

conformes à ce qui est observé de façon plus générale dans l'architecture publique nord-africaine. Le chapitre 9, enfin, étudie le lien entre fontaines monumentales et religion. Surprenant de prime abord, eu égard au fait que le dossier traitant du lien entre nymphées primitifs et fontaines urbaines semblait clôt, ce chapitre démontre que le débat sur la possible « religiosité » des fontaines est loin d'être résolu. L'auteur y propose également une reprise innovante du dossier des *septiconia*, envisagés comme des monuments en lien avec la légitimation des Sévères dans un cadre planétaire, mais qui pouvaient prendre d'autres formes que celle d'un nymphée. On notera, pour terminer, l'importance du catalogue de fontaines et de documents épigraphiques en fin d'ouvrage qui viennent compléter l'intérêt indéniable de ce nouveau jalon dans l'étude technique et contextuelle des fontaines romaines.

Julian RICHARD

Gilbert WIPLINGER (Ed.), *De Aquaeductu Urbis Romae. Sextus Iulius Frontinus and the Water of Rome*. Proceedings of the International Frontinus Congress on the History of Water Management and Hydraulic Engineering in the Mediterranean Region, Rome November 10-18, 2018. Leuven, Peeters, 2020. 1 vol. broché, XXXIII-403 p. (BABESCH SUPPLEMENT 40 / FRONTINUS-SUPPLEMENT 6). Prix : 110 €. ISBN 978-90-429-4311-7.

This edited volume brings together 33 original contributions presented during the international congress of the Frontinus Gesellschaft on Roman water management, held in Rome between 10 and 18 November 2018. The papers are further arranged in eight sections according to their subject. All contributions are written in English, with the exception of three papers in German (see below). The geographical focus of the volume lies on Rome, Italy and the Eastern Mediterranean, while the chronological scope encompasses the entire Roman period, in particular the High Empire. After a preface by Hans Mehlhorn, president of the Frontinus Society (p. XI), and a eulogy for the late lamented dr. Gunhild Jenewein (p. XII-XVII), the congress organiser and editor of this volume, Gilbert Wiplinger, gives a short introduction to the book (p. XIX-XXXIII), mentioning difficulties and personal observations, as well as a brief day-by-day account of the congress (in German). He also expresses the distinct wish to approach the topic of water from an artistic perspective in the conference's inaugural speech. The first section in this volume is therefore entitled "Different approach to water", and starts with a text by author of fiction Anthony Jennings (p. 3-11). Central to the article and to the narrative of the author's upcoming novel, is the murder of Domitian and the role of Frontinus in this period of political unrest. The next contribution, by the editor Gilbert Wiplinger, zooms in on the work of Dutch photographer Kim Zwartz, who displayed photos of Rome's aqueducts in the building of the Maastricht Water Company (p. 13-16). In the last contribution of this section, Paul Gwynne investigates the competition between wealthy members of the clergy in 16th-century Rome through their villas, gardens and especially the fountains herein (p. 17-26). Poets were hired to sing praise of these fountains, which often drew inspiration from classical mythology. The second section is dedicated to the presentation of the Frontinus-award to dr. Hubertus Manderscheid. After a laudation by Gemma Jansen (p. 29-36), reminding us of Manderscheid's invaluable contribution to the study of Roman water engineering and Roman baths and ending with a list of publications, the awardee himself takes the floor

(p. 37-50). In his meticulous style, the German scholar present his work on the Serapeum-Canopus complex in Hadrian's villa in Tivoli, focussing on the role and the importance of water (in German). The following section, 'the aqueducts of Rome', brings together four studies on the Eternal City's water supply, commencing with a general overview by Jens Köhler (p. 53-63), who also pays particular attention to the (possible) *Aqua Alexandrina*. The article by Luca Messina and other members of the 'Sotteranei di Roma' society presents the results of a cartographic and on-site survey of the courses of the *Aqua Anio Vetus*, the *Aqua Marcia*, the *Aqua Claudia* and the *Aqua Anio Novus* around the Colle Papese, reassessing the seminal work by Thomas Ashby (p. 65-74). Maria Grazia Cinti turns to the poorly known *Aqua Alsietina*, notorious in Antiquity for its poor quality (p. 75-83). This first presentation of the author's on-going PhD research investigates how the taunted aqueduct may have fed Augustus' *naumachia*, but also gardens and private houses. To conclude this section, Edoardo Gautier di Confiengo and Elettra Santucci tackle the known and hypothetical course of *Aqua Claudia* and *Aqua Anio novus* (p. 85-100), expanding their discourse to the possible location, layout, and function of *castella*. Leaving the Urbs, the next section focusses on 'Aqueducts and Water supply in Roman provinces', although one can remark that geographical extent of this part is regrettably limited to Italy and the East. Richard Olsson gives a short reflection on Pompeii's water towers (p. 103-107), while Dino Alberto Rapisarda reports on the three aqueducts and cisterns of ancient *Tauromenio* (Taormina, Sicily) on the basis of antiquarian sources, previously unpublished studies and new survey work (p. 109-124). Katja Marasović and Jure Margeta inform us on the technology, course and modern reconstructions of the aqueduct supplying Diocletian's palace in Split (Croatia) (p. 125-135). Moving eastwards, Vedat Keleş and Michael D. Yilmaz (p. 137-148) give a detailed report of the aqueduct bridge and a settling tank in Parion (Turkey), Paul Kessener and Gilbert Wiplinger (p. 149-159) substantiate the existence of an inverted siphon system in the water supply of Byzantine Selçuk near ancient Ephesus (Turkey) and Dennis Murphy and Birol Can (p. 161-173) discuss the architecture and technology of the water supply and storage in Syedra (Turkey). Two articles take us to the Middle East: David Donald Boyer (p. 175-186) presents some results of the Jarash Water Project, mapping the natural sources around ancient Gerasa (Jordan) and investigating the intramural water supply and storage, while Tsvika Tsuk and others (p. 187-197) report on the water supply and storage of Sepphoris (Israel), presenting evidence for a possible *castellum*. Paolo Zanovello (p. 199-207) moves the focus more west again, to North Africa, where he examines the water supply in the pre-desert areas along the *limes africanus* in modern Algeria and Tunisia. From water supply and storage, the book then moves on to the use of water in the following two sections. The section on 'Roman latrines and baths' starts with a preview by 'toilet specialist' Gemma Jansen of her upcoming book about latrines in Rome (p. 211-219). She observes no special differences in the toilets of the capital compared to those in other parts of the Empire. Marina Piranomonte and her colleagues report for the first time on the latrines in the Baths of Caracalla in Rome (p. 221-228), discovered during recent excavations in the eastern semicircular exedra of the perimeter wall. This lavishly decorated public toilet could seat 80 to 100 persons and possible had a pendant in the western exedra. Giullia Giovanetti present the results of her PhD thesis on the privately owned late antique baths of Ostia and Rome, focusing

in this article on their water supply and water use (p. 229-245). Giorgio Crimi and Silvia Orlandini discuss the 4th-and 5th-century epigraphy pertaining to public baths in Rome, enabling them to tentatively reconstruct some fragmentary inscriptions that may refer to the Baths of Caracalla (p. 247-253). To conclude this section, Vedat Keleş and Alper Yılmaz (p. 255-264) report on the water management of the two baths in ancient Parion (Turkey). The presence of a warm water pool in the *frigidarium* of the ‘Roman Bath’ is certainly exceptional, but not unique (as the authors claim), as such a pool has also been discovered in the ‘Thermes des Mois’ in Thaenae (Tunisia). The other section on water use is entirely dedicated to the study of ‘Fountains – *Nymphaea*’. Julian Richard discusses several types of water effects found in *nymphaea*, based on archaeological evidence from the eastern Mediterranean (p. 267-276). Joseph Patrich and Shlomit Wekser-Bdolah present the excavations of a remarkable double *triclinium* with fountain in Jerusalem, dating from the Herodian period (p. 277-285). Hilke Thür and Ingrid Adenstedt revisit the terrace houses of Ephesus (Turkey), paying close attention to the water luxuries in the public parts of the house (p. 287-299, in German). These water features did not only serve a decorative function, they also had a cooling effect when temperatures rose. To conclude this section, Inge Uytterhoeven examines multi-sensory experiences and in particular the role of water in upper class houses in the imperial and late antique East, focusing the discussion on baths and especially dining practices (p. 301-317). The penultimate section assembles three contributions on ‘Hydraulic engineering’. Paul Kessener proposes a new way to interpret the ‘aqueduct gauging’ mentioned by Frontinus (p. 321-332). Due to the inadequate way in which time was measured in Antiquity and the ensuing difficulties in calculating water velocity, Kessener envisages a quantitative measuring system of the water in the aqueducts using perforated screens or weirs along the trajectory than could then be compared. Charles R. Orloff investigates the hydraulic engineering practice behind the aqueduct and *castellum* of ancient *Nemausus* (Nîmes, France), calculating how the output flow rate of the *castellum* would best approach the input flow rate of the aqueduct, with the slope ranges of the exiting pipelines as critical parameters to ensure the maximum and most stable flow delivery (p. 333-347). In the last paper of this section, Jan Pieter Lubbers raises serious doubts about the use of the *chorobates* in planning the course of an aqueduct (p. 349-359). He proposes that ancient builders used the landscape instead, presenting the evidence of the *Aqua Anio Vetus* and *Aqua Trajana* in Rome. The last ‘Varia’ section of this book assembles three articles with a subject that did not fall under any of the abovementioned sections. Yasmina Benferhat (p. 363-371, in German) goes through the passages about channels, aqueducts and baths in the works of Tacitus and Pliny the Younger, underlining how hydraulic engineering and water management were intricately linked with power, especially in the figure of the emperor. Mark A. Locicero investigates the down drains, drainage systems and sewers in Ostia (p. 373-385), pointing to possible new lines of research. As a last contribution, Constantin Canavas (p. 387-394) goes beyond the main chronological framework of this book, discussing the literary topos of hydraulic machines in medieval Arabic texts by al-Dimashqi (13th century), al-Jazari (13th century) and the Banu Musa brothers (9th century). Rather than truthful descriptions of working machines, these descriptions are literary exercises to describe artificial marvels. – This book gives a good overview of current water-related research pertaining to the (central and eastern part of the) Roman Empire and

does so in a well-structured and neatly presented fashion. The inclusion of different research disciplines (history, archaeology, arts, literature studies, engineering) fits perfectly with the transdisciplinary approach proposed by the organizer of this conference. It is also remarkable and highly laudable that these conference proceedings were published soon after the conference took place, ensuring the contributions are still relevant and up-to-date. A minor effect of such a swift publication is perhaps that the quality of some of the figures is not optimal and a number of typos have slipped through the net. As can be expected with conference proceedings, bringing together both experienced researchers and scholars at the start of their academic career, the quality of the different contributions also varies, both content-wise and on a linguistic level. The decision to chose English as main language for the contributions certainly adds to the unity of the book, but some texts may have benefitted from a more thorough revision. It is also regrettable that so few contributions focussing on the western half of the Empire are included (perhaps a reflection of the organizing committee's professional network?). A concise summary or a concluding article, capturing some of the conference's most valuable findings, stressing recurring themes and indicating future lines of research, would also have been welcomed. Nevertheless, the book is a valuable addition to the growing number of water-related studies, presenting several important findings that otherwise may have remained hidden in national journals or bulletins. If anything, this book again stresses how important and ubiquitous water was in Antiquity, not only as prerequisite for life, but also as a source of pride, wealth, power and danger.

Sadi MARÉCHAL

Natalia TOMA, *Marmor, Masse, Monumente. Vorfertigung, Standardisierung und Massenproduktion marmorner Bauteile in der römischen Kaiserzeit*. Wiesbaden, Harrassowitz Verlag, 2020. 1 vol. Broché, 22 x 30 cm, XVI-485 p., 79 pl. (PHILIPPIKA, 121). Prix : 148 €. ISBN 978-3-447-11009-9.

Natalia Toma cite en exergue à son propos la citation célèbre de Suétone dans la *Vie d'Auguste* : « Auguste l'embellit (s.e. Rome) à tel point qu'il put se vanter à bon droit de la laisser en marbre, après l'avoir reçue en briques » (Suétone, *Auguste*, 28). L'auteure explicite son projet, dans le sous-titre de sa *Dissertation* défendue à Kiel en 2015 : « Marmor und die Monumentalisierung der urbanen Landschaft römischer Städte. Der Handel mit vorgefertigten Marmorbauteilen und seine Auswirkungen auf des römische Bauwesen und das Erscheinungsbild römischer Städte in der Kaiserzeit (1.-3. Jh. n. Chr.) ». Depuis les travaux pionniers de J.B. Ward-Perkins dans la fin des années cinquante, l'intérêt pour les carrières antiques et leurs produits, en particulier le marbre, n'a cessé de croître, de la technologie d'extraction aux modèles architecturaux, ce qui implique une compréhension des modes de production, de la chaîne opératoire, des transports, mais aussi de la structure économique, du cadre architectural et urbanistique, et des commanditaires des programmes édilitaires dans lesquels s'intègrent ces blocs de marbre « préfabriqués » issus de tout l'Empire romain. Pour l'Antiquité dans son ensemble, les progrès récents ont été considérables en matière de définition des matériaux, grâce aux analyses pétrologiques et aux identifications isotopiques, aussi dans la connaissance des techniques des carrières ou de celles des transports terrestres et