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# Governance Fragmentation

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The concept of ‘architectures’ of global governance is a useful heuristic device to help understand the macro level of institutions and governance mechanisms. With it, one may better grasp the complexity of the myriad treaties and agreements in, for instance, climate and energy governance and compare this with a governance architecture on oceans, biodiversity or chemicals. Such comparisons across institutional architectures and issue areas can reveal, especially, lower or higher degrees of governance fragmentation, which might influence performance of an architecture.

We find governance fragmentation at all levels of political institutions, from local administrations up to national political systems and global governance. Architectures of global governance, however, fundamentally differ from national architectures. Within countries, the rights and responsibilities of political actors and institutions are defined in a written or unwritten constitution that lays down procedures in cases of institutional conflict and normative contestation. While this ideal-type description is rarely matched in reality – with political systems being often marked by constitutional ambiguity, conflict, overlap and crisis – the difference between national and global architectures is evident. Some observers see the Charter of the United Nations as a functional equivalent to national constitutions. But even then, global governance follows logics that differ from national political systems. At the global level, institutional fragmentation is much deeper, and it is ubiquitous.

This fragmentation of global governance stands at the centre of this chapter. We start with a conceptualization of governance fragmentation and its relation to concepts such as polycentricity and institutional complexity. We then review the origins of governance fragmentation and its problematization; methodological approaches to studying fragmentation; and the impacts and consequences of fragmentation. We conclude by identifying future research directions in this domain.

Our review is based on a comprehensive study of the literature on governance fragmentation over the last decade. We draw on a Scopus search on all articles published in the subject area of social sciences in 2009–2018 with ‘fragmentation’ in the title, abstract or keywords, which yielded 6,831 articles. To narrow the scope, we qualitatively scanned the abstracts of these articles and excluded all articles not concerned with governance fragmentation at the global and transnational level. This left us with 242 articles. We then further excluded articles with abstracts where fragmentation did not appear to play a key role in the analysis but was rather context-setting or mentioned without being of further influence. The remaining articles were supplemented for this review with additional studies, such as books, book chapters and a few policy briefs and working papers.

### Conceptualization

The academic literature on fragmentation and complexity in global governance dates back to the 1960s and 1970s (Visseren-Hamakers 2015, 2018), with a strong empirical focus on the governance of major planetary systems, such as climate or ocean governance. We find in this debate also different but related terms such as polycentric governance (e.g., Ostrom 2010a, 2010b; Gallemore 2017); interlinkages between institutions and regimes (Chapter 6); and institutional complexity and regime complexes (Chapter 7). Whereas many of these concepts focus on relations among international organizations and regimes, the concept of fragmentation looks at an entire governance architecture in which institutions interact (Biermann et al. 2009). As such, compared to institutional interlinkages (Chapter 6) and regime complexes (Chapter 7) – the other two core structural features identified in this volume – fragmentation has a clear focus on *macro-level governance*.

As a concept of political analysis, governance fragmentation is used in a variety of ways; there is no generally agreed definition. However, three key characteristics delineate the concept and place it in the context of this volume.

(1) First, fragmentation describes the *quality* of an entity but not an entity or phenomenon itself. Fragmentation, as a concept, cannot be used without reference to an empirical phenomenon that is fragmented. This makes fragmentation different from concepts that describe empirical phenomena, such as regime complexes or institutional interlinkages, which are discussed in other chapters in this volume. Notions of regime complexes and interlinkages refer to units and the relationship between units. Fragmentation, instead, describes the quality of entities. In global politics, fragmentation hence relates as a quality to the concept of governance architecture, which we can assess as being more or less fragmented.

(2) Second, this makes fragmentation an inherently *comparable* variable. Different governance architectures – for example, in health, trade or climate governance – can be compared as to the degree of fragmentation, which can be higher or lower. The fragmentation of architectures can also be compared over time, allowing for insights into whether architectures became more or less fragmented. This comparability makes fragmentation, as a concept of political analysis, different from regime complexes: a regime complex is an entity that can be described through its parts, such as the various regimes and organizations that comprise it. But regime complexes cannot easily be compared because the comparable quality is missing, unless the analyst wants to assess whether a regime complex became more complex over time or is more complex compared to other regime complexes, which comes close to tautological reasoning. Fragmentation, however, is a *variable* that we can assess in political research.

(3) Third, the comparability of governance fragmentation makes it a *continuous, non-binary* concept. Governance architectures are neither fully fragmented nor entirely non-fragmented. Instead, they will always be more, or less, fragmented compared to other architectures, and more or less fragmented than architectures in the past and those in the future. The endpoints of this continuum would be two politically unrealistic ideal-types. Extreme fragmentation, on the one hand, would be anarchy without institutions. This would run counter to the very idea of a governance architecture and negate the existence of governance in the first place. Zero fragmentation, on the other hand, would bring about the complete institutional integration of all treaties, actors and organizations, which is hardly realistic at the international level. Related to this, the notion of governance fragmentation does not necessarily entail an unrealistic assumption of a primordial, ‘pre-existing world polity or order’ that is becoming increasingly fragmented (as some argued, see Zürn and Faude 2013). Instead, governance architectures are always fragmented to some degree – and it is the relative degree of fragmentation that is of interest to the political analyst.

This notion of governance fragmentation as a continuum rather than a binary requires careful categorizations and typologies of different stages and phases of governance fragmentation. As one example, Biermann and colleagues (2009) have proposed a threefold categorization of cooperative, conflictive and synergistic fragmentation. Furthermore, they use three criteria to differentiate between these three degrees of fragmentation: (a) the degree of institutional nesting and degree of overlaps between decision-making systems; (b) the existence and degree of norm conflicts; and (c) the type of actor constellations (see Table 8.1).

The typology of Biermann and colleagues (2009) has been used in numerous case studies. From 55 case studies that we analyzed in this chapter and that use the above framework, several explicitly include this typology of fragmentation (Orsini

Table 8.1: *Typology of fragmentation of governance architectures*

|                              | Synergistic  | Cooperative  | Conflictive                                 |
|------------------------------|--|--|---|
| <i>Institutional nesting</i> | One core institution, with other institutions being closely integrated | Core institutions with other institutions that are loosely integrated  | Different, largely unrelated institutions   |
| <i>Norm conflicts</i>        | Core norms of institutions are integrated                              | Core norms are not conflicting   | Core norms conflict                         |
| <i>Actor constellations</i>  | All relevant actors support the same institutions                      | Some actors remain outside main institutions, but maintain cooperation | Major actors support different institutions |

Source: Biermann et al. 2009.

2013; Van de Graaf 2013; Zürn and Faude 2013; Richerzhagen 2014; Velázquez Gomar 2016; Well and Carrapatoso 2017; Rana and Pacheco Pardo 2018; Fernández-Blanco, Burns and Giessen 2019). In these studies, we find numerous examples of both cooperative fragmentation and conflictive fragmentation. For example, the climate regime is often analyzed as a prominent case of cooperative fragmentation (Biermann et al. 2009), while the energy security regime has been classified as conflictive (Fernández Carril, García Arrazola and Rubio 2013). Cases of synergistic fragmentation seem to be rather exceptional. The agreement of the Nagoya Protocol under the Convention on Biological Diversity has been described as an example of synergistic fragmentation, as it increases regulatory fragmentation but is still embedded in the framework of the convention. The addition of the protocol to the convention supports the objectives of the convention; the protocol is administered by the same secretariat; and it is financed through the same channels, all of which makes the architecture ‘quite synergistic’ (Richerzhagen 2014: 149).

Though the above shows that fragmentation of architectures as a whole can be classified as synergistic, cooperative or conflictive, the degree and type of fragmentation can also vary within one architecture. In the case of forest governance, for example, Fernández-Blanco and colleagues (2019) show that while synergistic fragmentation is observed among vague institutional elements (such as the norm of sustainability), more concrete and substantial elements (such as the role of civil society in reaching sustainability) coincide with more conflictive fragmentation.

The typology by Biermann and colleagues (2009) relies on both *structural fragmentation* – measured by the quantity of relationships between institutions – and *functional fragmentation*, measured by the quality of relationships between

institutions, norms or actors. Most literature on fragmentation seeks to assess functional fragmentation, while a minority focuses on structural fragmentation (e.g., Kim 2013). This is closely related to the prevalence of qualitative analyses of fragmentation compared to quantitative analyses (as we discuss below).

Another typology has been brought forward by Zürn and Faude (2013), who differentiate between segmentary fragmentation (between institutions with similar tasks in different regions), stratificatory fragmentation (in a hierarchical sense, like framework convention and protocols) and functional fragmentation (largely a division of labour between, for instance, economic and environmental institutions). The typology by Zürn and Faude (2013) does not contradict but could rather be combined with the typology by Biermann and colleagues (2009). Their notion of stratificatory fragmentation, for instance, comes close to the notion of institutional nesting, which Biermann and colleagues (2009) use to assess degrees of fragmentation. The notion of segmentary and functional fragmentation is similar to discussions about vertical and horizontal fragmentation. Here, horizontal fragmentation refers to fragmentation between different policy domains (Zelli, Gupta and van Asselt 2012), while vertical fragmentation points at fragmentation between different levels of governance (Busch, Gupta and Falkner 2012). While most literature on governance fragmentation focuses on the horizontal dimension, long-standing academic debates in the broader literature on world polity also centre on whether the world becomes more regionally fragmented or more globalized (for overviews, see for example, Beckfield 2010; Gomez and Parigi 2015). Interestingly, though the distinction between horizontal and vertical governance fragmentation is rarely explicitly made in the literature, there seems to be more attention for vertical versus horizontal policy measures to address the negative consequences of fragmentation, for example through policy integration (Chapter 9), institutional interlinkages (Chapter 6) and interplay management (Chapter 10).

Importantly, all authors agree that fragmentation is ubiquitous, that it varies among policy areas and governance areas and that it is a variable that can be assessed in comparative research across policy areas and over time. We now review research findings on what explains fragmentation and what its consequences are.

### **Research Findings**

The concept of institutional fragmentation originates in international law, where the first studies about the fragmentation of international law and the overlap and conflicts between international treaties date back to the mid-nineteenth century (Isailovic, Widerberg and Pattberg 2013). In this chapter, however, we focus on the literature in political science and governance studies and on how fragmentation of governance architectures is discussed there. Within political science and

international relations research, governance fragmentation has been studied especially in the wider domain of earth system governance, and here both broadly regarding larger structures and more narrowly with reference to specific issues, such as climate or ocean governance.

Unsurprisingly, by far most case studies analyzed the increasingly fragmented, deterritorialized and hybrid architecture of global climate governance. Many studies focus on international climate governance in general.<sup>1</sup> Others investigate specific sectors (Hackmann 2012) or specific areas, such as climate finance (Pickering, Betzold and Skovgaard 2017), carbon governance (Biermann 2010; De Coninck and Bäckstrand 2011; Smits 2017), policies of Reducing Emissions from Deforestation and Forest Degradation (REDD+) (Gupta, Pistorius and Vijge 2016; Gallemore 2017; Well and Carrapatoso 2017) and short-lived climate pollutants (Zelli, Möller and van Asselt 2017; Yamineva and Kulovesi 2018). Because of this prominence of climate governance in academic debates around fragmentation, many of the examples that we further discuss in this chapter focus on fragmentation in climate governance.

The concept of fragmentation has also been used, however, to describe and analyze governance architectures for other issues, such as forests (Giessen 2013; Orsini 2013; Carleton and Becker 2018; van der Ven, Rothacker and Cashore 2018), biodiversity (Richerzhagen 2014; Velázquez Gomar 2016), energy (Ghosh 2011; Fernández Carril, García Arrazola and Rubio 2013; Van de Graaf 2013; Heubaum and Biermann 2015; Guerra 2018), health (Graham 2014; Holzscheiter 2017), oceans (Ekstrom and Crona 2017), international security and finance (Held and Young 2013), the arctic (Humrich 2013; Yamineva and Kulovesi 2018) and counterterrorism, intellectual property and election-monitoring (Pratt 2018). In contrast, we find it surprising that several important issue areas are still understudied despite the high fragmentation of their broader governance architectures, notably agriculture and food (on corporate food governance, see however Clapp 2018; Scott 2018) and fisheries (but see Young 2009; Hollway 2011; Techera and Klein 2011).

While fragmentation is often analyzed as a quality of governance in particular areas (e.g., Pattberg et al. 2014), only few articles use the concept of fragmentation to analyze the interface between different areas, such as between forests, climate and biodiversity (e.g., van Asselt 2012) or between water, energy and food (e.g., Weitz et al. 2017). Similarly, fragmentation is not often used to analyze the interface between entire policy domains such as between trade and the environment (for

<sup>1</sup> See, for instance, Biermann et al. 2009, 2010; Zelli 2011; Zelli et al. 2010; Galaz et al. 2012; Karlsson-Vinkhuyzen and McGee 2013; Palmujoki 2013; Dyer 2014; van Asselt 2014; van Asselt and Zelli 2014; Hjerpe and Nasiritousi 2015; Zelli and van Asselt 2015; Aykut 2016; Widerberg, Pattberg and Kristensen 2016; Dorsch and Flachsland 2017; Oh and Matsuoka 2017.

exceptions, see for example, Young 2009). At these higher levels of analysis, concepts such as institutional interplay, interplay management and regime interaction are more frequently used, even though the broader notion of governance fragmentation might in fact provide more explanatory power.

Fragmentation is most often studied as an independent variable, that is, as a possible explanatory factor for the degree of effectiveness of governance architectures or goal-attainment (Jabbour et al. 2012). Fragmentation is also often seen as a contextual factor that is deemed to complicate governance efforts.

However, even though fragmentation is of key importance in many articles, it is not always sufficiently operationalized with distinguishable criteria for analysis. An exception is the study by Pattberg and colleagues (2014, drawing on Biermann et al. 2009), in which institutional constellations, actor constellations, norm constellations and discourse constellations are used as indicators to empirically measure fragmentation in specific areas. In their effort to map and measure fragmentation, they elaborate a two-step process that includes the mapping of governance architectures based on a set of criteria to demarcate the main actors within an architecture.

Regarding methods, the vast majority of the studies on governance fragmentation are qualitative, usually analyzing multiple sources of data such as scientific literature, grey documents and interviews with experts from government, business or civil society. An in-depth, qualitative lens is indeed suitable to identify norm conflicts, certain types of actor constellations and degrees of institutional nesting. There are also some authors who rely on small-*n* comparative case-study methods (e.g., Held and Young 2013).

A more limited set of studies draws on quantitative methods to analyze fragmentation. An example is the research of Pratt (2018), who uses a dataset of over 2,000 policy documents to describe patterns of deference – a strategy to cope with jurisdictional conflicts – in three policy areas. As argued above, fragmentation can occur in different degrees and is a non-binary concept that allows for a comparison between architectures where the relative degree of fragmentation is of interest. This provides an opportunity for quantitative assessments of degrees of fragmentation that might prove useful in comparative analyses. In the current literature, however, only very few attempts have been made to quantify fragmentation or to compare degrees or types of fragmentation across architectures. Among others, the lack of adequate methods and large datasets hampers empirical research that takes such an approach (Kim 2013; see also Chapter 14).

Another methodological challenge in comparative research is that the larger the scale of the governance architectures that are studied, the higher the degree of fragmentation is likely to be (Biermann et al. 2009; Zelli and van Asselt 2013). Fragmentation is evident in more narrowly defined global governance

architectures, that is, between parallel policies and regimes in the same issue area such as climate governance or governance of plant genetic resources. On this scale, comparative analyses of different degrees and types of fragmentation are likely to be most fruitful, though fragmentation is also useful at a higher scale of comparative analysis, for example for entire policy domains such as environment or trade.

One promising and recently introduced method to quantify and comparatively analyze fragmentation is network theory, which has so far mainly been used to analyze links between international organizations (Beckfield 2008, 2010; Gomez and Parigi 2015; Greenhill and Lupu 2017). Network theory can be used to study not only fragmentation but also related concepts such as polycentricity and complexity (e.g., Ahlström and Cornell 2018), and it can be applied as well for analyses of the structure and dynamics of global governance architectures. Network theory also allows for introducing temporal and diverse comparative components into analyses, which can help to study the degree of fragmentation over time and between governance areas. Because network theory requires a careful and thorough justification of how the network is composed, it might not be applicable to all aspects of fragmentation.

So far, network analyses have been done for numerous institutions and actor constellations (for a conceptual discussion, see Pattberg et al. 2014). This approach might be less useful, however, to analyze norm conflicts. Furthermore, the binary character of networks (that is, the identification of either absence or presence of a link between two network components) is not well-suited to reflect the complex nature and quality of institutional interactions (Kim 2013). Hence, network analyses are useful to analyze *structural* fragmentation, which looks into degrees of fragmentation, but not necessarily *functional* fragmentation, which focuses on the types of fragmentation. This would thus call for mixed-method approaches with complementary qualitative analyses; but such a combination of approaches has so far been rarely used in the study of governance fragmentation (for an exception, see Orsini 2013).

We now turn to discussing research that studies the emergence and evolution of governance fragmentation, followed by a review of research on the impacts and consequences of fragmentation.

### *Emergence and Evolution*

Empirically, most literature on the fragmentation of global governance addresses issues of earth system governance. This is not surprising, given that earth system governance seems to be much more fragmented than, for example, trade or health governance. Different from these areas, earth system governance is characterized by a multitude of international organizations with related mandates as well as over



1,000 multilateral agreements, many of which have their own independent secretariats. The origins of this broadly fragmented architecture date back to the late 1800s, when the first multilateral agreements on transboundary environmental concerns were signed (Mitchell 2003). It was not until 1972, however, that a specialized international agency was created with environment as its core mandate, the United Nations Environment Programme (UNEP, now also known as UN Environment). By the time that this programme was created, about 200 multilateral environmental agreements were already in place (Mitchell 2003), and many international organizations existed that had, or later acquired, environment-related mandates.

The establishment of UNEP did not end the increase in fragmentation in this field. One reason is that while UNEP was mandated to coordinate and galvanize actions by other institutions and agencies, it was not given the authority to steer or authoritatively coordinate such actions (Ivanova 2007; Vijge 2013). Time and again, academic literature as well as UN reports (e.g., United Nations 1998, 2006) argue that the earth system governance architecture is becoming increasingly fragmented and that efforts to address this, often in the form of new institutions for coordination, have led to an increase rather than a decrease of fragmentation (Vijge 2013; see also Chapter 13).

Yet, why is the governance of global socio-ecological systems, from climate to biodiversity, so much more fragmented than other governance domains? How can we explain these persistently high degrees of governance fragmentation? Unfortunately, the question has not often been analyzed in depth. As we discuss below, most literature on governance fragmentation focuses on its *consequences* (treating fragmentation as an independent variable), rather than its *causes* (treating fragmentation as a dependent variable).

There are some exceptions, though. For example, one long-standing strand in earth system governance research seeks to explain the absence of a core integrating institution such as an international treaty (such as the non-existence of a global forest treaty; see Dimitrov 2005; Dimitrov, Sprinz and DiGiusto 2007) or the absence of a central – or centralizing – organization (such as a world environment organization, which has been called for since the 1970s but is still not in place; see Vijge 2013). In addition, Johnson and Johannes (2012) studied why some environmental regimes integrate – hence reducing fragmentation – while others remain separated. Their main claim is that fear of negative spill-overs – for instance between the climate regime and the ozone regime – provides the strongest incentive for regime integration, while – unexpectedly – possible positive spill-overs do not drive actors to push for regime integration. They drew in their research on cases that differed by the degree of integration, that is, their dependent variable. This gains limited insights on the independent and possibly intermediating variables in these cases, nor does it yield causal explanations.

Especially international legal scholars have engaged for some time with the question of whether fragmentation emerges organically or whether it is rather powerful actors that consciously create a fragmented international legal system to serve their interests (e.g., Koskenniemi and Leino 2002; Benvenisti and Downs 2007; Broude 2013). Regarding the first perspective of organic emergence, Vijge (2013) uses the concept of institutional path-dependency to explain how the global environmental governance architecture has entered a self-reinforcing cycle wherein incremental changes – in the form of the ad hoc and diffused establishment of a set of fragmented institutions – are more likely than actions that would dismantle, change or replace large institutions. Dryzek (2016) has deemed this type of path-dependency as one of the core problems of governance architectures in the Anthropocene. Such an increasingly fragmented architecture coincides with fragmented or even circular policy debates about possible measures that could be taken at the global level to defragment the architecture.

Regarding the second perspective of purposeful fragmentation by interested states, several scholars have argued that neither powerful countries nor major international organizations have a strong interest in substantially transforming the governance architecture in order to defragment it (for an overview, see Vijge 2013). Some authors went a step further by arguing that powerful countries *consciously* design and maintain a fragmented governance architecture because it serves their interests. For example, Benvenisti and Downs (2007: 595) have argued that powerful states ‘maintain and even actively promote fragmentation’ because it allows them to maintain some of their power that they fear to lose in a time when hierarchy is increasingly considered illegitimate (see also Chapter 13). Higher degrees of fragmentation would give such states the freedom to make or break rules without negatively affecting the entire system and without being held responsible (Benvenisti and Downs 2007). Paris (2015) even sees a long-term shift in power away from the United States towards emerging countries in the Global South as the core explanation of what he labels the pluralization of global governance, or what we would label in the context of this book as increasing fragmentation. In analyzing the fragmentation of the global environmental governance architecture, Ivanova and Roy (2007: 50) argue that ‘governments deliberately create weak and underfunded international organizations with overlapping and even conflicting mandates’ because they are ‘[f]earful of infringement upon their national sovereignty’. Regarding the forest regime, Dimitrov (2005: 19 and 4) even argues that states establish ‘hollow institutions’ that function as “‘decoys” deliberately designed to pre-empt governance’. Fragmentation that arises from the establishment of such decoy institutions can isolate policy issues for which there is no political will from more important, higher-level political fora. This allows governments to conform to the widely held norm of ‘doing at least something’ to address

earth system concerns yet without taking substantive actions, something that has been termed ‘symbolic policymaking’ (Dimitrov 2005; Vijge 2013).

In addition, Zürn and Faude (2013) have brought forward a theoretical approach that views fragmentation of governance architectures as a ‘functional response to the swelling tide of problems that can be handled best on the international level’, drawing on differentiation theory in social science (Zürn and Faude 2013: 123). In this perspective, fragmentation is inevitable and neither positive nor negative per se; rather, it constitutes a political challenge to ensure the fruitful coordination of (increasingly) functionally differentiated governance units at the global level (Zürn and Faude 2013).

Although global governance of trade is generally considered less fragmented than earth system governance, several authors have sought to explain the growing fragmentation of trade governance as well. Here they focus on the increase of bilateral trade agreements, as opposed to multilateral agreements that include most countries. Interestingly, also in this domain, fragmentation through the setting up of bilateral agreements seems to be in the interest of powerful countries and hence supported by them. While in multilateral agreements, developing countries in the Global South may gain power vis-à-vis industrialized countries and cannot anymore be marginalized in negotiations, it is rather the rapidly spreading bilateral agreements that seem to serve the commercial interests of the United States and the European Union (Aggarwal and Evenett 2013; Trommer 2017).

Yet despite all this work in political science and international legal studies, additional comparative studies that take fragmentation as the dependent variable are needed and are an interesting venue for future research.

### *Impacts and Consequences*

In addition, an extensive line of research has focused on the consequences and impacts of governance fragmentation. This literature, however, is still fundamentally divided regarding the overall benefits and downsides of more or less fragmented governance architectures. In part, these different perspectives on whether consequences of fragmentation are overall positive or negative depend on the actual degree of fragmentation in the area that is studied.

*Positive effects of fragmentation.* Several studies point to the benefits of fragmentation. In cases where smaller sets of actors seek to cooperate while others stay out, it is argued, the resulting fragmentation facilitates quicker, more innovative and more far-reaching decision-making among this highly collaborative but smaller set of actors. This is often referred to as minilateralism. Here, some authors expect that a patchwork of multiple minilateral fora can allow for experimentation with

unconventional governance frameworks; enable tailor-made decisions with more specialized accounting or reporting frameworks; and ensure that inaction or stalemates in one decision-making process do not jeopardize others. Minilateralism may also facilitate concessions, funding agreements and the transfer of technology between a small group of actors that would hesitate to commit resources in large multilateral agreements (Bodansky 2002; Zelli, Gupta and van Asselt 2012; Dyer 2014; Dorsch and Flachsland 2017).

In climate governance, for example, the repeated deadlocks in multilateral climate negotiations under the United Nations Framework Convention on Climate Change (Falkner, Stephen and Vogler 2010) have led to research on the potential of alternative fora and parallel initiatives, including minilateral institutions such as the Major Economies Forum on Energy and Climate, as well as transnational markets, public–private partnerships, and other layers and networks of rule- and decision-making. These climate governance initiatives take place outside of, yet are loosely related to, the climate convention (Okereke, Bulkeley and Schroeder 2009; Victor 2009; Biermann 2010; Biermann et al. 2012; Dyer 2014; Falkner 2016). Similarly, Keohane and Victor (2011) and Abbott (2012) have argued for a transnational regime complex, in which the climate convention as a central negotiating forum would offer substantial degrees of flexibility and diversity to allow for a loose complex of (sub-)regimes. To be successful, such mix-and-match approaches would need to rely on the principle of subsidiarity to increase self-organization; take into account the site-specific conditions by specifying the preferences, competencies, constraints and interactions of actors; include experimentation and learning at subsidiary levels to test innovations that can later be scaled up; and strengthen the trust across all scales and levels (Dorsch and Flachsland 2017; see also Hackmann 2016 for learning in global environmental governance). However, especially for polycentric systems, robust connections are needed to realize governance with decentralized feedback as one of its main components (Gallemore 2017).

Smaller agreements can be negotiated either by like-minded actors with closely aligned interests, or by actors that otherwise depend on one another, for example in the case of regional agreements (Bodansky 2002; Zelli, Gupta and van Asselt 2012). A fragmented configuration of institutions or decision-making processes that are loosely but cooperatively connected may then enable a larger set of actors to access and participate in the multiple co-existing decision-making processes (Zelli, Gupta and van Asselt 2012; Acharya 2016). Fragmentation may thus offer actors – including non-state actors such as business and civil society representatives – the flexibility to freely enter or leave non-confrontational negotiations wherein decisions are made through consensus (Acharya 2016).

Several studies have also investigated the benefits of vertical, as opposed to horizontal, fragmentation. Scholars studying polycentric approaches in climate governance, for example, highlight the potential of multiple bilateral, national and local forums to deliver solutions, as opposed to having one, exclusively global-level, convention being responsible for crafting solutions. Vertical fragmentation, in the form of a combination of top-down and bottom-up approaches, may offer the potential to exploit co-benefits at multiple decision-making fora and thereby provide incentives for climate action at multiple levels (Dai 2010; Rayner 2010; Hoffmann 2011; Araral 2014; Cole 2015; see also Ostrom 2010b; Galaz et al. 2012; Falkner 2016; Dorsch and Flachsland 2017).

*Negative effects of fragmentation.* In contrast, several studies emphasize the dangers, downsides and further challenges of strongly fragmented governance architectures.

(1) First, many authors emphasize that smaller institutions cannot function effectively without a broader framework, and hence emphasize the continued relevance of broader, overarching frameworks that bind smaller agreements of only a few countries. As Hafner (2003: 856), for instance, argues, fragmentation ‘jeopardizes the credibility, reliability, and, consequently, the authority of international law’. Several studies suggest that in a highly fragmented architecture such as in climate governance, a centralized regime such as the climate convention is necessary to create fair and effective outcomes (Hare et al. 2010; Winkler and Beaumont 2010; Dyer 2014; Dorsch and Flachsland 2017). Also, as Eckersley (2012) points out, creative compromises can only be realized if the diversity among involved member states is enhanced, for instance through the creation of a ‘Climate Council’ to be constituted based on common but differentiated representation (Eckersley 2012). This could be a way in which minilateralism could relegitimize the United Nations Framework Convention on Climate Change, negating the global powershifts that contributed to the slowdown in multilateral negotiations that took place under its purview (Falkner 2016). Pratt (2018) emphasizes here the concept of institutional deference, where deference to other international organizations makes focused rule-making on sub-issues more likely. Although the concept was used to describe the development of a division of labour within regime complexes, comparable developments might also be apparent or possible within broader governance architectures.

(2) Second, many studies associate governance fragmentation with a lack of coherence, inefficiency or ineffectiveness, and overlapping or even conflicting – and thus potentially counterproductive – policies (Jabbour et al. 2012; Held and Young 2013). Especially in the case of the many agreements resulting from

fragmented architectures, Jabbour and colleagues (2012) claim that the multiplicity of obligations can hamper implementation in countries with limited international policy capacity. Looking at different stages of decision-making for the policy mechanism called Reducing Emissions from Deforestation and Forest Degradation (REDD+), for example, Gallemore (2017) has claimed that broadly fragmented systems – what they refer to as polycentric systems – comprising the coalitions necessary to raise issues to the agenda create high transaction costs when diverse interests must be realized simultaneously during implementation. This draws attention to questions surrounding the effectiveness of polycentric systems throughout their evolution.

A related issue is that for those engaging in fragmented architectures, it is not always clear where to draw the line in terms of participants, and this might also not be possible. When a patchwork of smaller institutions is in conflict or produces conflicting norms, decisions might become contradictory, thereby inhibiting their implementation (Bodansky 2002; Biermann et al. 2009; Zelli et al. 2010; Falkner 2016). In addition, a fragmented governance architecture is argued to increase the potential of duplication (Held and Young 2013). Countries and other actors can cherry-pick from a fragmented set of agreements and choose to engage only in those decision-making processes that align well with their individual interests, thereby creating ‘coalitions of the willing’ (Falkner 2016: 87; see also Biermann et al. 2009). The more fragmented a system becomes, the more likely it is that multiple actors are involved and spend unnecessary resources on comparable issues, policy solutions and activities. Moreover, conflictive norms or decisions in a fragmented architecture can obstruct the formation of a common vision, ambition and action and create confusion among actors about the direction that global governance should take (Biermann et al. 2009).

(3) Third, several studies argue that a fragmented patchwork of small-*n* agreements may not sustain in the long run, either because the smaller agreements do not address – or perhaps even increase – larger-scale institutional barriers, or because they are not accepted by the wider set of actors responsible for their implementation. Held and Young (2013) describe such a case in international finance. They argue that in this area – and also in international security – fragmentation must be seen as the outcome of *mal*-adaptation. Because established institutions such as the International Monetary Fund and the World Bank were unable to produce system change in the face of the financial crisis, existing ad hoc, informal institutions – especially the Group of 20 – were de facto changed into small-*n* platforms wherein major powers devised plans to cope with the issues. The ‘agreements’ established within the Group of 20, however, did not sustain in the long run, as the venue lacked an administrative structure, enforcement capacity and mandate to execute

its orders. After having reached their agreements, the Group of 20 directed their plans to the traditional institutions of the international finance governance architecture in which all countries participate; but such proposals rarely gained full support. Instead, the final compromises often resulted in watered-down, incremental reform proposals.

(4) Fourth, several authors point out that when conflicts among institutions and actors arise, fragmentation disadvantages smaller or less powerful actors, which need larger coalitions and broader institutions to increase their collective bargaining power vis-à-vis the more powerful actors, such as the United States (Zelli et al. 2010; Biermann 2014). In the case of climate governance, for example, Eckersley (2012) argues against a patchwork of smaller agreements from the angle of substantive and communicative justice, suggesting that such smaller agreements are elitist, procedurally unjust, self-serving and not in line with the justice principles enshrined in the multilateral climate convention. Karlsson-Vinkhuyzen and McGee (2013) argue that minilateral fora have even allowed powerful states to advocate certain discourses around voluntary commitments that have now been taken up by the multilateral climate convention. They further argue that the proliferation of minilateral fora is characterized by a limited participation by state and non-state actors, a fundamental lack of transparency in decision-making and a lack of accountability towards non-participants. If some form of (functional) differentiation within a fragmented architecture with complex interdependencies exists in a policy domain, actors may become vulnerable to crosscutting and intersecting independent variables over which they have little control (Cerny and Prichard 2017).

*Managing the negative consequences of fragmentation.* Finally, how to manage governance fragmentation and especially its negative consequences has received much policy and scholarly attention. This is well covered in other chapters in this book. Responses to fragmentation include, for instance, the more general embracement of fragmentation (Rayner, Buck and Katila 2010) combined with active policy measures such as orchestration (Chapter 11) and governance through global goals (Chapter 12). Policy measures to reduce fragmentation also include policy integration (Chapter 9), interplay management (Chapter 10) and eventually hierarchization (Chapter 13).

### **Conclusions and Future Directions**

While the literature on governance fragmentation is vast and still growing, key gaps remain. These include explanatory analyses of the relations between different fragmented governance architectures and governance levels (horizontal fragmentation) (Visseren-Hamakers 2018); research on the relation between

problem structure and the degree of fragmentation within a specific issue domain; and analyses of the agency of actors in a fragmented architecture, particularly actors from the Global South (Acharya 2016). More research is also needed that draws on quantitative and mixed-methods approaches to studying governance fragmentation. To analyze *structural* fragmentation that focuses on the degree of fragmentation, more efforts are needed to quantify fragmentation. For this purpose, the creation of adequate methods and large datasets that facilitate these approaches can be highly beneficiary (Kim 2013; see also Chapter 1). Mixed-method research could analyze *structural* and *functional* fragmentation – focusing on both degrees and types of fragmentation – in more detail at the same time.

Future research could also invest in the development of a typology of all potential linkages between entities of a governance architecture. This research could rely on insights from network analysis to continue the inductive work of, for instance, Betsill and colleagues (2015). An example of a less-studied but potentially interesting type of linkage is that of catalytic linkages. These centre around the alteration of the actions of one or more actors to allow third parties to improve the performance of their governance tasks, similar to orchestration (Chapter 11). Mapping these and other linkages not only allows scholars to better comprehend existing architectures but could also be used by actors trying to increase cooperation or even synergies within existing structures or trying to reform existing structures.

Additionally, comparative studies that take fragmentation as the dependent variable remain an interesting venue for future research. This would shift research from trying to explain how fragmentation impacts governance effectiveness to *causal* questions surrounding fragmented global governance architectures. This research can build on the research already undertaken in the field of international law about conscious versus organic emergence (including path-dependency) of fragmentation. However, as governance architectures often cover entire policy areas, it remains empirically and practically challenging to compare such large areas based on variation of the dependent variable.

Finally, research on governance fragmentation – and the continued strong emphasis on the negative impacts of strong governance fragmentation – reinforces the necessity of more research on possible policy responses and options for structural transformation. The field of earth system governance is unique in its high degrees of governance fragmentation, for a variety of historical and structural reasons, and it remains a major challenge for political science and policy analysis to sketch powerful solutions and transformative trajectories that could lead our societies to more integrative, more effective and more equitable global governance.



Such policy interventions are discussed in detail in the following chapters of this book.

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