World of Patterns

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Published by Johns Hopkins University Press

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World of Patterns: A Global History of Knowledge.

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Preface
The Wonder of Knowledge

The idea that the world can be understood through patterns and underlying principles is one of humankind’s most important insights and perhaps its most successful survival strategy. The search for patterns and principles started at least 40,000 years ago with striped patterns scratched on mammoth bones, leading to modern-day knowledge disciplines. What paths has human knowledge taken to grow from these humble beginnings, via many detours and dead ends, to today’s understanding of nature and culture? This book answers this question and shows what role patterns and principles have played in different regions and cultures. I discuss not only the study of nature (the natural sciences) but also the study of culture (the humanities), medicine, mathematics, jurisprudence, and a number of fields of knowledge that we no longer consider “science.”

My previous book, *A New History of the Humanities* (2013), focused on the fields of knowledge that deal with the study of culture: the humanities. There I started in classical antiquity, when the notions of patterns and principles had already partially crystallized. However, I overlooked the fact that these notions have a history of their own. In the current book I broaden my perspective and take a step back in time: to understand how the notions of patterns and principles have developed in different places around the world since the Stone Age. In this way I hope to find an answer to the question that has intrigued me for years: How did what we know now originate and grow? I had wanted to write such a book for some time, but 10 years ago the task seemed too ambitious. So, as a sort of exercise, I began work on a slightly less ambitious project: a global history of the humanities, something that was also sorely lacking. The resulting book, *A New History of the Humanities*, published with Oxford University Press (originally published in Dutch as *De vergeten wetenschappen*), had a greater impact than I could have hoped. The book was translated into Chinese, Polish, Ukrainian,
Korean, Armenian, and Italian, and the history of the humanities has grown from a nonexistent field into a discipline with its own journal (*History of Humanities*), an annual conference (The Making of the Humanities), a book series, an international society, courses at universities in many parts of the world, and university chairs. In the Netherlands, for example, both the Dutch Research Council (NWO) and the Royal Netherlands Academy of Arts and Sciences (KNAW) referred to *De vergeten wetenschappen* when they wanted to highlight the importance of cross-fertilization between the sciences and the humanities.1 And the popular science magazine *Scientific American* dedicated an opinion article to my book in its June 2015 issue, which concluded that “regardless of which university building scholars inhabit, we are all working toward the same goal of improving our understanding of the true nature of things, and that is the way of both the sciences and the humanities, a *scientia humanitatis*.2”

I resumed my initial project of creating a global history of knowledge in January 2014. I was stimulated by the establishment of the Vossius Center for the History of Humanities and Sciences at the University of Amsterdam, where we have brought in researchers as fellows since 2016. The fruitful interactions with these fellows and with my two codirectors—Julia Kursell and Jeroen van Dongen—have inspired me on many occasions. Now that this book is finished, I realize how strange it is that no work has previously integrated the histories of science and the humanities.3 While some historians, such as George Sarton (1884–1956), have made an impressive attempt to arrive at a global history of knowledge disciplines,4 they have failed in that endeavor, sometimes because they died before they could finish their work, sometimes because of their limited access to resources outside Europe, and especially because of their partiality to the natural sciences.5 The history of science has long consisted mainly in the history of Western natural sciences.6 Their fruitful interaction with the other disciplines, both in the West and in other parts of the world, has been overlooked.7 With this book I show what the history of disciplines, and with it the history of knowledge, looks like when we remove the natural sciences and the West from their central position. Such a history takes into account as many disciplines from as many regions and cultures as possible on an equal footing.

Despite the wide variety of disciplines I discuss, it became clear to me in the course of writing that there was also a certain unity in that variety. But it took me until the end of my research to comprehend that unity. So I then decided to rewrite the book from scratch, successively becoming enamored with a region, culture, school, or historical person. I still cannot get over the fact that the
16th-century Indian Kerala school produced so many new mathematical and astronomical insights that are unknown to the general public. That the many female scholars and scientists, regardless of their region, have been kept under wraps in historiography for so long. That the practice of inoculation was invented not in Europe but in China. And that jurisprudence—from the Roman Empire to the Ottoman Empire—was the model for many other disciplines. These examples may be known to specialists in the relevant fields, but they have never been brought together in a general history of knowledge.

Not everyone will find everything to their liking in this book: I was forced to make choices and focus on a dozen or so disciplines that occur in most regions from ancient times—astronomy, mathematics, mechanics, medicine, linguistics, history, musicology, philology, jurisprudence, and art theory. These disciplines have by no means remained stable since antiquity, but they do show a high degree of continuity with regard to their subject matter (see the introduction). I also make excursions into several other disciplines, such as botany, zoology, geography, logic, poetics, philosophy, astrology, magic, and alchemy. I should emphasize that I am not a specialist in the history of most of these disciplines, so suggestions and criticism are welcome. You can send them by email to rens.bod@gmail.com, and I will gratefully acknowledge your comments in any revised edition. You can also follow developments about this book at http://devergetenwetenschappen.blogspot.com.
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