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Titolo	The Evolution of Chemical Knowledge : A Formal Setting for its Analysis // by Jürgen Jost, Guillermo Restrepo
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2022
ISBN	3-031-10094-8
Edizione	[1st ed. 2022.]
Descrizione fisica	1 online resource (130 pages)
Collana	Wissenschaft und Philosophie – Science and Philosophy – Sciences et Philosophie, , 2524-7557
Disciplina	737 540.9
Soggetti	Chemistry - History Chemometrics Philosophy Chemistry Chemistry - Data processing Mathematics History of Chemistry Mathematical Applications in Chemistry Philosophy of Chemistry Computational Chemistry Applications of Mathematics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Part I Chemical knowledge as a complex dynamical system. Introduction -- Modelling the evolution of chemical knowledge -- Evolution of the constitutive systems of chemical knowledge -- Interactions between systems, their differences and environments -- Part II Data and mathematical and computational formalisms for the analysis of chemical knowledge. Data -- Methods -- Conclusions and outlook -- References -- Index.
Sommario/riassunto	Chemistry shapes and creates the disposition of the world's resources and provides novel substances for the welfare and hazard of our

civilisation at an exponential rate. Can we model the evolution of chemical knowledge? This book not only provides a positive answer to the question, it provides the formal models and available data to model chemical knowledge as a complex dynamical system based on the mutual interaction of the social, semiotic and material systems of chemistry. These systems, which have evolved over the history, include the scientists and institutions supporting chemical knowledge (social system); theories, concepts and forms of communication (semiotic system) and the substances, reactions and technologies (material system) central for the chemical practice. These three systems, which have traditionally been mostly studied in isolation, are brought together in this book in a grand historical narrative, on the basis of comprehensive data sets and supplemented by appropriate tools for their formal analysis. We thereby develop a comprehensive picture of the evolution of chemistry, needed for better understanding the past, present and future of chemistry as a discipline. The interdisciplinary character of this book and its non-technical language make it an ideal complement to more traditional material in undergraduate and graduate courses in chemistry, history of science and digital humanities. About the Authors Guillermo Restrepo is a theoretical chemist, historian of science and data scientist, working at the Max Planck Institute for Mathematics in the Sciences in Leipzig. He is an expert on the mathematical and computational analysis of large scale chemical data sets and the 2020 recipient of the Gmelin–Beilstein-Denkünze of the German Chemical Society. Jürgen Jost is a mathematician, interdisciplinary researcher on complex systems and a recipient of the Gottfried-Wilhelm-Leibniz Award of the DFG and of an ERC Advanced Grant. His research spans a wide range of scientific disciplines. He is a director at the Max Planck Institute for Mathematics in the Sciences and is an external member of the Santa Fe Institute.

2. Record Nr.	UNINA9910557290803321
Autore	Castaneda Ernesto
Titolo	Reshaping the World : Rethinking Borders
Pubbl/distr/stampa	Basel, Switzerland, : MDPI - Multidisciplinary Digital Publishing Institute, 2021
Descrizione fisica	1 online resource (286 p.)
Soggetti	Philosophy
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Sommario/riassunto	<p>This volume provides information and analyses to better grasp the social implications of geographical borders as well as the individuals who travel between them and those who live in border regions. Sociologists, anthropologists, philosophers, linguists, and scholars of international relations and public health are just some of the authors contributing to Rethinking Borders. The diversity in the authors' disciplines and the topics they focus on exemplify the intricacies of borders and their manifold effects. This openness to so many schools of thought stands in contrast to the solidification of stricter borders across the globe. The contributions range from case studies of migrants' sense of belonging and safety to theoretical discussions about migration and globalization, from empirical studies about immigrant practices and exclusionary laws to ethical concerns about the benefits of inclusion. It is timely that this collective work is published in the middle of a pandemic that has affected every single part of the world. Unprecedented border closures and stringent travel restrictions have not been enough to contain the virus entirely. As COVID-19 shows, diseases, ideas, and xenophobic and racist discourses know no borders. Plans that transcend borders are vital when dealing with global threats, such as climate change and pandemics.</p>