# Münchener Abhandlungen zum Alten Orient Band 9

# Münchener Abhandlungen zum Alten Orient

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# Weights and Measures as a Window on Ancient Near Eastern Societies

edited by

Grégory Chambon and Adelheid Otto



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Umschlagabbildung: Abwiegen von Orangen mit Steinen auf einem Rastplatz in Iran 2009 (Photo:

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### **Preface**

Grégory Chambon - Adelheid Otto

The study of metrology can open up new pathways into the study of Near Eastern societies. This, however, requires systematic interdisciplinary research, since the material and the written sources contain complementary information. Therefore, the editors of this volume—a French epigraphist and a German archaeologist, both interested above all in the historical and socio-cultural relevance of ancient sources—initiated the interdisciplinary project METROLOGIA. The idea was to go beyond the quantitative approach and to develop methods by crossing archaeological and epigraphic data, in order to understand the far-reaching implications of metrology for society and economy in the Ancient Near East.

The project was based on the cooperation between the University of Brest (Université de Bretagne Occidentale and Centre François Viète) on the one side, and the universities of Mainz (Johannes Gutenberg-Universität), then Munich (Ludwig-Maximilians-Universität) on the other side. Members of the METROLOGIA project were (in alphabetic order): Abdulmuin Almohemid, Stefanie Boskugel, Grégory Chambon, Sarah Clegg, Berthold Einwag, Christoph Fink, Michaël Guichard, Ioannis Kanellos, Janoscha Kreppner, Denis Lacambre, Anna Lorente-Gall, Lionel Marti, Martine Melein, Adelheid Otto, Tanja Pommerening, Lorenz Rahmstorf, Fabian Sarga.

Several scholars of other universities and countries were cooperating with this core group. The meetings during the first two years (2012-2013) were funded by the DAAD (German Academic Exchange Service) and Campus France (Partenariat Hubert Curien)<sup>1</sup>; the cooperation has been continued ever since.

1 Unfortunately, supranational research funding initiatives are far too rare still today. The more so are our sincere thanks due to the DAAD and to Campus France for bringing scholars from different countries, but working on similar topics, together. Some of the results of the METROLOGIA project were presented in the workshop "Weights and Measures as a Window on Ancient Near Eastern Societies", which took place in Munich on December 14, 2013.<sup>2</sup> Other results were published elsewhere, some of them in the important volume on "Weights and Marketplaces", edited by Lorenz Rahmstorf and Edward Stratford in 2019. Rahmstorf's approach towards metrology is a cross-cultural one, since the principles of controlled economic exchange were similar in the ancient world and because most of the metrological systems stood either in direct contact or were developed on the model of previous ones.

The contributions by the members of the METROLO-GIA Project form the core of this publication. Additionally, it includes papers that were handed in by invited speakers during the 2013 workshop in Munich (Etienne Bordreuil, Nicholas Postgate). Two more papers by William B. Hafford and Luca Peyronel perfectly complement the purpose of this publication and have been included during the last stage of the editorial work.

Many contributions by members of the METROLOGIA project resulted from work carried out jointly and were presented collectively. This form of presentation is based on the observation that a complementary approach between philologists and archaeologists and the pooling of research results can enrich considerably the studies on metrology.

2 We thank the Fritz Thyssen Foundation, which supported the workshop. It focused on the following questions: How was royal ideology concretised in practical life and "material culture"? To what extent did the royal authority control the use and development of standards in the field of weights and measures? Which other social groups were able to use and develop their own standards of measurement? How can we understand the process of 'standardisation' in the field of weights and measures? What was their social function in the Ancient Near East?

We would like to thank all the members of the METRO-LOGIA project for their long lasting cooperation, and the contributors to this volume for their in-depth studies of socially relevant aspects of metrology. Our apologies and sincere thanks are due to Etienne Bordreuil, Sarah Clegg, Lorenz Rahmstorf, and Nicholas Postgate, who submitted their papers many years ago. It took much longer than scheduled to assemble the papers and edit this volume. Our thanks are also due to Martin Gruber for the layout of this volume, to Ilona Spalinger for correcting the English of all papers, to Peter Werner of the PeWe editing house for his continuous assistance, and to the

Institute of Near Eastern Archaeology at LMU Munich for supporting this publication.

The cover image of this book expresses well the aim of the collected contributions. It was taken in 2009 at a rest stop in Iran, where A. Otto observed oranges being weighed as a matter of course with simple stones that were no more officially calibrated than most in the Ancient Near East. Metrology is determined by sellers and buyers, by the acceptance and the regulations of society, and is therefore an ideal window into past ideas and concepts.