

Das sehr aktuelle und umfangreiche Werk von Karina Grömer ist definitiv ein „Must-have“ für Textilforscher, aber auch für Archäologen, die in ihren Grabungen mit Textilgeräten oder Textilabdrücken zu tun haben und fachliche Erläuterungen bekommen wollen, welche Bedeutung verschiedene, selbst kleine und schlecht erhaltene Textilfunde haben können und wie man sie dokumentieren bzw. konservieren und dauerhaft sichern sollte. Das Buch bietet eine wichtige und ausführliche Einführung zu archäologischen Textilien, Kleidung und Werkzeugen, deren vielseitige Geschichte, Funktion und Nutzung inzwischen immer besser verstanden wird, auch wenn immer noch viele offene Fragen bleiben.

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SERGE FENEUILLE / JEAN-PIERRE LETOURNEUX / MARIE BOUCHAR, *Protocoles d'étude des mortiers anciens à l'usage des archéologues*. Éditions Mergoïl, Autun 2016. € 15.00. ISBN 978-2-35518-055-2. 106 pages with 15 figures.

Together with material scientists, archaeologists are currently discovering historic mortar as a unique source of information: for a certain point in time, this material mix on a minute scale mirrors natural and social environment as well as building technology. Moreover, mortar offers a possibility to independently date historic stone structures. Currently several groups of researchers cooperate and compete in this field and produce publications contributing to it from different perspectives.

The authors of “*Protocoles d'études des mortiers anciens*” all have a background in material science and their intention is to provide an introduction to historic mortars (p. 2) aiming at field archaeologists, which are confronted with a variety of ancient materials needing expert advice how to take adequate samples. The authors would like to see the volume as one of a series of introductions to ancient technologies (p. 3). But does this slim paperback really offer added value when compared with what can be found on, e. g., Wikipedia ([https://fr.wikipedia.org/wiki/Mortier_\(matériau\)](https://fr.wikipedia.org/wiki/Mortier_(matériau))) [last access 10 October 2018]? How does it compare with the far more comprehensive and illustrated volume written by a consortium of technicians, engineers, and archaeologists (A. COUTELAS [ed.], *Le mortier de chaux* [Paris 2009]), available for 27 Euro? Is it even necessary for somebody from outside the French speaking scientific community to consult this publication, because there might be better alternatives if one is able to read other languages? Is it worth, for example, to spend 15 Euro if you can have a concise overview in 88 pages for free on academia.edu, even if it is from 2003 and admittedly a bit outdated by now (J. J. HUGHES / J. VÁLEK, *Mortars in Historic Buildings. A Review of the Conservation, Technical and Scientific Literature*. Literature Review [Edinburgh 2003]. https://www.academia.edu/10622498/Mortars_in_Historic_Buildings_A_review_of_the_scientific_and_conservation_literature) [last access 10 October 2018]? Well, we will have to come back to this again.

Mortars of historic buildings have been studied since the middle of the 19th century. This mostly meant that colour and consistency of the material was simply described and studied with the naked eye. Sometimes this could be complemented by using hydrochloric acid to determine the nature of the binder (p. 7). This insufficient procedure has now been replaced by a standardised methodology from scientific material analysis that is also used in the characterisation and creation of modern building materials. Moreover, the cooperation of heritage studies and engineering faculties enables developing a better understanding of historic recipes and production methods. This has led not

only to adequate restoration practices but also to the use and reuse of traditional materials and recipes in modern architecture. Not mentioned in the book but very important in this context is, for example, the proposal of Marie Jackson from the University of Utah to use Roman concrete recipes for the construction of the seawall of the ‘Swansea Lagoon’, a tidal power plant in the UK, because this material has proven to withstand seawater much better than steel reinforced conventional concrete (<http://www.bbc.com/news/business-38609512> [last access 10 October 2018]).

As proof for the reawakened interest, the authors rightfully point to the very successful series of “Historic Mortars Conferences (HMC)” (p. 7), which since 2008 are taking place about every three years. Each meeting has been accompanied by comprehensive conference proceedings, two of which were published in the RILEM book series and show the close relation of some of the conference organisers with engineering research represented by RILEM, the International Union of Laboratories and Experts in Construction Materials, Systems and Structures (<https://www.rilem.net> [last access 10 October 2018]). Our authors cite papers from the first two conferences – Lisbon and Prague 2010 (LABORATÓRIO NACIONAL DE ENGENHARIA CIVIL [LNEC] [ed.] *Historical Mortars Conference. Characterization, Diagnosis, Conservation, Repair, Compatibility*. HMC08, 1st Historical Mortars Conference, Lisbon, 24–26 September 2008. [Lisbon 2008]; J. VÁLEK / J. J. HUGHES / C. J. W. GROOT [eds], *Historic Mortars. Characterisation, Assessment and Repair* [Dordrecht, Heidelberg et al. 2012]), but they do not follow up on the meeting in Glasgow (J. J. HUGHES [ed.], *Proceedings of the 3rd Historic Mortars Conference*. HMC13. Glasgow, 11–13 September 2013 [Glasgow 2013]) nor on the most recent conference on Santorini (J. PAPAYIANNI / M. STEFANIDOU / V. PACHTA [eds], *Proceedings of the 4th Historic Mortars Conference*. HMC 2016. 10th–12th October 2016, Santorini, Greece [Thessaloniki 2016]). Here it should be mentioned that the 5th HMC will take place in Pamplona, Spain, 19–21 June 2019 (<https://www.unav.edu/web/historic-mortars-conference> [last access 15 October 2018]). While it must be admitted that each of these conference proceedings provides ample insight into case studies and specific methodological problems, their contributions are – with a few exceptions – not suited as a general introduction to the materiality of mortar and the scientific methods that are used to study them nowadays.

One of the reasons for the limited value of the above-mentioned conference proceedings for a general audience lies within the conditions under which they are produced: their contributions have to be submitted months in advance of the individual conference and therefore often cannot include the latest results of a project. The other aspect is that evaluation systems like the Research Excellence Framework (REF; <http://www.ref.ac.uk> [last access 10 October 2018]) in the United Kingdom or academic job application selection criteria rank research papers published in peer-reviewed journals much higher than the ones in conference proceedings, which are suspected not to be as selective about their authors and contributions. This difference in publication rating again leads to the situation that academics will, for example, discuss research questions and preparation methodology in conference proceedings but prefer to hold back important research results for their journal papers.

The way our ‘protocoles’ present the classification of ancient mortars is quite conventional, but the way in which anecdotic examples are mixed with descriptions of material compositions is not well suited as introduction to the topic (pp. 13–25). The first part of the book (pp. 13–25) starts out with the definition and description of different kinds of mortar such as clay mortar (“mortiers de terres argileuses”), stucco (“mortiers de plâtre”), mortar from hot or quick lime (“mortiers de chaux”), and mortars containing gypsum (“mortiers de chaux séléniteuse”). Missing in the table of contents, but present in the book is a paragraph on pozzolanic mortars respectively cements (“ajouts pouzzolaniques”), which are more commonly known as Roman concrete. Completely

absent from this list are use-related categories within the lime mortar like bedding mortar, in- and outside plaster, mortar floors, or remains of mortar production. To discuss these would have been important, because it would allow understanding possible causes of different material composition, for example, in relation to availability of raw materials or intended application of the mortars.

The following parts 2 to 5 of the book are predominantly technological. Part 2 offers an introduction to statistics in relation to sampling and strategies of sampling in general (pp. 31–47). Part 3 is an explanation and discussion of mortar characterisation techniques that can or must be applied in the field (pp. 49–63), and part 4 adds the same for the physical, chemical, and mineralogical methods that need to be done in a laboratory (pp. 65–94). Part 5 returns to the archaeologist's perspective and adds aspects like hypotheses about raw material provenance or aging processes of mortars, which are especially important when historic mortars shall be reproduced for experimental or restoration purposes (pp. 95–102)

The strength of the booklet lies with its many examples from Ancient Egypt and the ancient Near East which clearly reflects the field experience of one of the three authors – Serge Feneuille. Also, the Roman period is well represented, but mortar types and production technology of the medieval period are out of this booklet's range of expertise and focus. The discussion of raw material provenance as well as historic sourcing and preparation methods are dealt with too briefly. I want to stress here that without a clear idea about the process of lime burning, the different ways of lime slaking, and which sands are suited as aggregates, it is impossible for the material expert and for the archaeologist alike to ask the right research questions or to interpret the results of a mortar characterisation.

To make up for these shortcomings, I would like to recommend here two recent publications: regarding the aspect of lime kilns and traditional lime production technologies, Jan VÁLEK has just presented a richly illustrated catalogue on “Lime Technologies of Historic Buildings” (Prague 2015), which comprises the results of intense historical studies in the Czech Republic and of experiments with ancient mortar recipes. On the other hand, there is a book with the translated title “Gravel and Sands in Switzerland – Aggregates for Historic Mortars” which has been assigned the Swiss Design Award of beautiful Swiss books in 2011 (INSTITUT FÜR DENKMALPFLEGE UND BAUFORSCHUNG DER ETH ZÜRICH [ed.], *Kiese und Sande der Schweiz. Zuschläge für die Nachstellung historischer Mörtel und Putze* [Zürich 2010]). This book sets not only aesthetic but also scientific standards in the way it presents a raw material for a larger region and has several chapters dealing with historic mortar production.

There is a lot of hope and expectation related to scientific dating methods – like radiocarbon (^{14}C) or Optically Stimulated Luminescence (OSL) – that promise to be able to date the construction of buildings based on mortars or their ingredients. Therefore, it is good that the authors of the ‘protocoles’ discuss these at the end of the first chapter (pp. 26–30). Their descriptions of the different methods – though quite short – are clear and concise and the important difference between ‘(radiocarbon) dating of organic material from mortar’ vs. ‘(radiocarbon) dating the moment of carbonisation’ becomes clear enough. The brevity of the chapter, the lack of examples, and missing recent references regarding radiocarbon dating show that the authors have not much experience with this methodology themselves, be it as practitioners or clients of respective specialists.

Again, to make up for this, I would like to point to recent publications of the Mortar Dating Intercomparison Project (MODIS), which aimed at testing all three methods on well dated samples of different provenances and ages. The results show very clearly the challenges that mortar dating faces – be it by radiocarbon or OSL: they reach from the so called ‘old wood’ effect when organic material is radiocarbon dated to the retarded hardening phenomenon of hydraulic mortars

and from the possible reuse of older mortar as raw material in mortar production to the seemingly widespread insufficient bleaching of quartz grains. The latter is prohibiting the use of the more precise 'single grain' analysis in OSL. To anybody who would like to get his or her head around mortar dating, I recommend the papers from Hayen et al. and from myself in Radiocarbon from the 8th Radiocarbon & Archaeology Symposium in Edinburgh in 2016 (R. HAYEN ET AL., Mortar dating methodology: assessing recurrent issues and needs for further research. Radiocarbon 59, 2017, 1859–1871; S. HUEGLIN, Time framing Early Medieval stone building north of the Alps – a discussion of recent challenging results. Radiocarbon 59, 2017, 1657–1675).

The pages on statistics and sampling precision in part 2 (pp. 31–48) to my view are a complete waste of space. As important as this topic might be for the sampling process, it is not specific to mortar at all and in this form could be part of any introduction on material studies, and this is where I suspect the text is taken from. Only in a few instances, direct reference to historic mortars is made here. This chapter actually underlines how important it is that the material specialist is involved – if possible already in the field – in the sampling process and that archaeologists and technicians alike are taught basic sampling principles.

Helpful and useful for the archaeologist is part 3 (pp. 49–64) where it describes what can be observed with the naked eye or a handheld magnifier. A binocular loupe will not be available on excavation, except there is an archaeobiology or geology lab at hand. To test for the presence of carbonised lime with the help of vinegar is also something that can be expected from an archaeologist or technician in the field. But mostly the description of the methodology is not for the team in the field but for the archaeologist who wants to understand the basic methods used by colleagues working in the lab.

Part 4 (pp. 65–94) goes into quite some detail about physical, chemical, and mineralogical characterisation methods. While the authors describe each method and what it can measure, they provide less and less concise examples for why it might be useful to employ them. They forget here that analysis is not an end in itself but needs to be guided by research questions and hypotheses, which can be tested. This – as I would like to call it – mutual 'tell me why-phase' is where archaeologist and material specialist need to communicate and cooperate intensely to do the right tests and use the right methodology in order to achieve meaningful results. Here it needs the larger picture: that of the historic landscape, the social and natural environment in which the building project takes place and of which it is a testimony at the same time.

The final part 5 (pp. 95–102) reconciles the reader by comprising important remarks on alterations to mortars through ageing, exposure to changing climate and weather conditions, or, for example, through secondary growth of gypsum crystals. Here also the raw materials are mentioned – too late and too briefly in my opinion.

Well, the book on historic mortar – suitable for archaeologists as well as for the general public – still needs to be written and the 'protocoles' are not the best attempt that has been made so far. It is an example for an outdated encyclopaedic accumulation and for smart copy-paste methodical formula wrapped in some anecdotal wisdom with limited geographical and diachronical reach. But the worst is its lack of illustrations, which counts twice when writing on a material topic and for an audience like archaeologists, who are – even more than the average person – dominantly visual people.

The book about mortar I envisage must not only have more illustrations and tackle the topic on a diachronic and global scale but should also appreciate mortar beyond its immediate materiality. This approach must test not only the characteristics of binder and aggregate in mortar, but it must contextualise the qualities of mortar and stones within a wall. This comparison between micro-

and macrocosm can even be extended by looking at walls and rooms within a building, at houses and space within a settlement, at people and their relations within a society, at earth and water within the landscape, and maybe even at bodies and space within the cosmos.

Mortar is one of these man-made mixed materials like tar or wax or pulp. Its location is not only between the bricks of a building but also in between organic and inorganic, in between fluid and solid, and in between geology and archaeology. It has been called liquid stone and during hardening it breathes carbon dioxide like a plant. As artificial matter, it is a mix of life and death or of quick lime and wet sand. But to write this book it probably will need authors inspired by an integrated poetic understanding of the nature of culture like Goethe or Humboldt.

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MIRIAM SÉNÉCHEAU / STEFANIE SAMIDA, Living History als Gegenstand Historischen Lernens. Begriffe – Problemfelder – Materialien. Geschichte und Public History Band 1. W. Kohlhammer, Stuttgart 2015. € 32,-. ISBN 978-3-17-022438-4. 192 Seiten, 20 Abbildungen, 1 Tabelle.

Schon der Titel des zu besprechenden Buches verspricht einen wichtigen Beitrag zum Thema der Vermittlung archäologisch-historischer Inhalte. Die Veröffentlichung stellt den ersten Band der Reihe „Geschichte und Public History“ dar und greift das aktuelle Thema „Living History“ (LH) auf. In vielen neuen Lehrplänen gibt es den „Anspruch, im Geschichtsunterricht eine kritisch-reflexive Auseinandersetzung mit Formen der Geschichtskultur anzuregen“ (S. 8), die Kompetenzorientierung zu stärken. An dieser Stelle setzt die Reihe an. Sie möchte, so schreibt die Reihenherausgeberin Nicola Brauch im Vorwort, „dazu beitragen, (künftigen) Lehrerinnen und Dozenten in der Lehrerbildung die anspruchsvolle Arbeit mit geschichtskulturellen Quellen in Unterricht und universitärer Geschichtsdidaktik zu erleichtern und einem breiteren Publikum Einblick in die Herangehensweise der historischen Populärkultur zu ermöglichen“ (ebd.).

Der vorliegende Band wurde von den beiden Prähistorischen Archäologinnen und Kulturwissenschaftlerinnen Stefanie Samida und Miriam Sénécheau entwickelt und stellt eine Orientierungshilfe für den Lehralltag dar. Es ist der begrüßenswerte Versuch, aus kulturwissenschaftlicher Perspektive zu schreiben. Am Beispiel der LH werden von ihnen die in den Medien, aber auch in der Öffentlichkeit dargestellten Geschichtsbilder kritisch hinterfragt. Dies soll zu einer „Deonstruktion von Geschichtsdarstellungen“ führen, die darauf abzielt, deren Konstruktionscharakter zu durchschauen (S. 13), gleichwohl aber auch eine Multiperspektivität zu erzeugen. Das Buch beabsichtigt, die archäologischen Befunde, aber auch Schrift- und Bildquellen zu analysieren und für den Schulalltag nutzbar zu machen. Dieses Arbeitsfeld soll dem Leser des Buches geöffnet werden. Das in erster Linie an Pädagogen, aber auch an Studierende gerichtete Werk trägt dem Umstand Rechnung, dass in den neuen Bildungszielen der Kompetenzentwicklung der Schüler und Schülerinnen eine zunehmende Rolle zukommt. Historisches Lernen ist gefragt. Ein Bildungsstandard in modernen Bildungsplänen fordert eine kritische Auseinandersetzung mit der Darstellung von Geschichte in den Medien. Dies wird vollzogen. Erläutert wird der Ansatz der LH am Beispiel der „Germanen“, einem weiten Forschungsfeld, das bedingt durch den politischen Missbrauch vor allem in der Zeit des Nationalsozialismus auch eine brisante nationalistische Komponente besitzt.