

Frank Biermann (2014), *Earth System Governance: World politics in the Anthropocene*, Cambridge, MA: The MIT Press, pp. xvii + 288

The book is part of a larger series of works by the author concerning the topic of earth system governance. The importance of which, the author notes, is due to recent scientific findings that humanity has affected every corner of our globe and a systematic understanding of our effect on the world and how to react is direly needed. This particular book is aimed at providing an outline of how we should organize global politics and civil institutions to address the issues stemming from climate change, and various the problems faced by implementing a global governance structure to solve them. The book is addressed primarily to persons already working to address these issues (such as sociologists) and is not primarily addressed to the layman. To this point, this book makes use of some current terms such as the “Anthropocene” (that is to say a new geological era that is demarcated by man’s effect on the world) and makes use of up to date data from recent stud-

ies published by the various institutions of the United Nations. The book is broken down in to six chapters along with an introduction and conclusion. Furthermore, each chapter begins with a small excerpt of a poem and is written to address various problems faced in creating a structure of governance for the earth system.

The first chapter “Conceptualization” deals with various concepts that are presented throughout the book, and serves as a foundation for the proceeding problems that this book explores. These concepts explore earth system, governance, and various problems that arise from trying to address man’s effect on the earth system. The foundational idea of the anthropocene is noted by the affect that man has upon his environment as the dominate species of our planet and was in part caused by the industrial revolution. During the industrial revolution, man’s capacity to transform and use his surroundings was greatly increased and so did

his demands upon the use of natural resources. This increase leads in part to the notion of earth system. This concept is hallmarked by understanding our world as a social-ecological system, which consists of interdependent spheres and represents a move away from a place-based understanding of the environment. In this description Biermann presents a brief history of this transformation and gives it a sort of 'genealogy' rooted in an examination of environmental pollution and its effect on the environment not only locally but also on a global scale. After this presentation of the earth system, cousins of this theory are given and are: global change, earth system analysis, sustainability science, and resilience theory. After this presentation the concept of governance is then introduced. The author admits that governance regrettably lacks an agreed upon definition by the social sciences, and instead he offers various themes that are present. First Biermann notes that governance is not government, that is to say that governance is more of the method of ruling rather than ruling itself. Secondly, governance is not management, which means that instead of being centralized it takes place on every level of society. Thirdly it has both an analytic and a normative features. The analytic features concerns themselves with how things are governed while the normative features challenges the current state of affairs and tries to resolve them. These normative features constitute the problems addressed in the remainder of the book.

The purpose of the second chapter "Agency" is to address the role of agents within earth system governance. Agents are described as being persons who are instrumental at maintaining intuitions that comprise earth system governance. Agents consists of the whole of society and can range from faith-based groups to corporations, intergovernmental organizations to local farmers cooperative. After providing this definition, Biermann then lists off the important actors in this category. These actors are nation-states, transnational public policy networks, science networks, and international bureaucracies. The nation-state has a central role to play in this sphere, although it acting alone it is not sufficient to resolve them. The role of the state is to act as guardian for future generation by taking actions today. However, there are problems posed by climate change that need to change our idea of the state. This transformation consists of changing it from either a welfare or a defense oriented to being adaptive. This entails cooperation between various states, and no longer allows for a truly independent state. The next actor is public policy networks. These networks work as supplements to state action. They have the capacity to circumnavigate political hurdles and unite other members of civil society such as businessmen, scientists, and local actors. They also help fill regulatory gaps that state agencies miss or are not adept enough to fill. The next agent consist of science networks. These networks have a dual function

of providing knowledge and using this knowledge to help form policy. This role of policy forming however is rather weak, and requires reinforcement on the international level. The last group is the international bureaucracy which the author in this chapter advocates for taking a larger role in organizing the actions of various agents in earth system governance. To do this he argues for the transformation of the United Nations Environment Programme to a World Environment Organization, which would help form new international agreements, policies, treaties, and help in their implementation along with the implementation of currently existing regulations.

The next chapter "Architecture" deals with the framework within which various agents work. Agents never work in a vacuum and are described as working in clusters, or aggregates, and have their own systems of authority and rules. However, in this chapter Biermann focuses on the tensions found between fragmentation and integration within earth system governance architecture. Here, Biermann describes trends and degrees for decentralization of institutions that are concerned with climate change. This results in a fragmented implementation of policies drafted by member states of the United Nations, and the effectiveness of various international environmental institutions. Biermann describes that further consequences of fragmentation in earth system governance architecture include the inability to ensure that all countries will participate, it also

hinders comprehensive and effective responses. Fragmentation also lends itself to corporate autonomy which may result in corporations merely sliding by on regulatory matters, and there is also a problem in which a fragmented system controlled by a few important nations will act without the consent of smaller nations who tend to favor multi-lateral agreements. To address issues concerning this fragmentation, Biermann advocates for reform of previous existing institutions and once again for the creation of a World Environment Organization to centralize and work against fragmentation of earth system governance. After the formation of this organization a new United Nations trusteeship is needed for areas that are outside of national jurisdiction and are part of the common heritage of mankind. To help organize this there needs to be a redefining of state sovereignty from its traditional understanding and reconceptualization how international organizations work together.

The fourth chapter "Accountability and Legitimacy" concerns itself with how to make earth system governance both accountable to people and legitimize its authority. Accountability is described as the willingness of institutions to accept responsibility for their actions, and having persons who are able to accept this responsibility. Furthermore, both of these features are crucial elements of deliberative democracies. This importance for democracies leads directly to the notion of legitimacy. Legitimacy is the authority by which various institutions

can make rules and it is the recognition of these rules by non-rule makers. Moreover, legitimacy has two realms of operation, internal and external. For its internal sphere it is recognition by participants and for its external sphere it is recognition of its authority by from non-participants. Biermann notes that various analytic problems arise when trying to address accountability and legitimacy in earth system governance. Such problems stem from a “temporal interdependence” (the relationship between past, present, and future members of society) and questions concerning how to establish watchdog groups. To address this, Biermann purposes various reforms that he believes will help resolve these issues. There reforms involve incorporating democratic principles into international decision making. The first proposal would be the incorporation of civil society assemblies into the international governance structure. Such assemblies would consist of labor unions, advocacy groups and associations of various industries or interest groups. The second proposal is the creation of an international parliamentary assembly. This assembly would incorporate democratic principles into earth system governance by means of parliamentary representation. Such an assembly would be either chosen by states or directly elected (though this is infeasible at the moment) and would serve as a consulting body for international decision making. Finally, Biermann suggests the creation of a deliberative global citizens’ assem-

bly as a third option for increasing accountability and legitimacy in earth system governance. Such an assembly would exist in the United Nations, or in various intergovernmental institutions, and would allow for direct participation of people in the decision making process. To ensure accurate representation Biermann suggests having the members chosen by lottery so that traditional elite groups do not undermine its authority.

The chapter “Allocation” discusses problems of allocating costs and benefits of various countries in a world rife with disparity and possible solutions to these problems. The first problem mentioned is the discrepancy in consumption. Citing a World Bank document from 2008, Biermann notes that the richest 20% of people account for 76.6% of private consumption, whereas the poorest 20% account for merely 1.5%. Such a disparity in consumption is reflected in spending priorities (viz. post-industrialized nations spending vast sums of money of cosmetics where industrializing nations still need clean water) and questions of how to prioritize limited resources, and equitably share costs and benefits is of great importance for earth system governance. To address this, the use of multi-lateral actions are needed to guarantee the actions authority and effectiveness. Additionally, there is a need to equalize opportunities and redefine the notions of developed and developing countries. To accomplish this, investments need to be made to finish the development of underdevel-

oped nations. To finance this development there are two options available. First there are frameworks in which public funds (like a World Environment Fund) would be supported by all member states and have public oversight. The second option is to have publically regulated market options that could provide the funding and development needed without direct government actions.

The final chapter “Adaptiveness” discusses how to create governance structures that can adapt to a changing earth system. Biermann advocates for us to conduct research now so that if the worst predictions should come true we are able to effectively deal with the situation rather than be forced to haphazardly react. Biermann takes on a case study of a problem that is likely to result from climate change, climate migration. Climate migrants are likely to be caused by rising sea level, droughts, and storm surges. The mass movement of persons is a problem that all states will need to be able to effectively address. There are, however, various tensions that will present themselves in finding a resolution. These tensions are adaptability versus stability, effectiveness versus legitimacy, and effectiveness versus fairness. Adaptability versus stability pits the need for quick response against the need for predictability in government actions. Where effectiveness versus legitimacy explores the tension between vast intergovernmental organization and international politics and its authority, and accountability to the

public. Finally effectiveness and fairness draws out the problems of swift action to respond to changes within our earth system and the sharing of costs, burdens and responsibilities. The remainder of this chapter is then dedicated to posing questions on how we should organize governance architectures, funding, and offer protection to climate migrants.

Overall, I found this book to be well researched, and offers a plethora of current citations from various international institutions and is up to date on the literature concerning earth system governance. It has the mark of being written for people who are involved in implementing reforms within various institutions in response to changes within our earth system. The purpose for this book is clear and it is meant to serve as a proscriptive guide on how to structure these reforms on all levels of society and how to plan for the future. Despite its abundance of statistics and citations from the current literature, I still found the book to be a bit weak in regards to theory.

My two main problems rest in how the author treats (or doesn't treat) the notion of governance and sovereignty from a theoretical perspective. In regards to governance, Biermann dedicates a portion to chapter two to discussing the notion of governance. In this chapter (p. 24) he admits that among social scientists there is no agreement of what governance theory is as such but rather there is a “family resemblance” of shared characteristics. These features include: the presence

of government agents, institutions and non-government agents, being self-regulated by society, multilevel, and aimed at solving societal problems. These features are then analyzed in either an analytic fashion (charts, graphs, etc.) and describes how we govern, or they are put into a normative theory of how society should resolve various problems. My problem rests in that the notion of 'governance' itself was still left vague and the family resemblance offered was too broad to be particularly useful. While this book is not intended to be a book of political theory, I believe that it would benefit greatly from a more precise definition of governance and a clarification of governance theory within the text itself. In regards to sovereignty, Biermann dedicates a few pages (p. 113–116) to discussing problems of a traditional (what I take to be Westphalian) sovereignty and problems faced by the world today in regards to changes within our earth system. In short, the argument made is that the previous theory of sovereignty – in which states are islands unto themselves – is no longer adequate given our integrated world. The actions of one state have bearing on all other states, and international laws, regulations need to supersede states and have binding authority over them. To support this he cites various decisions of the International Court of Justice, United Nations, and the Vienna Convention of the Law of Treaties. Where notions such as *erga omnes* (binding towards all) and *ius cogens* (peremptory norms of interna-

tional law) have put in place limitations on state sovereignty in terms of what actions the state can make even if there is a withdrawal clause within the treaty. The problem I see here is that the whole international legal system itself is resting upon the Westphalian conception of sovereignty. To the best of my understanding, the effectiveness of the international legal system consists in states recognizing the authority and legitimacy of treaties by their act of acceding to them. Here the state acts as an autonomous corporate entity, that willingly chooses to limit its internal actions in return for some benefit from other external agents. The state however, maintains full control of its choice to either accede or not accede to the treaty and its consequent obligations that result from its choice. If we were to change the foundations of the current system, there would have to be an appeal to a law higher than positive law (or at the very least an external entity higher than the state and not dependent upon the state as is the case with international law). This problem, however, is not fully presented in this book and is another feature I think this book would benefit in exploring so to shore up theoretical difficulties.

In conclusion, this book is provoking and it brought up various climate change related issues about the international system and the state that needed to be addressed. The notion of the earth system can be particularly helpful in conceptualizing problems faced by changes brought about by anthropogenic climate change. With

further development in regards to theory of governance and an in depth exploration of the role of Westphalian sovereignty in international law, this book would be a good manual for addressing how to restructure vari-

ous global institutions in response to changes within the earth system.

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