

Astronomy, Weather, and Calendars in the Ancient World

The focus of this book is the interplay between ancient astronomy, meteorology, physics and calendrics. It looks at a set of popular instruments and texts (parapegmata) used in antiquity for astronomical weather prediction and the regulation of day-to-day life. Farmers, doctors, sailors, and others needed to know when the heavens were conducive to various activities, and they developed a set of fairly sophisticated tools and texts for tracking temporal, astronomical, and weather cycles. For the first time the sources are presented in full, with an accompanying translation. A new and comprehensive analysis explores questions such as: what methodologies were used in developing the science of astrometeorology? What kinds of instruments were employed and how did these change over time? How was the material collected and passed on? How did practices and theories vary in the different cultural contexts of Egypt, Mesopotamia, Greece, and Rome?

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# Astronomy, Weather, and Calendars in the Ancient World

Parapegmata and Related Texts in Classical and Near Eastern Societies

DARYN LEHOUX





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### Preface

This book has been in the works for quite some time. It began as a doctoral dissertation project at the University of Toronto in 1996, and the present version has emerged much changed from that original in the decade since. In large part this is due to the very many helpful comments I have received over that time from more people than I can count or thank here by name, although if I had to name a few, I would have to include Alan Bowen, Serafina Cuomo, Leo Depuydt, Paolo Desideri, Jim Evans, Denis Feeney, Karljurgen Feuerherm, Jay Foster, Judith Gilliland, Anthony Grafton, Ian Hacking, Bert Hall, Robert Hannah, James Hoch, Kinch Hoekstra, Brad Inwood, Alexander Jones, Csaba La'da, André Leblanc, Marcellus Martyr, Kevin McNamee, Erica Reiner, David Sider, Heinrich von Staden, John Steele, Peter Struck, Noel Swerdlow, Liba Taub, and Katherina Zinn. As anyone who has dealt with parapegmata knows, the material is often difficult, confusing, contradictory, and – say it isn't so! – sometimes a trifle dry. It was in conversation with these readers and others that I was able to give a meaningful shape to these texts and to see how widely their relevance and interest extends.

For particular thanks, I should single out Alexander Jones, who first suggested this project to me and whose supervision of the original dissertation was so outstanding, and Brad Inwood, who played the role almost of a cosupervisor on the dissertation. The two of them made for a crack team of readers on the early versions of this text, and their exceedingly high standards kept me very busy. Jay Foster also contributed in more ways than I can count at virtually every stage of writing. I would also like to thank Michael Sharp and the anonymous referees for Cambridge University Press for their many helpful comments. One referee in particular took a very keen interest in the project from the beginning and his (or her) sharp eye and patient criticism have considerably helped to shape the final form of this book. I only wish I could thank them by name.

For their generous support through various stages of this project, I would like to extend my gratitude to the Institute for Advanced Study, Princeton, where I spent a very productive and stimulating year finishing the manuscript, the Loeb Classical Library Foundation, Harvard University,



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the Social Sciences and Humanities Research Council of Canada, and the University of King's College, Halifax.

Finally, I would like to thank my wife, Jill Bryant, for her patience and encouragement again, and again. Because of the long genesis of this book, and because of the short tenure of my memory, it is entirely possible (nay, probable!) that I am forgetting someone here, and if so I beg their forgiveness.



## **Abbreviations**

For Greek and Latin works, I have used the standard abbreviations found in Liddell and Scott's *Greek–English Lexicon*, and Lewis and Short's *A Latin Dictionary*. Other abbreviations are as follows:

ACT Astronomical Cuneiform Texts (Neugebauer, 1955)

AfO Archiv für Orientforschung

CCAG Catalogus Codicum Astrologorum Graecorum (Cumont et al.,

1898-)

Chronology al-Bīrūnī, The Chronology of Ancient Nations, C. E. Sachau,

trans. (London, 1879)

CIL Corpus Inscriptionum Latinarum

CT Cuneiform Texts from Babylonian Tablets in the British

Museum (London, 1896–)

d day(s)

D–K H. Diels and W. Krantz, Die Fragmente der Vorsokratiker

(Berlin, 1922)

DSB The Dictionary of Scientific Biography (New York, 1970–)

EAT Egyptian Astronomical Texts (Neugebauer, 1969)

HAMA History of Ancient Mathematical Astronomy (Neugebauer,

1975)

Id. Ides

IG Inscriptiones Graecae (Berlin, 1863–)

K. Tablets in the Kouyunjik Collection in the British Museum,

or

K. Kalends

KAR Keilschrifttexte aus Assur religiösen Inhalts (Ebeling, 1915)

LSJ Liddell and Scott's Greek-English Lexicon

 $m \qquad month(s)$ 

MUL.APIN MUL.APIN: An Astronomical Compendium in Cuneiform

(Hunger and Pingree, 1989)

N. Nones

OCD The Oxford Classical Dictionary, 3rd edn. (Oxford, 1996)

P. Oxy. The Oxyrhynchus Papyri (London, 1898–)



xiv	Abbreviations	
	RE	Paulys Real-Encyclopädie der classischen
		Altertumswissenschaft (Stuttgart, 1893– )
	τ	tithi(s)
	TLG	Thesaurus Linguae Graecae
	TU	Tablettes d'Uruk (Thureau-Dangin, 1922)
	у	year(s)