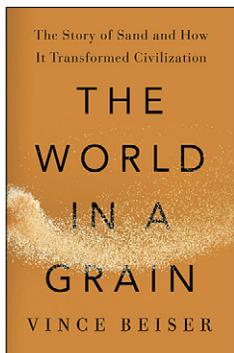


OTHER

The World in a Grain: The Story of Sand and How It Transformed Civilization

By Vince Beiser. 2018. Riverhead Books. 294 pages, 37.00 CAD, Cloth, 17.00 CAD, Paper.

An entry in the noble genre of “a lot more information about something you thought was boring”, *The World in a Grain* is an exploration of sand and its foundational role in our society. If, like me, you were surprised and mystified by the news stories over the last decade or so heralding the fact that we are, as a global civilization, running out of sand, this book is for you. Written with a broad audience in mind, it is nonetheless lovingly referenced with in-text citations described further in a 20-page Notes section organized by chapter. Additionally, the author provides a Bibliography of published books and important documents used in their research, and a detailed Index.



Following an introductory chapter (The Most Important Solid Substance on Earth), the book is organized into two main parts: the past and the present/future. Part 1 covers the history of how sand built our 20th century world, including its fundamental role in cities (cement), interconnected nations (pavement), and everything from simple windows to high-tech innovations which let us peer into the inner workings of microscopic and interstellar worlds (glass). Part 2 explains how sand is building our globalized, digital world. From the rare and precious high-silicon Iota quartz required to make halogen lamps and photovoltaic cells to the ultra-pure (80 molecules of impurities

per one billion molecules of silicon dioxide) quartz necessary for computer chips, our online world requires sand, and there are more types than I could have imagined. Each of our seemingly infinite uses for sand requires very specific grains. Desert sand? Too rounded to be used in construction. Sand used for fracking? Requires specific properties: high quartz content, small grained, and semi-rounded edges.

Not to be confused with a treatise on sand engineering, *The World in a Grain* also addresses the human and environmental cost of our global relationship with sand. Bricklayer associations versus concrete proponents. Land creation via destructive ocean bed dredging. Critically eroding beaches and the sand mining required to maintain the classic ‘beach’ look. The simple fact that we need more and more concrete but have not figured out how to recycle it. The ecological consequences of dredging, trawling, and mining for a dwindling resource. Sand heists and corruption with deadly consequences for activists and anyone who opposes.

This book is well researched and delivers on its promise. Each chapter focusses on a new, distinct piece of the narrative while building on what came before to create a coherent whole. If you are looking for a work primarily focussed on the environmental consequences of sand mining, this is not the book for you. If you also want to learn about the history and context, the complexity and socioeconomic dimensions, *The World in a Grain* is written for you.

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