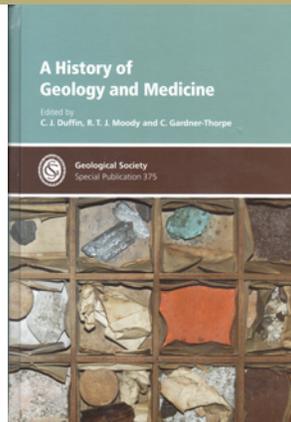


A HISTORY OF GEOLOGY AND MEDICINE¹

While checking for the availability of this book on Amazon, I noted a solo review of it by Robert B. Finkelman; he simply stated, “Interesting book,” and gave it 5 stars, which is the highest rating possible. For those of you do not know this gentleman, he’s retired from the United States Geological Survey, and in retirement is a research scientist at the University of Dallas where he continues to work in the field of medical geology; in my view, he is one of the most knowledgeable people alive in that field today. Thus his rating speaks highly of this work. While I agree with his appraisal, I’ll expand upon it below.

The book consists of 29 individual chapters and a comprehensive index totaling 490 pages. The chapters are individual contributions with some overlap; their titles are listed below to give you a feel for the diversity of the material covered:

- Geology as medicine and medics as geologists
- Lithotherapeutical research sources from antiquity to the mid-eighteenth century
- Cryptopalaeontology
- The stomatological use of stones cited in the *Kitab al-tasrif* treatise (Abulcasis, 1000 CE)
- The gem electuary
- Medicinal *terra sigillata*: a historical, geographical and typological review
- Materia medica in the seventeenth-century Paper Museum of Cassiano dal Pozzo
- History of the pharmaceutical use of pumice
- Pharmaceutical use of gold from antiquity to the seventeenth century
- Bezoar stones, magic, science and art
- Some early eighteenth century geological Materia Medica
- Religiosity and magic in some lithoiatric practices of European folk medicine
- Britain’s spa heritage: a hydrogeological appraisal
- Groundwater – Medicine by the Glassful?
- Sunday Stone: an enduring metaphor of mining diseases and underground mining conditions
- The influence of geology in the development of public health
- From flesh to fossils – Nicolaus Steno’s anatomy of the Earth
- Diagnosing fossilization in the Nordic Renaissance: an investigation into the correspondence of Ole Worm (1588-1654)
- Education forms the tender mind
- James Parkinson’s ‘system of successive creations’
- From obstetrics to oryctology: inside the mind of William Hunter (1718-1783)
- John Jeremiah Bigsby, MD: British Army physician and pioneer North American geologist
- Five eighteenth-century medical polymaths
- John Whitaker Hulke, surgeon and palaeontologist
- Dr Arthur Conan Doyle’s contribution to the popularity of pterodactyls
- Physicians and their contribution to the early history of earth sciences in Austria
- Medical geologists during the Heroic Age of Antarctic exploration
- Vomiting stones: mental illness and forensic medicine in 18th century Italy
- Geology, conservation and dissolution of corpses by Paolo Gorini (1813-1881)



When I received the book and saw the chapter titles, my preconceived notion of the contents of the book quickly changed, as did my curiosity about the many unfamiliar words in the titles. Much of my own research is in this field, mainly the health effects of mineral dust, so I have done some reading on its history. I wrongly assumed the book might reach back as far as Paracelsus (1443–1541), widely considered the father of toxicology, and then bring us to the present. While Paracelsus is discussed, a significant portion of the book’s subject matter predates him, and because of this there were many things in this book I was unaware of and found, indeed, “very interesting.”

Returning to the chapter list above, the first chapter is basically an overview of the remaining 28; it also hints that much of the content of the book is about individual

contributions to this field, often by professionals from the medical community making observations in the natural world and attempting to relate those to disease, with the intention of improving public health. After the first chapter, most of the remaining titles required me to look up definitions of words that often had familiar geology roots. For instance, the second chapter starts with the word *lithotherapeutical*, which one might guess, means the use of rocks, minerals, or “earth” to treat disease. This chapter is typical of many of the others in the book in that it is very well referenced; it has over 250 references dating back as far as 1200. In this chapter, and others like it, we can trace certain medical treatments that have continued at some level into modern times, like eating clays to treat diarrhea. For instance, one of the active ingredients in kaopectate used to be kaolinite, thus the derivation of its name. However, I learned of other treatments that fortunately were abandoned many years ago. For example, women were once given powdered cinnabar (HgS) by midwives to induce labor, and tar was eaten as a way to assist in removing leaches (which came from drinking “bad water”) from people’s throats.

Speaking of “bad water,” in the chapter titled “The influence of geology in the development of public health,” the term *bad waters* was defined in “On Airs, Waters, and Places” (Hippocrates, ca 400 BC) as “marshy, stagnant, and belong[ing] to lakes...they have no current,” while his best waters “flow from elevated grounds and hills of earth.” However, I later learned, it took over 2200 years before it was accepted that diseases come from germs in “bad water,” rather than being transmitted by air masses that originated from polluted waters—this theory was termed *miasma*, which shares roots with the more commonly known word *malaria*. This chapter also contains a description of one of the more commonly known connections between geology and medicine, and one that helped, in 1854, to dispel the miasma theory. This is when Dr. John Snow noted that individuals in a cholera cluster in London were all using the same well for drinking water; the pump handle was removed and the epidemic ended.

I hope I’ve given you a “taste” of the content of this book. As you might expect, most of the treatments discussed in this book are not in use today. And while we might be critical of many of them, it is important to recall that these were times when many were doing their best to treat life-threatening diseases long before there was a good understanding of human anatomy. Also, the in-depth personal stories of many of the early pioneers of modern medicine and how they treated individuals are worth reading. In conclusion, I would highly recommend this book to any geoscientist with an interest in history and to anyone currently working in health-related fields, as I think they would find it “very interesting.”

¹ Duffin CJ, Moody RTJ, Grander-Thorpe C (eds) *A History of Geology and Medicine*. Geological Society of London, Special Publication 375, ISBN 978-86239-356-1, 490 pp

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