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Mark Hollabaugh

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THE SPIRIT AND THE SKY

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THE SPIRIT AND THE SKY

LAKOTA VISIONS OF THE COSMOS

MARK HOLLABAUGH

Published by the University of Nebraska Press, Lincoln and London, in cooperation
with the American Indian Studies Research Institute, Indiana University, Bloomington

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Set in Charis by Rachel Gould.

To Jon

CONTENTS

List of Illustrations	ix
List of Tables	x
Preface and Acknowledgments	xi
1. The Lakota People	1
2. The Sky	17
3. Lakota Culture	41
4. The Stars and Constellations	57
5. The Sun and Moon	73
6. Telling Time	83
7. Eclipses and the Aurora Borealis	105
8. Meteors and Comets	121
9. The Sun Dance	137
10. Contemporary Lakota Astronomy	159
11. The Spirit and the Sky	173
Appendix: List of Museums	185
Notes	191
Bibliography	219
Index	233

ILLUSTRATIONS

1. The Black Hills	8
2. Moon phases	29
3. Anatomy of a solar eclipse	30
4. Anatomy of a lunar eclipse	32
5. Chimney Rock, Colorado	36
6. The Wyoming Medicine Wheel	37
7. Bear Butte	52
8. Finding the North Star	67
9. Ghost Dance shirt	80
10. Mrs. No Ears Ghost Dance shirt	80
11. Battiste Good Winter Count	94
12. Thin Elk Winter Count original	96
13. Thin Elk Winter Count replica	96
14. Red Horse Owner's Winter Count	97
15. Short Man Winter Count	108
16. Lone Dog Winter Count	110
17. Flame Winter Count 1822 meteor	123
18. Swan Winter Count 1822 meteor	123
19. Battiste Good Winter Count 1822 meteor	123
20. Flame Winter Count Leonid Shower 1833	131
21. Swan Winter Count Leonid Shower 1833	131
22. Battiste Good Winter Count Leonid Shower 1833	131
23. Montana Sun Dance Site	141
24. Earth, Spirit, Sky, and <i>Wakhán</i>	183

T A B L E S

1. Prominent meteor showers	35
2. The fourfold divisions according to William K. Powers	49
3. Selected Lakota star names	65
4. Selected Lakota constellation names	66
5. Lunar phases	86
6. The Lakota months	90
7. Selected astronomical events appearing in winter counts	100
8. Some nineteenth-century eclipses in Lakota territory	107
9. 1822 meteor in Smithsonian winter counts	124
10. 1833 Leonid meteor shower in Smithsonian winter counts	129
11. <i>Lakota Star Knowledge</i> ecliptic constellations	163
12. Some stars on the Race Track	165

PREFACE AND ACKNOWLEDGMENTS

My interest in Native American astronomy began many years ago when I read John Eddy's *Science* article about the Medicine Wheel in the Big-horn Mountains of Wyoming and subsequently visited the site.¹ When I taught my first college-level astronomy course, I included a five-minute segment on the Medicine Wheel. The following semester, the discussion of Native American astronomy stretched to about twenty minutes. By the time I retired from full-time teaching, I had difficulty containing the topics of ethnoastronomy and archaeoastronomy to a ninety-minute extended class period.

In the summer of 1992 in the bookstore at what was then known as the Sioux Indian Museum in Rapid City, I came upon three books containing the work of James Walker: *Lakota Belief and Ritual*, *Lakota Myth*, and *Lakota Society*. A quick scan of the indexes revealed references to the Sun, the Moon, and the stars. A comment by Lakota elder Ringing Shield, referring to Polaris, caught my attention: "One star never moves and it is *wakan*. Other stars move in a circle about it. They are dancing in the dance circle."² I immediately began to wonder about Lakota astronomy and the aspects of Lakota culture that are important to their astronomy. A clue was in the images they left on winter count hides and in ledger books.

In 1996 at the Fifth Oxford International Conference on archaeoastronomy held at St. John's College in Santa Fe, I gave a talk on the images of celestial objects and phenomena (Sun, Moon, eclipses, stars, comets, and meteors) that appear in nineteenth-century Lakota winter

counts. My guiding question was “How did the Lakota interpret such events and why did they make note of them?”³

In describing the Lakota winter counts in the collections of the National Anthropological Archives, Christina Burke specifically mentions the numerous references in these counts to the Leonid meteor shower of 1833. This astronomical event appears in virtually every Lakota, and other Plains Indian, winter count. Burke notes, “While scholars have mentioned the fact that it appears in every winter count, no one has yet published information on how this event was interpreted by Lakota people.”⁴

The phrase “no one has yet published” suggests an opportunity. There has not been a comprehensive treatment of the astronomy of the nineteenth-century Lakota. There has been no unified discussion of winter counts, meteor showers, comets, the aurora borealis, the Sun, the Moon, the stars, and the Sun Dance within the context of Lakota ethnoastronomy. Moreover, very few scholars have attempted to answer the inevitable question, “Why did the nineteenth-century Lakota give so much attention to the heavens?”

One reason for the lack of a comprehensive treatment is the difficulty in locating written sources. The few extant Lakota sources are no earlier than the very late nineteenth century. References to what the Lakota said about the stars are generally lacking in contemporaneous eyewitness accounts of their culture. In other words, a researcher has to dig deeply to find reputable, reliable source materials relating to the astronomy of the Lakota in the nineteenth century.

An astronomer wishing to enter the world of Lakota ethnoastronomy also must be willing to delve deeply into the history, language, culture, religion, and thinking of the Lakota. Misinterpretation, or over interpretation, can be minimized by understanding the Lakota worldview as the context for their astronomy.

I intend this book to be useful to scholars. Hence, there are a large number of references to scholarly articles. However, I have included some background material for readers who may be unfamiliar with astronomy, ethnology, anthropology, or Native American history and culture. I have included many lengthy direct quotations from eyewitness accounts that

could require considerable detective work to locate. It is important to have these ethnoastronomy materials assembled in one book.⁵

Chapter 1 is a general introduction to the Lakota's life on the Great Plains, as well as a discussion of the sources for the book. The problem of how to deal with contemporary Native voices in evaluating the material from the past was a particularly difficult and yet important aspect of setting the context for the book.

Chapter 2 is a survey of the astronomical context for the topics of this book. The hybrid fields of archaeoastronomy and ethnoastronomy are relatively new subfields of historical astronomy, and there is a brief discussion of their approach and technique. Positional astronomy is described in detail, explaining eclipses and how we use celestial motions to tell time. Finally, there is a brief introduction to the astronomy of the Plains Indians, of which the Lakota were a part.

Chapter 3 is a discussion of the aspects of Lakota culture that particularly have a bearing on their astronomy. Readers will detect heavy emphasis on numerology, with many references to four and seven, but it will become apparent that celestial phenomena that come in fours and sevens (and $4 \times 7 = 28$) are central to the Lakota. The concept of *wakháŋ* is crucial to Lakota culture and is introduced.

Chapter 4 describes the repeatable, predictable appearance and motions of the stars and constellations as the Lakota and other dwellers of the Great Plains saw them. The Lakota names for the stars and constellations are discussed with some references to Lakota legends about the stars.

Chapter 5 describes the importance of the two brightest members of the celestial realm, the Sun and the Moon, and their important place in Lakota culture.

Chapter 6 explains how the Lakota used the motions of the Sun and the Moon to keep track of the passage of time. Much of the chapter focuses on Lakota winter counts and their importance for ethnoastronomy.

Chapter 7 looks at spectacular phenomena in the sky: eclipses and the aurora borealis. The explanation of the cause of the aurora that occurred at the death of Black Elk in 1950 is a new contribution to ethnoastronomy.

Chapter 8 is a discussion of the often sudden appearance of meteors and comets. These apparitions provided the pictographs for several Lakota winter count calendar systems, especially the years 1822 and 1833.

Chapter 9 discusses the rich astronomical associations of the most important Lakota ritual, the Sun Dance.

Chapter 10 discusses modern, twentieth-century Lakota ethnoastronomy with an extensive look at *Lakota Star Knowledge*.

Finally, the Lakota are one of many Native American cultures in North America. Chapter 11 places Lakota ethnoastronomy into the wider context of Native American cultures and connects Lakota ethnoastronomy with Lakota culture and spiritual belief. There are comparisons and contrasts to be made between modern science and traditional Native science. Finally, there is an attempt to answer the question, “Why did the Lakota make so many references to the heavens?”

A word about orthography: Lakota was a spoken language for many generations before it became a written language. As with other Native American languages there are several orthographies for writing a Lakota word. For example, one can write *wakháj*, *wakáj*, or *wakan*. In direct quotations I have retained the author’s spelling and orthography. In discussing the concept, however, I have used the orthography suggested by Raymond DeMallie, *wakháj*. Hence, the reader will notice multiple ways of writing one Lakota word.⁶

Starry Night Education of the Simulation Curriculum Corporation produces the excellent *Starry Night* software that I used (available at <http://www.starrynighteducation.com>). In addition to encouragement for this research, I wish to thank Michael J. Goodman, CEO of Simulation Curriculum Corporation, for permission to use the Starry Night Education graphics explaining geometry of the lunar phases, eclipses, and the orientation of the Big Dipper round the North Star.

I am grateful to my deans and the presidents at Normandale Community College for allowing me to spend two sabbatical leaves working on this project. I especially want to thank librarian Joann Hucko for procuring numerous obscure scholarly materials for me. English pro-

fessor David Pates edited an earlier version of the manuscript, and his input improved the style and readability.

David Mathieu, former vice president and dean of academic affairs at Normandale, grew up among the Dakota in Minneapolis and became a Lakota language instructor at Black Hills State College. David gave me many insights into the Lakota culture and answered countless linguistic questions. We always greet one another “*Háu kholá!*”

I also wish to thank Claire Hoyum for her eagle-eyed reading of the final manuscript. Every author should have an English major as a friend!

I am indebted to Delores Knipp (Lt. Col., USAF, retired) for providing me with data on the August 1950 geomagnetic storm event. Dr. Knipp, an expert on space weather, was a faculty colleague when I taught at the U.S. Air Force Academy.

Von Del Chamberlain, former director of the Hansen Planetarium, Salt Lake City, brought his important work on Plains Indians winter counts to my attention and gave me permission to copy and to use his 35 mm photo collection of winter count hides and ledger books. I met Von Del at the Fifth Oxford International Conference in 1996. He has been a continual source of encouragement.

Michael Zeilik, another archaeoastronomy colleague, invited me to join this fascinating field, encouraged my work, and made helpful suggestions. Thanks are due Mike for initiating my interest in the diaries of John Gregory Bourke.

The staffs of the following institutions were helpful in locating materials: Western History Department of the Denver Public Library, the Colorado Historical Society, the State Historical Society of North Dakota, the South Dakota Historical Society, and the Minnesota Historical Society.

Some museums and archives are especially rich in Lakota material. Harry Thompson at the Center for Western Studies (CWS), Augustana University, Sioux Falls, graciously invited me to speak at the 1997 Dakota history conference at Augustana University. Harry and his staff also helped me with several inquiries about sources in the CWS collection.

Tom Buecker, curator at the Fort Robinson Museum, Crawford, Nebraska, loaned me microfilm copies of John Bourke’s diaries. He also

suggested I contact James Hanson in regard to the location of the 1875 Chadron Sun Dance.

Ray Summers and Paulette Montileaux of the Sioux Indian Museum (now at The Journey), Rapid City, were helpful in the early part of my research on celestial images in Lakota winter counts.

Occasionally one meets people who are extraordinary. The late Brother C. J. Simon, S.J., of the Red Cloud School and Heritage Center Museum, Pine Ridge, South Dakota, was such a man. Prior to my first visit to Pine Ridge, a Lakota friend told me, “Be sure to talk with Brother Simon.” I made a point of chatting with him, even if only briefly, on every subsequent visit to Pine Ridge. His devotion to Native American arts and the culture and history of the Lakota people led him to take an interest in my research, and he gave me ideas about little-known sources of written accounts about the Lakota. He also made sure I left the museum shop with yet another piece of contemporary Lakota art!

Marie Kills in Sight, current director of the Buechel Memorial Lakota Museum, Rosebud Reservation, South Dakota, gave me many helpful insights into Lakota culture and history. Her interest in my work contributed significantly to my understanding of the Lakota culture. Mike Marshall, formerly of the Buechel Museum, also assisted me in the initial phase of my research.

Sebastian F. Braun, Iowa State University, suggested several revisions to the manuscript, and I appreciate his thoughtful, helpful comments, especially the idea that the differences between Native views and modern astronomy lead to “toleration.”

Raymond DeMallie, Indiana University, encouraged me and provided many insights for this undertaking. His vast corpus of work on the Lakota had a strong influence on what I have written. I also wish to acknowledge his assistance with the spellings and orthographies of Lakota words as well as his careful reading and editing of the manuscript. His IU colleague Douglas Parks was instrumental in guiding the manuscript on its journey to the publisher.

Every author needs good editors, and I am fortunate to have worked with Matthew Bokovoy, senior acquisitions editor for Native American

and Indigenous Studies at the University of Nebraska Press. Heather Stauffer, his editorial assistant, helped me with everything from documentation to illustration requirements. Project editor Elizabeth Zaleski guided the publication process, and Jane Curran expertly edited the final manuscript.

Father Raymond Bucko, S.J., opened many doors for me and patiently answered countless questions. His access to the Buechel materials enabled me to include some lesser-known and -observed aspects of Lakota culture and astronomy. He introduced me to several scholars and to new Native American friends. His encouragement and challenges spurred me on.

I am deeply indebted to my good friend Martin Brokenleg, former faculty member at Augustana University and the Vancouver School of Theology. Martin took me to family events at Rosebud, strongly encouraged me, and deepened my understanding and appreciation of the Lakota culture. His patience in the face of my endless questions is greatly appreciated. To Martin, my *kholá*, “*Philámayayelo*.”

I have learned much from my Lakota friends and always feel personally drawn toward the Great Plains, where their ancestors lived and flourished, and where today they continue to retell and interpret their rich cultural heritage. It is my hope that *The Spirit and the Sky: Lakota Visions of the Cosmos* will help preserve the rich astronomical heritage of the Lakota people.