supporting national economic development, and therefore offered low levels of IP protection with weak enforcement mechanisms. Western-based MNEs [Multinational Enterprises, the author] began complaining about the loss of hundreds of billions of dollars every year to piracy in developing countries. (El-Said and El-Said, 2005; cf. May, 2000: 83ff)⁵

Since the early 1970s, there had indeed existed an organization for the international harmonization of IPRs: the World Intellectual Property Organization (WIPO). However, the agreements administered by WIPO, among others the Paris Convention on the protection of industrial property and the Berne Convention on the protection of literary and artistic works, were of a sectoral nature. Furthermore, they were not generally binding, but covered different groups of participants.⁶ Above all, WIPO had no sanctioning mechanism which would have made it possible to prosecute a claim for intellectual property protection internationally.

It was against this background that the interest of powerful economic forces in establishing internationally enforceable IPRs increased and that

Northern governments tried to establish the protection of intellectual property as a subject of the Uruguay Round of the GATT (1986–1994). In doing so, they benefited from the fact that the Southern countries, the smaller ones in particular, lacked experience and knowledge in the complex subject matter of intellectual property protection. Opposition to the international institutionalization of the latter did not emerge until the obligation to implement the TRIPs Agreement had demonstrated the social, environmental and economic implications of strong IPRs.⁷ In so much as there was resistance, it was broken with bilateral negotiations and the threat of imposing penal duties or of withdrawing trade facilities (Drahos, 2001). In this way, Northern governments succeeded in establishing the TRIPs Agreement under the umbrella of the WTO. The crucial advantage of the agreement from a Northern perspective is that it not only widens the geographical scope of IPRs but also entails the means to control their implementation and, in the form of the dispute settlement body of the WTO, to enforce their compliance. In addition, it offers the opportunity to use trade issues as a leverage to establish high IPR standards where they have not existed before (cf. Byström and Einarsson, 2001; Correa, 2000; May and Sell, 2006: 175).

As far as genetic resources are concerned, Article 27 of the TRIPs Agreement is of particular importance.⁸ On a general level, it defines patentable subject matter and requires countries to make patents available for any product or process which meets the criteria of novelty, inventiveness and industrial applicability. Exceptions from this rule which concern life forms are stipulated in the controversial paragraph 27.3(b). They can be made for 'plants and animals other than micro-organisms, and essentially biological processes for the production of plants or animals other than non-biological and microbiological processes'. Conversely, this means that micro-organisms and non-biological and microbiological processes must be patented. Furthermore, plant varieties must be protected 'either by patents or by an effective *sui generis* system or by any combination thereof'.

At first sight, these provisions offer national governments significant leeway (Correa, 2000). They lack, for example, a clear definition of the term 'micro-organism' and thus seem to allow more than just one interpretation of it. Furthermore, they allow for exemptions from patentability. Finally, they leave open what is to be understood by an 'effective' *sui generis* system for the protection of plant varieties so that national governments seem to have the possibility to shape such a system according to their own needs. However, a closer look reveals the complex of problems of Article 27.3(b). It indeed does not oblige members to patent life forms, but as long as it also does not oblige them to *exempt* life forms from patenting, weaker actors from developing countries lack an effective means of resisting the demand for patents on life forms in bilateral negotiations with more powerful actors from Northern countries. The same applies to the

missing definition of the term 'micro-organism' which also creates opportunities for bower bargaining. And as far as a *sui generis* system for the protection of plant varieties is concerned, representatives of the industrial countries have emphasized that they see such a system in the Convention for the Protection of New Varieties of Plants (UPOV) in the version of 1991.⁹ This strengthens the rights of plant breeders – in fact, Northern seed corporations – *vis-à-vis* those of the farmers. The latter are not allowed to exchange among themselves seed retained at the time of harvest for the purpose of breeding and sowing without permission of the breeder, if the seed belongs to a protected plant variety. That this is a significant restriction becomes clear if one takes into account that the practice of the exchange of seed in many developing countries is an essential basis for food security and for the conservation and further development of biological diversity.

In the light of the scale concept, the TRIPs Agreement can be interpreted as a rescaling of the protection of intellectual property which significantly changes the terms of production and valorization of nature. Vice versa, the agreement itself is a result of changed opportunities to produce and valorize nature, opportunities which have emerged in the course of the development of modern biotechnologies. The latter influenced the interests of enterprises to the extent that their possibilities to realize surplus value and accumulate capital became increasingly dependent on the robust protection of intellectual property on a global scale. However, as shall be shown in the following section, it is exactly the domination of this production of scale by powerful national states and factions of capital with the marginalization of subaltern interests which raises the question: to which extent the TRIPs Agreement is actually accepted as a terrain of conflict and thus able to regulate conflicts over genetic resources in the interest of capital.

Contesting the TRIPs Agreement

The TRIPs agreement is characterized by a fundamental tension: It sanctions the private appropriation of achievements which are, even more than in other economic fields, essentially the outcome of a socialized process. The production of knowledge is a highly socialized operation. It is extremely difficult to attribute elements of an intellectual achievement to single actors. As Jessop puts it: 'The increasing socialization of knowledge production in networked economies makes it hard to distinguish legally between the intellectual property of different firms – let alone the individual knowledge workers – as a basis for allocating the returns to innovation' (Jessop, 2003: 105; see also Perelman, 2003: 306). This applies also with respect to biotechnologies and genetic resources. Here, transnational enterprises often exploit the knowledge of indigenous communities

and utilize it as a means to get access to resources which they can commercialize. Often, the plant varieties the enterprises are interested in are the result of the selecting and breeding undertaken by indigenous communities and local farmers over generations. The private appropriation and commercialization of these plants, or of selected components of them, as sanctioned by the TRIPs Agreement, constitute a severe threat for such collective practices. They can contribute to depriving people of the control over their living conditions (for a more detailed analysis, see Brand *et al.*, 2008: chapter 5.3).

In recent times, this tension, which is inherent to the TRIPs Agreement, has been successfully politicized by indigenous organizations, social movements – especially peasant movements – and NGOs. The claims put in by these actors range from the recognition of indigenous knowledge to the general prohibition of patents on life forms (c.f. Brand *et al.*, 2008: chapter 4.2; Plahe and Nyland, 2003: 33ff).

Besides this fundamental critique, the TRIPs Agreement is criticized by the governments of influential ‘Megadiverse’ countries¹⁰ like Brazil or India which aim to valorize genetic resources in terms of their respective ‘national development’. In doing so, they refer to the Convention on Biological Diversity (CBD) which emphasizes the notion of ‘national sovereignty’ over genetic resources (Brand and Görg, 2008). They thus utilize another international agreement, which contains different and partially competing regulations of the same subject matter, in order to strengthen their position within the TRIPs Agreement. Up to now, the Southern governments have been quite successful. This can be seen in the review of Article 27.3(b) which began in 1999.¹¹ In contrast to the attempts of Northern governments to restrict the review to mere implementation issues, government representatives from the South have insisted on clarifications and amendments which would enable them to, in actual fact, take advantage of the exceptions offered by Article 27.3(b). They demand, for example, to include in the TRIPs Agreement regulations on the disclosure of the origin of genetic resources used in an invention, on prior informed consent of the country of origin regarding the access to these resources and on the sharing of the benefits which arise from the commercialization of the invention. Such regulations would help them to monitor whether or not a patent was granted in a legally correct manner or if the invention the patent was granted for is based on bio-piracy, i.e. the illegitimate appropriation of genetic resources.

Even if Northern governments have up to now resisted such claims they could not prevent them from gaining ‘representational strength’ (Jenson, 1989) in an environment which has traditionally been dominated by the perceptions and interests of Northern governments and business. As a result, the agenda of the TRIPs Council remains highly controversial. The debate as to what should in fact be negotiated runs through the review of

Article 27.3(b) like a red thread. Years after the beginning of the review process it is 'clear that the differing levels of political ambition have yet to be resolved, with one official saying that "some of us want to play soccer while the others want to play rugby"' (Bridges Trade Bio Res, 2006). Article 27.3(b) has thus become 'the single most contentious element of the WTO agreements' (Thomas, 2002: 187).

To summarize the case study in the light of the scale debate, the process of shaping the TRIPs Agreements reveals that the governments and knowledge-intense capital factions of Northern countries have indeed succeeded in rescaling the protection of intellectual property according to their interests. However, they did so at the expense of a politicization of the entire issue of IPRs on genetic resources by Southern governments, social movements, NGOs and indigenous communities. As the contested review of Article 27.3(b) shows, these actors have challenged the 'valorization paradigm' (Brand *et al.*, 2008) as it is inscribed in the agreement (although without being able to enforce their interests, which are very different and partially contradictory, ranging from valorization in the interest of 'national development' to completely different societal relations with nature which reject the patentability of life forms at all). The institutional terrain which was shaped to process conflicts and to negotiate compromises over the valorization of genetic resources has itself become the object of contestation. The new scalar configuration of intellectual property protection, of which the TRIPs Agreement is the most stark expression, has proved to be incapable of processing the contradictions of societal relations with nature according to the needs of knowledge-intense capital factions.

This failure is emphasized by the recent attempts of Northern governments to 're-technicalize' the IPR issue by shifting it partially back to WIPO, where in 2001, under the umbrella of a so-called 'Patent Agenda', negotiations about the harmonization of patent standards and granting procedures began. But even on the 'technical' terrain of WIPO, Northern governments have encountered resistance, the most visible evidence of which is the 'Development Agenda'. Launched by the governments of Brazil and Argentina in 2004, it was soon supported by many other Southern countries. It has also resonated strongly with NGOs and social movements because it tries to reframe the debate about IPRs from a developmental perspective (see Brand *et al.*, 2008: chapter 4).¹² Against this background, Northern governments increasingly try to downscale the IPR issue: They resort to bilateral and regional agreements in order to enforce high standards for the protection of intellectual property in Southern countries, utilizing the provisions of the TRIPs Agreement as 'a floor with no ceiling above' (Drahos, 2001: 10; see also Correa, 2004; GRAIN, 2001; WTO, 2003). What now can be learned from these conflicts for the debate about theorizing scale?

CONCEPTUALIZING SCALE, NATURE AND THE NATIONAL STATE

Three aspects, corresponding to the three mentioned problems of the scale debate, shall be highlighted here. The *first* is that the successful spatio-institutional condensation of powerful interests through the production of scale does not necessarily imply an equally successful regulation of contradictory social relations. Instead, subaltern actors may refuse to accept a scalar configuration as a terrain of conflict and of negotiating compromises. They may even be able to politicize the terrain of conflict itself so that dominant actors may be forced to resort to strategies such as forum-shifting (moving a controversial issue from one international forum or arena to another, here: from the TRIPS Agreement back to WIPO, thereby changing the character of the latter) or downscaling (strengthening bilateral or regional agreements *vis-à-vis* multilateral or international ones) in order to pursue their interests. As the case study of the TRIPs Agreement suggests, this seems to apply particularly to spatial scales beyond the national state. On these scales, the lack of liberal-democratic procedures, which on the national scale in many countries balance the structural contradictions of capitalist societies up to a certain extent, or transform them into negotiable competing interests, enables powerful national states and capital factions to pursue and institutionalize their interests more directly. To interpret this phenomenon one can draw on Jens Wissel's analysis of the transnational reorganization of power relations from a Poulantzian perspective (Wissel, 2007: 130ff). According to this analysis, the relative autonomy of international state apparatuses is weaker and the structural selectivities inscribed in them are stronger compared with state apparatuses on the national scale (at least as far as liberal-democratic states are concerned). More generally, one could argue that the quality of international institutions as material condensations of social power relations (Poulantzas, 2002: 154ff) differs from that of the national state (see also Hirsch and Kannankulam, 2008). Strong structural selectivities prevent subaltern actors from successfully articulating their positions, making visible alternatives and negotiating compromises which reflect at least partially their interests. Thus, they have to pursue their interests outside of the existing institutional terrains or to politicize these terrains. The power asymmetries inscribed in international institutions may also foster the constitution or clarification of common interests among subaltern actors. As a result, international institutions may become deficient or even dysfunctional to the actors which have shaped them. Strong structural selectivities thus go hand in hand with weak hegemonic capacities.

Second, the empirical case allows us to more precisely grasp the relationship between state rescaling, on the one hand, and the continuing importance of the national state and the international system of states, on the

other. Two issues are crucial in this respect. First, the weak hegemonic capacities of international state apparatuses cause social and political forces to search for alternative spatial scales for negotiating international compromises, or encourage them to produce or transform such scales respectively. The efforts to strengthen bilateral and regional agreements between national states seem to play an important role in this respect. Furthermore, if there is, as suggested by the results of the case study, a relationship between the relative autonomy and the degree of structural selectivity of institutional terrains, on the one hand, and their hegemonic capacity on the other, then the national state remains the principal scale for processing societal contradictions. This is due to the fact that the institutional shape of many national states is the result of a long history of social conflicts and compromises which reflect the power not only of capital but also of social movements. The continuing importance of the national state is thus the other side of the coin, of the structural deficiencies of new state spaces. Second, besides this formal evidence, the argument that the national state is not necessarily weakened by state rescaling is also underlined by substantial findings. As the case study on intellectual property protection has revealed, rescaling can be a strategy to enhance, rather than diminish, the influence of powerful national states, or certain national state apparatuses, and their dominant social forces.¹³ Producing a new scale in the form of a multilateral agreement in this case has created a floor from which bilateral power asymmetries can unfold: By allowing exceptions from patentability but not proscribing them, and by setting minimum standards for intellectual property protection but setting no upper limit to them, the TRIPs Agreement has prepared the field for bilateral power bargaining to which Northern governments increasingly resort. The extent to which national states are actually weakened or strengthened through state rescaling thus does not only depend on the process of rescaling as such but also on the relationships of power within and between national states. These relationships determine the ability of individual states to shape the process of rescaling according to their interests, to escape possible dysfunctions of scalar configurations or to even exploit the latter to their own advantage.

Third, state rescaling and new forms of the production of nature may mutually account for each other. Through the creation of the TRIPs Agreement an IPR regime was established on the global scale which aims to reorganize the terms of access to genetic resources in favor of the pharmaceutical and seed industry. Private property rights of global enterprises were strengthened *vis-à-vis* traditional collective rights and local practices of disposal over genetic resources. The new scalar configuration is thus a means of transforming societal relations with nature. At the same time, it is a product of the latter since it is based on the new possibilities to valorize nature which have been created by the modern biotechnologies. However, it is

contradictory: Strong intellectual property rights as they are institutionalized in the TRIPs Agreement threaten exactly that traditional knowledge and those practices of selection and breeding of indigenous communities and local farmers which private enterprises benefit from in their search for genetic resources. Thus, the new forms of production and valorization of nature which the rescaling of intellectual property protection attempts to establish may in fact sharpen the contradictions in societal relations with nature and undermine just those (future) accumulation possibilities which they have been shaped to guarantee.

CONCLUSION

This article has aimed to contribute to the recent debate on the usefulness of the scale concept for the understanding of processes of state transformation. The argument was that a crucial merit of the scale debate is its relational and process-based understanding of scale, which goes hand in hand with a focus on social struggles. Thereby the scale debate helps to overcome the limitations of more static concepts like multi-level governance. Having emphasized its merit, I identified three deficits, or research desiderata, respectively: the neglect of the structuring effects of scale and of the ways these effects may be challenged through social and political conflicts; the need to clarify the relationship between state rescaling and the continued importance of the national state; and the underestimation of societal relations with nature in recent conceptual debates on scale. Based on a concrete conflict over state rescaling, the creation and contestation of the WTO-TRIPs Agreement and its provisions to regulate the access to genetic resources, the paper has tried to demonstrate how new technological possibilities to valorize nature and the questions of intellectual property which arise from them are closely interconnected with politics of scale. Furthermore, it should have become clear that national states and international power asymmetries, especially between North and South, play an important role in these conflicts. Far from diminishing their influence, processes of rescaling may even strengthen the power position of states, or of certain national state apparatuses, and become a medium through which power asymmetries can unfold.

However, as was also revealed by the case study on the TRIPs Agreement, the strong structural selectivities and weak relative autonomy of international state apparatuses may thwart their capacity to constitute a terrain of conflict which is likewise accepted by both powerful and weaker actors. The latter may take this as a starting point to politicize the terrain of conflict itself and the structural power asymmetries inscribed in it. The democratic potential of such strategies was beyond the scope of this paper. It nevertheless remains an important topic of future research which can be addressed by a deeper analysis of the contradictory social

relations within individual states as well as of the multiscalar strategies of indigenous communities, NGOs and social movements.

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NOTES

- 1 For a similar argument and for an analysis of the relationship between different spatialities with respect to the struggles of immigrant workers in the US see Leitner *et al.* (2008).
- 2 All translations of German quotations by the author.
- 3 However, the reference to spatial issues remains implicit. See Gualini (2006) for a critique of the lack of an elaborated concept of space within the multi-level governance approach.
- 4 For a more detailed analysis of these conflicts, see Brand *et al.* (2008: chapter 4).
- 5 See also May (2007) for an analysis of the way developed countries have historically shaped their domestic intellectual property rights according to the needs and the level of development of their industries.
- 6 The previous governance structure for intellectual property had included 135 states as members of the WIPO, although of the 18 conventions administered, even the Paris convention, with the most signatories, had been ratified by only 108 countries. With the exception of the Bern convention (95 signatories), other agreements overseen by WIPO only had between 20 and 50 signatories (May and Sell, 2006: 162f).
- 7 Whereas developed countries had to comply with all provisions of the TRIPs Agreement since 1 January 1996, developing countries and Eastern European transition countries was conceded a transitional period of five years, until 1 January 2000 (see Art. 65 of the TRIPs Agreement). The transitional period for least developed countries originally was 11 years, i.e. until 1 January 2006 (Art. 66). On the Ministerial Conference of the WTO in December 2005 in Hong Kong, this period was prolonged until the summer of 2012 (Intellectual Property Watch, 2005).
- 8 See http://www.wto.org/english/docs_e/legal_e/27-trips_04c_e.htm.
- 9 The UPOV lays down the criteria for the protection of plant varieties: a plant variety must be new, differentiable, homogeneous and enduring in order to be able to be protected. The UPOV was set up in 1961. Revisions were made in 1972, 1978 and 1991. Until April 1999 non-UPOV members had the opportunity to join the Convention in the version of 1978. Since then it is only possible to join the version of 1991.
- 10 'Megadiverse countries' is a self-description of a group of several Southern countries which together possess 60–70% of the world's biodiversity. In 2002, they organized themselves as 'Group of Like-Minded Megadiverse Countries' in order to strengthen their cooperation in international biodiversity politics (see Brand *et al.*, 2008: 65f).
- 11 Because of its controversial character, Article 27.3(b) was endowed with a stipulation according to which its provisions 'shall be reviewed four years after the date of entry into force of the WTO Agreement'.

- 12 A thorough assessment of the developmental efforts within, and of, WIPO has, of course, to move beyond these programmatic conflicts. As Farhat has shown WIPO's development strategy essentially consists in fostering an 'ethnicized entrepreneurialism' (Farhat, 2008: 227). Via the construction of indigenous identities, communities are selected with whom contracts on bioprospecting are placed. Other 'non-contractual biodiversity-dependent users' are excluded and the selected indigenes are brokered 'into the capitalist system via the entrepreneurial use of natural resources' (Farhat, 2008: 223).
- 13 On the strengthening of national states see also Gritsch (2005), who, however, underexposes the contradictory and contested character of this process.

NOTES ON CONTRIBUTOR

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