the late eighteenth and nineteenth centuries have focused on those few books dealing with Yucatec history, leaving the major part of them unnoticed. Up to now, nine text collections from different Yucatec villages have been assigned to the literary genre of Books of Chilam Balam. In reality these documents are collections of different types of texts. Their common feature is a rich set of texts on prognostications for individual days, the months, or the year. There is a long list of editions and translations of the Books of Chilam Balam from the villages of Chumayel, Tizimin, and Mani (better known by the name Codex Pérez). Others are not yet published in translation at all, like the Books of Chilam Balam of Ixil, Kaua and Tusik, or their published versions are available only with difficulties (Chilam Balam of Tekax and Nah, Chilam Balam of Chan Cah).

This publication is therefore welcome for two different reasons. The English translation of the Chilam Balam of Na presents the document to a large audience and the editors offer an excellent presentation of the text, something that has been missing in the sometimes highly unconventional field of Mayan text editions. The book has been named in reference to its two compilers José Secundino Na and José María Na from the village of Teabo. They completed it in the year 1873. Thus, it is one of the latest in the group of Books of Chilam Balam. However, its first part is a careful copy of the Chilam Balam of Tekax, dating back to 1857, while the document from Tekax was compiled in 1833.

The book starts with prognostications for the year based on the day of the week on which the 1st of January falls (p. 1). These are followed by a short list of the *uinaloob*, the 20-day months of the *haab*-calendar in combination with the Christian year (p. 2). Pages 3 to 14 are filled with the listing of saints' names for each day, a prognostication for the character of the day (good or bad) and the corresponding day name in the *Tzolkin* calendar. A zodiac, translated from a Spanish Almanac, contains prognostications for months (pp. 15–21). Texts on the pages 21 to 29 refer to the relationship of the planets and signs of the Zodiac with the various parts of the body and the illnesses caused by them. A large part of the book is dedicated to *El Libro utial dzacob*, the Book of Medicines (pp. 30–54), describing various diseases and their symptoms and the recommended treatment. The book closes with family records of the births, baptisms, marriages, and deaths of various people that were probably related to the compilers (pp. 55–64).

Ruth Gubler and David Bolles are not the first to publish the *Chilam Balam of Na*. A Mexican edition was published in 1981 by Grupo Dzibil, including a line-to-line Spanish translation of the Yucatec original and a facsimile. That edition also included the Chilam Balam of Tekax. In contrast to the older edition, Gubler and Bolles have chosen to present the original Yucatec text and its English translation on opposite pages. An interlinear translation was obviously not intended, but would have been a useful addition. A rich set of data is provided by the footnotes that contain useful background information and a discussion of problematic sections. A major advantage of this book is that it includes cross-references to parallel sections in other Yucatec documents (Books of Chilam Balam of Tekax, Kaua, Chan Cah, Codex Pérez, Libro del Judío, Documento de Sotuta).

The text edition is preceded by a very detailed introduction, which sometimes appears almost too densely packed with information accompanied by footnotes. Yet, despite all the details the reader looks in vain for some reference to the history of the Book of Chilam Balam of Na from its completion in 1873 up to now. The publication is completed by a photographic facsimile of the Yucatec document and a glossary of plant and animal names with a useful introduction to Yucatec biotype terminology. Since the translation takes up the major part of the book, a comment on it seems in order. In general the translation of Books of Chilam Balam is always a challenge. Gubler and Bolles have chosen a smooth translation and thus avoided repetitive and clumsy verbal expressions. However, as a consequence this has led to the loss of some of its characteristic traits in style the reader might have wanted to recognize.

The Chilam Balam of Na allows a lot of interesting references to its compilation that have been carefully worked out by Gubler and Bolles. Thus it gives us a general idea of how the Books of Chilam Balam have been produced. Throughout its compilation, which lasted at least from 1857 until 1873, the Chilam Balam of Na was in the possession of the same individuals. The fact that the book shares texts with the much older Books of Chilam Balam of Tizimin and the Codex Pérez shows that texts on specific topics have been handed down over space and time. It does not only demonstrate that texts have been copied from generation to generation. There is testimony of a regular communication between villages, as well. The *Book of Chilam Balam of Na* is not only important for the study of traditional medicine in Yucatan but also for the study of the Books of Chilam Balam in general.

Star Gods of the Maya: Astronomy in Art, Folklore, and Calendars. SUSAN MILBRATH. The Linda Schele Series in Maya and Pre-Columbian Studies. University of Texas Press, Austin, 1999. x + 348 pp., figures, tables, appendices, glossary, bibliography, index, plates. $55.00 (cloth), $24.95 (paper).

Reviewed by Gabrielle Vail, New College of the University of South Florida.

The Precolumbian Maya were sophisticated astronomers whose observations of the heavens structured not only the

calendar but also the ebb and flow of daily life. In common with other early civilizations, the Maya personified the observable universe; thus, Susan Milbrath suggests that "astronomical gods form the core of the Precolumbian Maya pantheon" (p. 1), a notion that has recently regained favor among Mayanists.

In order to better understand Precolumbian astronomical beliefs, Milbrath examines correspondences among astronomical events, dates, and imagery from the Classic period monumental corpus and the Postclassic codices. Discussions of astronomical imagery from central Mexico provide comparative data for her analysis of the Maya material. Since she is not an epigrapher, she has chosen to leave the interpretation of glyphic texts accompanying specific images to other scholars. While I agree that this work should be done by an expert, having an epigrapher as a collaborator would have strengthened Milbrath's study, since the glyphic texts often supply crucial information that is not readily apparent from the iconography or calendric dates.

Chapter 1, on contemporary Maya conceptions of the heavens, serves as background for Milbrath's discussions of the Precolumbian data, whereas chapter 2 provides an overview of astronomical concepts. This chapter, when paired with the glossary (pp. 309–311), offers the reader a well-written, comprehensive introduction to Maya astronomy.

Chapters 3 through 7 form the heart of Milbrath's study. They focus on solar deities and iconography; lunar deities and imagery; Venus and Mercury; Mars and Jupiter; and constellations, meteors, comets, and the Milky Way. Each section begins with a summary of previous research, followed by Milbrath's (re)interpretations of the data. Her discussions provide a wealth of new identifications and associations, although as Milbrath herself cautions, many of her interpretations require further testing.

In chapter 4, Milbrath identifies each of the female deities from the Postclassic Maya codices as representations of the moon in its different phases and lunar seasons. The youthful Goddess I, she suggests, is the waxing moon, whereas the waning moon is personified by an aged deity with human features. Other scholars, however, identify the youthful goddess as an earth and fertility deity. The argument centers on whether the prefix and infix to Goddess I's name is Landa's glyph for u, meaning "moon," or the *kaban* curl associated with the glyph for "earth." This is clearly a topic that warrants further research.

Like the moon, Venus has a number of different phases and seasonal aspects (chapter 5). Among these, Milbrath includes the rain god Chaak and the codical God H. Additional support for associating God H with Venus occurs on page 59c of the Madrid Codex, where a humpbacked figure resembling God H is named in the text as *ah èek'* (Venus person). On the other hand, Milbrath's claim for an epigraphic link between Chaak and Venus (p. 201) is unconvincing, since the *chak* (red, great) prefix that sometimes occurs with Chaak's name is one of his four directional associations and is unrelated to the *chak èek'* (great star) epithet used to describe Venus. There are similar problems with Milbrath's glyphic interpretations elsewhere in the text (e.g., she cites Thompson's outdated reading of T19:59 as *k'och* [disease] [p. 140], rather than the well-accepted phonetic reading *mut* [bird, omen] for this compound).

Milbrath dates the Venus table in the Dresden Codex to the mid-thirteenth century A.D. She suggests that the dates of heliacal rise associated with each of the table's five pages correspond to different seasonal aspects of Venus represented by the deities pictured in the middle register of each page. These deities are shown spearing a series of victims located in the bottom register. Milbrath identifies the victims as astronomical bodies seen in opposition to the Morning Star.

Milbrath's analysis provides an innovative perspective for interpreting the imagery of the Venus table in the Codex Dresden. However, the methodology she uses for associating dates with pictures in the Maya codices is not always consistent with that practiced by other archaeoastronomers and epigraphers. Readers are therefore urged to evaluate her findings carefully in relation to studies published by other established scholars in the field of Maya archaeoastronomy.

In chapter 6, Milbrath proposes that God K may be associated with the planet Jupiter, since God K imagery on a number of Classic period monuments correlates with the retrograde period of the planet. She further suggests that Jupiter's cycle may have been chosen as a means of timing important events in the lives of Maya rulers. This is an exciting possibility that merits further attention.

Milbrath's discussion of the constellations of the Maya zodiac (chapter 7) augments the work of earlier scholars. She focuses attention on the seasonal correlates of different constellations, noting, for example, that the Pleiades rose at dawn in late May during the Postclassic period, signaling the beginning of the rainy season and the agricultural cycle. Associations such as these will prove extremely useful in decoding animal imagery in Maya art. As an example of this methodology, Milbrath examines the Codex Madrid pages 12b–18b, an almanac with zodiacal and seasonal iconography. Unfortunately, she misinterprets the structure of the almanac (reading each page as a discrete unit, rather than across the rows of *tzolk'in* dates), which calls her discussion of the seasonal associations of these pages into question. Nevertheless, her analysis raises some interesting possibilities that should be evaluated further.

The volume concludes with three appendices. The first summarizes the astronomical identities discussed in the text. Some of these are well established, whereas others are more provisional. Appendix 2, a table of dates, mon-

uments, and associated astronomical events from the Classic period offers the opportunity to review the data that led Milbrath to her conclusions, allowing the testing of additional hypotheses. The third appendix is a table for calculating *tzolkin* intervals. It provides readers with a useful tool, although there is an error in the first column (each of the base numbers is off by one day). The bibliography includes a comprehensive listing of sources on Maya archaeoastronomy through 1996, but coverage thereafter is less complete.

Star Gods of the Maya represents an important addition to the field of Maya archaeoastronomy. Milbrath deftly interweaves data from contemporary and Colonial sources into her interpretations of Precolumbian Maya imagery, providing an encyclopedic overview of Maya astronomical beliefs from the prehispanic period to the present. Despite its occasional shortcomings, this book will make an excellent reference tool for Mayanists and those interested in archaeoastronomy. To my mind, its most important contribution lies in providing researchers with a number of compelling hypotheses that can be further tested and refined in the years ahead.

Venus, lluvia y maíz: Simbolismo y astronomía en la cosmovisión mesoamericana. IVAN ŠPRAJC. Colección Científica, Vol. 318. Instituto Nacional de Antropología e Historia, Mexico City, 1996. 176 pp., figures, tables, appendix, bibliography. (paper).

Reviewed by Matthew Looper, California State University, Chico.

The author acknowledges that this book is based on his Master's thesis presented in 1989 at the Escuela Nacional de Antropología e Historia in Mexico City. However, Mesoamericanists will already be familiar with the arguments, which were published in English in a two part series in 1993 (Šprajc, *Journal of the History of Astronomy* 17:17–70; 18:S27–S53). In fact, *Venus, lluvia y maíz* uses the same format as these articles, while the text is somewhat expanded, especially the introduction and the discussion of the movements of Venus.

The premise of this book is that a key feature of ancient Mesoamerican worldview was a complex of ideas that associate the movements of the planet Venus with the maize agricultural cycle. While this thesis was first presented in an article by Michael Closs, Anthony Aveni, and Bruce Crowley (*Indiana* 9:221–247), interpretations are refined and substantially expanded in the present volume. Šprajc's conclusions are based on careful astronomical measurement and calculation in conjunction with a survey of ethnographic, ethnohistoric, and iconographic data. Although the text is clearly written, it should be noted that many of the illustrations are so poorly printed that they are of little value. This is especially true for some of the photographs. For example, in figure 23 a photograph of a ceramic figurine is printed in ghostly negative.

The book begins with a discussion of the role of astronomy in Mesoamerica, pointing out the relationship between cultural forms such as myths and observable phenomena of nature. Šprajc also discusses the difficulties of synthesizing archaeological and ethnological data to reconstruct this worldview. The next section (chapter 1) presents a useful discussion of the apparent movements of Venus. The author focuses on the coincidence of the northern extreme declinations of Venus as evening star during the onset of the rainy season in Classic and Postclassic eras. He suggests that this observation formed the basis of the relationship between Venus and agriculture. Chapters 2 and 3 bring together ethnohistorical and ethnographic data to suggest relationships between Venus, rain, and maize and to differentiate the symbolism of morning and evening star. Strangely, there is also some discussion of ancient Maya iconography included in these chapters, which might have been better presented in chapter 4. The same might be said for the section entitled "¿El complexo Venus-lluvia-maíz en el Preclásico?" (pp. 68–72). Chapter 3 concludes with a compelling but brief summary of archaeological features with alignments to extremes of Venus. Again, the data are almost exclusively from the Maya area, including only one site from western Mesoamerica—Huexotla, a Postclassic site in the state of Mexico. Chapter 4 attempts to place the data within an historical framework of ancient visual culture. Chapter 5 summarizes the possible observational bases for the association of Venus with agriculture, including a Venus-moon conceptual relationship and the timing of Venus extremes.

Overall, Šprajc's study is of considerable value in elucidating the relationship of ancient Mesoamerican religion to subsistence. The connection between seasonal positions of the evening star and the fertility of maize is especially important and helps to understand many aspects of ancient iconography and planning. It also suggests numerous avenues for research, some of which have already been developed by other authors. For example, Susan Milbrath (*Star Gods of the Maya: Astronomy in Art, Folklore, and Calendars,* 1999) suggests that whereas the evening star is associated with maize growth, the morning star may be linked to planting. It is also clear that the sun plays a crucial role in this complex. For instance, for the Ch'orti', the dates of solar zenith passage have been of crucial significance for the agricultural cycle.

Some comment should be made about Šprajc's reliance on the rather archaic concept of a "cosmovisión" that exhibits both "vertical" and "horizontal" continuity within Mesoamerica. In fact, the introduction questions the validity of "vertical" continuity of religious symbolism. Further, the last section of the book, which treats the complex in a diachronic perspective, may be seen as an attempt to