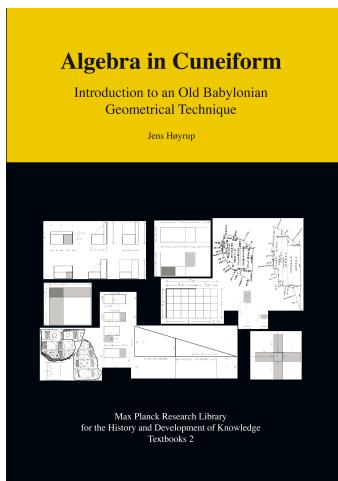


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Jens Høyrup:

Preface



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Introduction to an Old Babylonian Geometrical Technique

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# **Algebra in Cuneiform**

**Introduction to an Old Babylonian Geometrical Technique**

Jens Høyrup

**Textbooks 2**

Max Planck Research Library for the History and Development of Knowledge  
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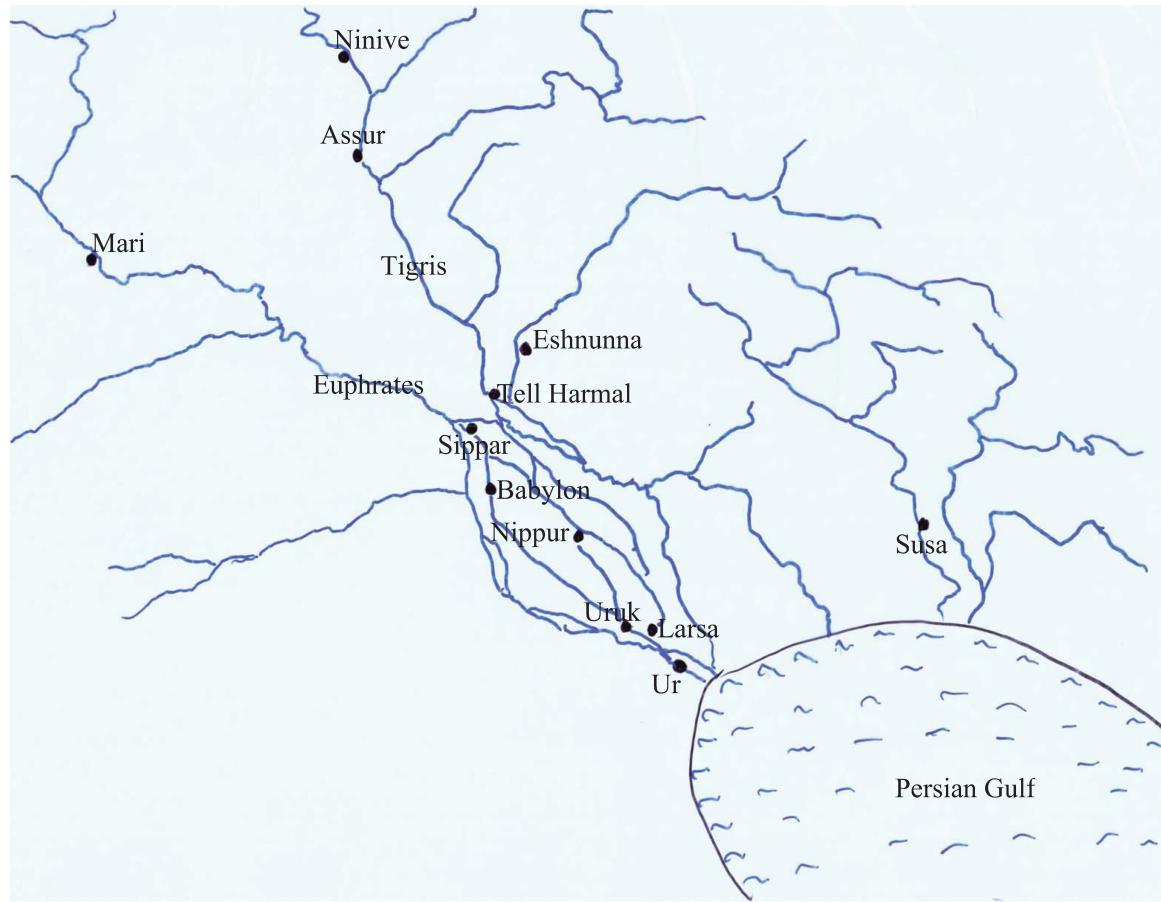
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In memory of Peter Damerow







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## Preface

This book presents an important aspect of Babylonian mathematics, namely the technique or discipline usually known as “Babylonian algebra.” This “algebra” is the earliest example of advanced mathematics that has come down to us, for which reason it is spoken of in most general expositions of the history of mathematics. However, most of these expositions rely on translations and interpretations going back to the 1930s. The present book, in contrast, builds on recent research.

The traditional interpretation made it possible to establish a list of the results obtained by the Babylonians; of the calculations they were able to perform; and, so to speak, of the formulas they knew. But since its starting point was contemporary mathematical thought, it was not able to reconstruct the *different* thinking that hides behind the Babylonian results. The aim of the present book is to highlight that difference, and thus to show that *mathematics can be thought in several ways*.

A first version of the book was written for students of the Danish high school system in 1998; another version—revised and augmented—appeared in French in 2010. This, as well as the present further updated version, addresses those who are interested in the history of mathematics but who do not necessarily have mathematical competence beyond what is acquired in high school. It further addresses Assyriologists who want an introduction to recent understandings of Babylonian mathematics.

Teachers may use the book together with their students at various levels.

A first approach (in teaching as well as private study) may concentrate on the first-degree equation TMS XVI #1, and the basic second-degree equations, that is, BM 13901 #1 and #2, YBC 6967 and TMS IX #1 and #2. The Introduction and Chapters 6–8 provide a general overview.

In order to get deeper into the matter, one may read the other texts from Chapters 2 and 3, and the texts TMS IX #3, AO 8862 #2, BM 13901 #23 and YBC 6504 #4 from Chapter 4.

Those who become passionate may read all the texts from Chapters 2–5, and then try to get their teeth into the texts from Appendix A.

In Appendix B, those who know the rudiments (or more) of Babylonian language and grammar will find transliterations of most of the texts from Chapters 2–5 and Appendix A.

I am grateful to the Institute for the History of Natural Science of the Chinese Academy of Sciences for inviting me to give a course on the topic of the book. This spurred me to prepare this English version and allowed me to give it the final touches during my stay.

I dedicate the book to the memory of Peter Damerow, who for many years was my traveling companion in the broad field of Mesopotamian mathematics.