

Nobel Prize in Chemistry. The pictures of the mobile organisms are extremely good and must have been very difficult to obtain. From that point of view this is probably the most inspiring section of the book.

The next section is entitled *Life – attached* with the note that ‘every boulder is home to thousands of organisms’. The author points out that sometimes researchers have to ‘go through’ several ‘floors’ of organisms to reach the substrate and that therefore many submarine dives might be needed to ‘film and collect material from one single boulder’. Groups featured in this chapter include the hydrozoan ploypys and it is noted that some of these ‘can leave serious burns on the human skin’ and therefore it is wise ‘to keep your wits about you’ when descending. Tubularians and the tiny *Acaulis* are photographed, as is *Actinia*, a group of sedentary cnidarians, stalked jellyfish, soft corals, bryozoans, brachiopods, sponges, sedentary polychaetes and, of course, crustaceans.

The final chapter in the book is entitled *Wanderers*. It includes chitons and nudibranchs but possibly the most stunning section of the book relates to the cephalopods that are liberally illustrated. This section stresses the diverse nature of the group and some of the photographs of the varieties of octopus are masterpieces. The chapter also includes the echinoderms, polychaetes and mobile crustaceans.

The texts concerning the various animals featured are informative, for specialists and non-specialists alike, are clearly written in excellent English and are easy to read. The photographs throughout are simply superb.

Warmly recommended for all with polar interests, whether one reads every word or simply flips through admiring the photographs. The price is very reasonable for a volume of this quality (Ian R. Stone, Scott Polar Research Institute, University of Cambridge, Lensfield Road, Cambridge CB2 1ER (irs30@cam.ac.uk)).

Global challenges in the Arctic region: sovereignty, environment and geopolitical balance. Elena Conde and Sara Iglesias Sanchez (editors). 2017. Oxon: Routledge. 464 p. ISBN 978-1-472-46325-8. £100.00.
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Edited by Elena Conde and Sara Iglesias Sanchez, *Global challenges in the Arctic region* is a collective volume that gathers together several experts from different fields in order to offer a ‘big picture’ regarding current issues in the Arctic. In that respect, the book is partly successful in providing its readers with an understanding and perspective of the polar region in the 21st century. Indeed, the scientific literature pushes the boundaries for conveying new considerations and ideas. Separated into five main parts, the book’s ambition is to emphasise the underlying connection between diverse topics and academic study. The ultimate goal of this book is to intertwine different fields of science to highlight an influential interdisciplinary approach.

In the introduction, the contributors stress the legal and political complexity of the Arctic region, in order to discuss and reflect on current debates on various issues throughout the 22 chapters. They highlight the complex sovereignty issues in the Arctic connected to environmental, geopolitical and legal approaches. There is also a specific section dedicated to the human dimension in the region. The authors underline the necessity to work jointly with other related disciplines (such as international relations and anthropology, etc.) in close cooperation by intertwining them.

In summary, the Arctic challenges raised underline the evolution of perceptions from both inside and outside the region. This collective volume is structured to frame the main trends surrounding the polar region. It presents the progressive shift from an isolated and remote area to a space that is fully integrated in the globalisation phenomenon, and its costs (Chapter 17). Further, it emphasises the need for monitoring and regulating future development in the area, such as fishing and maritime traffic, and by doing so it stresses the requirement to cope with negative consequences, including overfishing and maritime accidents.

As a secondary observation, each chapter is well-sourced and documented, which suggests quality scientific work. It is

also worth mentioning, as several chapters are dedicated to legal issues in the region, that the legal-based sources hold a significant part in the structuring of this collective volume.

The authors include an astonishingly wide and holistic view of the players in the area, which include Arctic states, inter-governmental organizations, and indigenous people. Ikeshima refers to the Arctic states as legitimate players and analysis the inclusion of non-Arctic states in the ‘polar play-board’. In that respect, Rasmus Gjedssø Bertelsen explains the Chinese strategy in the Arctic through flexible and smart diplomacy mainly relying on science. Indeed, science stands as a vector of influence for attempting to curb the current state of affairs in the region.

Then, the book offers significant space for the legal issues related to the Arctic. Indeed, the context of transformation, highly stressed in most parts of the book, and the implications on the legal framework in the area. Obviously, scholars have come to study the area with greater interest in recent years. As a result, several scientific reviews have tackled issues such as the Yearbook of Polar Law. These reviews propose several ways to study this topic. Leading a prospective analysis, Timo Koivurova stresses, ‘by focusing on Arctic law as one general whole, it is possible to better understand the legal arrangements in the Arctic’ (p. 14). Indeed, the authors raise key legal issues in which the Arctic is referred to ‘as a unique place where legal innovations are needed’ (p. 14). Among the main subjects analysed, the maritime routes and natural resources are under the scope of legal issues (Chapter 4, Chapter 10 and Chapter 14).

Finally, a strong positive component points toward the authors’ proposals to implement new frameworks and evolution to enhance Arctic dynamics. For example, regarding the relationship between the EU and Greenland, Pelaudeix suggests the need for clarification of the legal nexus between Greenland, Denmark and the EU. According to her, it would enable more consistent and responsible support for the development of Greenland. As for Arctic governance, Ikeshima suggests involving the G7 (or even the G20) in Arctic governance, as these groups are already in charge of debating global issues. The Arctic might be a paradigm of numerous global challenges, as suggested Gomez de Agreda.

Despite the various proposals and suggestions made by the contributors, a significant part of this collective volume navigates

between several complex topics, which may confuse readers. There are two chapters for introducing the book, so the reader may feel frustrated that there are no concluding remarks. Each chapter provides an interesting approach and overview of each of the respective topics. However, the lack of a conclusion could spoil the value of the book.

Furthermore, there are a few chapters dedicated to the various involvements of the EU. As the functioning of the EU is notoriously complex, and its regulations and laws are challenging in themselves, the reader may find it hard to process. It would have been better to gather all of the chapters related to the EU as a global player in the Arctic region in a specific section.

As has been already reviewed, a significant part of the book is to provide an analysis from a legal perspective. As it underlines a deep and critical overview of the legal framework and the different ongoing processes in the area, it falls short in the idea of addressing challenging issues in the Arctic based on an interdisciplinary approach. After all, several contributors strictly lined up with this essence. Indeed, the fruitfulness of the various issues has been translated by gathering scientific and prospective arguments paving the way for collective actions in the Arctic.

As the main stakes are related to the Arctic governance, environment and sovereignty issues, the prism of this collective book focuses on the legal and political frameworks structuring the relationships in the polar region. Without a

hesitation, the contributors succeeded to raise key features of the transformation process in the Arctic. As Schram Stokke states, 'Arctic politics is strongly influenced by a bio-geophysical processes' (p. 186). Certainly, this ongoing transformation involves several aspects including economics, social and political structures.

Overwhelmingly, Gomez de Agreda has brilliantly reinstated the actual stakes of the connection between the Arctic and the rest of the world. He stresses that, 'whole construction of this scheme is based on the cylindrical view of Earth which disregards the poles as "out-of-bounds"' (p. 350). As a result, Arctic challenges and future prospects imply effects on a global stage, which could summarise the whole idea of this collective volume. For the reader, it offers a new insight on the future of the Arctic. Albeit the result is not foreseeable (that is, success or failure of Arctic management), it will affect the population of the entire world in one way or another. As such, the Arctic is a weighty fragment of a global process which just reached 'its apex with the advent of global communication via the Internet and the effects of climate change in the Arctic' (p. 359). For the reader, this collective volume is indisputably valuable for reflecting on coming stakes and achievable goals through implementation of practical solutions in the long term (Florian Vidal, University of Paris Descartes, 12 Rue de l'École de Médecine, 75006 Paris, France (florian.vidal@gmail.com)).