**Cesare Rossi, Flavio Russo, and Ferruccio Russo:
Ancient engineers' inventions. Precursors of the present.
History of mechanism and machine science
Springer, 2009, vol. 8, ISBN 9789048122523, 339 pages (with Index)**

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Water techniques have their fair share in the book on engineering inventions before our own time, written by Rossi, Russo, and Russo. Their ancient engineers' inventions deal with several categories of inventions and techniques, ranging from general categories of measuring environment, mass or time to a rather specific category of automata and robots. The term ancient is taken rather loosely, as descriptions from the seventeenth, eighteenth, and even nineteenth centuries are included. The water related techniques are arranged in several sections. Already in the section on wind motors, mills, and ships are discussed. This is followed by treatments on hydraulic motors, lifting water devices, water distribution, and even underwater activities (!). In the sections on transport, boats are again discussed, and in the sections on secondary motors, steam engines are discussed.

In the introduction, the authors rightfully state that the idea that our generation has invented and discovered almost everything is not correct. They also do not want to discuss progress as "sudden unexpected spurts of individual brains," but rather as a "limitless progression of experiments." The authors do realize that providing context for individual techniques tells us something about the reason why certain techniques were employed, as their short, but nevertheless, informative discussion on the Roman Empire shows. In the detailed descriptions and discussions of the techniques themselves, however, the authors dedicate relatively little attention to contextualizing the individual techniques. This is understandable, as the book aims to give an overview of many techniques and how they work; providing that context for all would have taken many more pages. Because of this focus, the book remains mainly at the level of artifacts and the persons who first designed or described them.

However, that is not really a punishment, I would say. Obviously, being a water engineer I am supposed to be interested in water artifacts and how they work, and I must confess I am. I would even argue my knowledge on the subject is okay, and even then, I have learned many new things about water techniques from this book. The many drawings, photo's and diagrams, which are generally of good quality, certainly support understanding

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and engaging with the many fascinating artifacts and devices humans have designed and employed through time. After checking several paragraphs from the book on friends and colleagues from other fields, I can say that the three authors have succeeded in writing an overview which is accessible and informative for people who are already knowledgeable about (part of) the subjects and those who are not. This is a book which will help researchers in water history in understanding the material aspects of water technologies.

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