

COLIN R. NICHOLL

T H E

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C H R I S T

C O M E T

REVEALING
THE TRUE STAR
OF BETHLEHEM



"*The Great Christ Comet* is a stunning book. Colin R. Nicholl develops a convincing case for what exactly the Star of Bethlehem was. The book reads like a detective novel, and while it is full of evidence, information, and argumentation, it is accessible and enjoyable to read. This work is now the definitive treatment of the subject. I highly recommend it."

J. P. Moreland, Distinguished Professor of Philosophy, Biola University; author, *The Soul: How We Know It's Real and Why It Matters*

"I am simply in awe of this book. *The Great Christ Comet* is an absolutely astonishing triumph of interdisciplinary scholarship so rarely seen and so tremendously illuminating as to merit bright comparison with the very celestial phenomenon it describes. Both lead us to the Manger and to the Great Poet within, whose syllables are the Moon and Sun and Stars."

Eric Metaxas, *New York Times* bestselling author of *Miracles* and *Bonhoeffer*

"The most comprehensive interdisciplinary synthesis of biblical and astronomical data yet produced. It is a remarkable feat that a biblical scholar has been able to master the scientific data at such a level of erudition. No discussion of the historicity of the Star of Bethlehem can afford to ignore this book."

Simon Gathercole, Senior Lecturer in New Testament, University of Cambridge; author, *Where Is Boasting?* and *The Preexistent Son*

"In this erudite, engrossing, and compelling book, Colin R. Nicholl painstakingly develops a new solution for the enduring mystery of the Star of Bethlehem, bringing together the biblical story and ancient descriptions of the sky with modern understandings of astronomy. Nicholl's argument—that the celestial visitor was actually a phenomenal comet that passed perilously close by Earth in 6 BC—is certain to be discussed and debated for years to come."

Duncan Steel, Visiting Astronomer, Armagh Observatory; Visiting Professor, University of Buckingham; author, *Eclipse* and *Marking Time*

"This is an amazing study. It reads like an absorbing detective story. Nicholl starts with a detailed reading of Matthew's account of the visit of the Magi. He makes the case, based on ancient and modern astronomy, that the star of Bethlehem was a great comet whose behavior in the sky would have been interpreted by ancient astrologers as announcing the birth of a Jewish Messiah. The depth and breadth of learning that Nicholl displays is prodigious and persuasive, and all future studies will have to take its proposals most seriously."

Gordon Wenham, Adjunct Professor of Old Testament, Trinity College, Bristol

"This is an outstanding book, quite breathtaking in the range of its scholarship, yet a page-turner in terms of its accessibility. Colin R. Nicholl is eminently followable, using detective skills to assess the biblical, historical, and astronomical evidence that lead him to conclude that the 'star' of Bethlehem was a comet. A real tour de force that I recommend unreservedly to a broad readership."

John C. Lennox, Professor of Mathematics, University of Oxford

"Colin R. Nicholl brilliantly tackles a subject that has been debated for centuries. *The Great Christ Comet* is a captivating book on the Star of Bethlehem. You will not be able to put this book down!"

Louie Giglio, Pastor, Passion City Church, Atlanta, Georgia; Founder, Passion Conferences

“Readers of this book will learn a lot of astronomy, history, and theology. Nicholl has produced a remarkable and fascinating book that combines the best of recent scientific scholarship with the best biblical scholarship. *The Great Christ Comet* is a model of the integration of science and Scripture, and presents a tightly reasoned and highly plausible argument that the Star was a comet. A terrific read!”

Donald A. Hagner, George Eldon Ladd Professor Emeritus of New Testament, Fuller Theological Seminary; author, *Matthew* (Word Biblical Commentary)

“Fascinating reading. Clearly the author has not only done his homework but has meticulously mined both quarries, theological and astronomical.”

Paul L. Maier, Russell H. Siebert Professor of Ancient History, Western Michigan University

“Nicholl breaks important new ground in the quest for the historical Star of Bethlehem. Not only does he develop a formidable case for identifying the Star as a great comet; he also proposes a fresh explanation as to what it may have done to so impress the Magi. Nicholl has a clear understanding of the relevant areas of modern astronomy, and especially of the nature, evolution, and orbital dynamics of comets as currently understood. This work will be of great interest to astronomers, theologians, historians of science, and the general public, and will hopefully stimulate important new lines of scientific enquiry.”

Mark E. Bailey MBE, Director, Armagh Observatory; coauthor, *The Origin of Comets*

“Colin R. Nicholl’s magnum opus, which interprets Matthew’s Nativity ‘star’ as a spectacular comet, is fascinating and illuminating. He supports his thesis by appealing to Babylonian, classical, and patristic texts as well as modern astronomical research on comets. His comprehensive mastery of the data enables him to present a detailed scenario of the Magi’s initial sighting, subsequent observations, journey, and visit to the house in Bethlehem to view the newborn Christ child.”

Edwin M. Yamauchi, Professor Emeritus of History, Miami University

“This is the only book I know of by a biblical scholar on the Star of Bethlehem. It is rooted in a detailed analysis of the biblical text and offers a comprehensive scientific explanation for the Star of Bethlehem. Nicholl makes a compelling case that the Star was a comet, supporting this conclusion with a mass of evidence from a variety of sources. I strongly recommend his work on one of the most fascinating biblical mysteries.”

Sir Colin Humphreys, Professor and Director of Research, Department of Materials Science and Metallurgy, University of Cambridge; author, *The Miracles of Exodus*

“This rigorous and compelling book sets a new standard for the study of the Star of Bethlehem. No prior investigation of this mystery has brought the disciplines of biblical studies and astronomy together in such a clear, thoroughly researched, and decisive way. Nicholl lets us observe the skies with the Magi and walk with them all the way to the baby Jesus in Bethlehem. This richly illustrated and pleasantly accessible work is a must-read for everyone even vaguely interested in the Magi’s Star. I enthusiastically recommend this eye-opening book!”

John J. Hartmann, former Assistant Lecturer of Greek, University of Cambridge; Pastor, New Reformation Church, St. Louis, Missouri

“Colin R. Nicholl offers an impressive case for understanding the Magi’s star as a comet. He has produced a readable and beautifully illustrated introduction to relevant fields of astronomy, and has laid out pertinent historical data with proportion, care, and integrity. Based on detailed biblical study and current astronomical knowledge, Nicholl develops a fascinating reconstruction of the unprecedented events relating to the Star and the Magi.”

John Nolland, Tutor in New Testament, Trinity College, Bristol; Visiting Professor, University of Bristol; author, *The Gospel of Matthew* (The New International Greek Testament Commentary)

“*The Great Christ Comet* is a significant new contribution to the long-running debate over the nature of the Star of Bethlehem. One of the book’s many strengths is its critique of earlier, widely discussed hypotheses proposed to explain the Star. The book also explains the relevant astronomy very clearly at a level the general reader should have no trouble following. The case Nicholl makes for the Star being a great comet is certainly worthy of serious consideration.”

Martin Gaskell, Department of Astronomy, University of California at Santa Cruz

“It is a real pleasure to commend *The Great Christ Comet* to everyone who has ever wondered what could possibly account for the appearance of the Star of Bethlehem. Few have expended as much earnest research, or written as clearly, on the astronomical basis for this special event as has Colin R. Nicholl. When you’re reading this book, the pages turn rapidly—similar to the way the pages fly when you’re engrossed in a mystery novel. All readers will be richly rewarded!”

Walter C. Kaiser, Jr., Colman M. Mockler Distinguished Professor Emeritus of Old Testament and President Emeritus, Gordon-Conwell Theological Seminary

The Great Christ Comet

Revealing the True Star of Bethlehem

COLIN R. NICHOLL

The Great Christ Comet: Revealing the True Star of Bethlehem

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To my parents, Drew and Florence Nicholl

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Foreword

Since observing Comet Kohoutek in my senior year of high school, I have had a passion for comets. I have observed more than 300 comets and have written six volumes documenting recorded comets from the first millennium BC all the way through to modern times (*Cometography: A Catalog of Comets*, 6 vols. [Cambridge: Cambridge University Press, 1999-]).

I have also been interested in the Star of Bethlehem for many years and have been of the strong belief that it was a comet rather than something else like a planetary conjunction or a nova. I was pleasantly surprised when Colin Nicholl approached me on the subject in 2011, and I quickly became fascinated by his fresh approach to the topic and the new information he was contributing to the centuries-old debate about the identity of the Star. Colin was being aided by David Asher and Mark Bailey of the Armagh Observatory. I too was eager to assist him in his exciting research project. What Colin was doing with respect to the Star of Bethlehem reminded me of what historian John T. Ramsay and astronomer A. Lewis Licht had done with reference to Caesar's Comet of 44 BC.

Colin had developed a new case for the Star of Bethlehem being a comet and was proposing that Revelation 12:1–5, a Biblical text previously unharvested in discussions about the Star, revealed what the Magi had seen in the eastern sky that prompted them to travel westward to Judea. Having deduced

that only a comet could do what this passage described, Colin had developed a timeline of the comet's appearances and movement across the sky. From this I recognized that a close approach to Earth was necessary, as well as an unusual Earth-comet-Sun geometry.

Over the following months Colin and I dialogued as he continued to study cometary astronomy. During that time Colin came to the sensible conclusion that the Christ Comet was a long-period comet, and he figured out that the comet must have orbited in a retrograde direction. As for me, I was feverishly working on the sixth volume of *Cometography* and struggling to find time to complete my orbital calculations based on Colin's data. Meanwhile, Colin took it upon himself to work out the orbit within the set parameters. He then presented me with his considered orbit and I found that it was in accord with what I had been concluding based on my own preliminary investigations.

Using my own research into the probable brightness of Halley's Comet in ancient times and the likely magnitude required for its discovery at each apparition, I was able to calculate brightness parameters for the Christ Comet based on Colin's orbit. This revealed that the Star became a spectacular object visible in broad daylight for a period of time. It was brightest at the time when it heliacally rose in the eastern sky in the aftermath of its perihelion. The comet's maximum brightness was reminiscent of what was observed

for the Great September Comet of 1882 and Ikeya-Seki in 1965, the brightest comets in the last two centuries. 30 to 40 days after the comet switched to the western sky, the Christ Comet would have been a striking object in the southern evening sky, being visible from about 6 p.m. until it set upright in the west around midnight. The profile of the comet that emerges is impressive—it would have been the largest comet to come within Earth's orbit in recorded history and, as Colin claims, the greatest comet in history.

I was and remain excited about and fascinated by Colin's work on the Star of Bethlehem, and I very much enjoyed working on the project with him. I read through the majority of the manuscript and liked everything that I read. The research is solid and everything is explained very well. In every respect this volume is a remarkable achievement. I regard it as the most important book ever published on the Star of Bethlehem and enthusiastically commend it.

Gary W. Kronk

Preface

The Star of Bethlehem is one of the greatest mysteries in the Bible, in history, and in astronomy. What was the Star, and what precisely did it do that so deeply impressed the Magi? The modern academic quest to identify the Star can be traced back to Johannes Kepler in the seventeenth century. Regrettably, after four centuries of scholarly discussion, we are still far from a solution.

Part of the reason for the lack of any significant advance is that Biblical scholars, intimidated by the astronomical aspects of the task or preferring to think of the Magi's Star as miraculous or mythical, have given the debate a wide berth. If they mention the topic at all, their comments tend to be brief, superficial, and inaccurate.

As a Biblical scholar with a high regard for the historical credentials of the Scriptural text, I have felt constrained to leave my comfort zone and wade into the field of astronomy in order to follow up Biblical leads concerning the Star. Doing so has been stretching and uncomfortable at times, but has also been incredibly rewarding and invigorating. In this book I present the fruits of my research—what I believe is a decisive breakthrough in the quest for the historical Star of Bethlehem.

Any progress that I have made is in no small part due to help from others. In particular, I wish to express my profound gratitude to three astronomers who aided me greatly in my work from a very early stage.

First, a word of special thanks to David Asher, Research Fellow at the Armagh Ob-

servatory in Northern Ireland. David is one of the top astronomers in his field, respected the world over. How often I have coveted his brain! Mercifully, David graciously and sacrificially shared his with me, simply because he believes in the academic enterprise and was fascinated by my research. He made many complicated calculations for me, spent two whole days in conversation with me in Armagh, and wrote countless painstaking, long emails answering my questions.

Mark E. Bailey, MBE, Director of the Armagh Observatory, played an important part in guiding me in astronomical matters. Mark is always brimming with creative, fresh, and penetrating ideas, questions, and insights. He read over an early draft of part of the book and offered valuable feedback, and he took the time to answer my questions and keep me informed of pertinent developments in astronomy.

Gary W. Kronk, highly esteemed author of the authoritative six-volume *Cometography* (Cambridge University Press), offered extensive assistance, support, and encouragement. Gary read several drafts of many chapters of the book, made calculations for me, answered countless questions, and graciously agreed to write the foreword.

I shared my discoveries and research openly with each of these three scholars, and their engagements with me influenced my thinking at many points. As much as they helped me, however, they bear no responsibility for any failings that remain. Nor, of

course, should it be assumed that they concur with all that I have written.

Two scholars assisted me by reading through an entire draft of the book and offering incisive criticism and counsel: John J. Hartmann, Pastor of New Reformation Church in St. Louis; and Paul L. Maier, Russell H. Siebert Professor of Ancient History at Western Michigan University.

Other academics were also extremely helpful, even when they did not know the details of the project I was working on. Andreas Kammerer, a highly esteemed German amateur astronomer; David W. Pankenier, Professor of Chinese at Lehigh University in Bethlehem, Pennsylvania; and Josefina Rodríguez Arribas, researcher at the Warburg Institute of the University of London, each graciously responded to a number of questions by email about comets, Imperial Chinese history, and medieval Jewish astrology, respectively. Professor Rodríguez Arribas also read through a few pages I wrote to check that my understanding of Jewish medieval astrology was correct. I am grateful to Peter Jenniskens, senior research scientist at the Carl Sagan Center of the SETI Institute and at NASA's Ames Research Center, for doing orbital calculations for me and answering my questions about meteors and meteor showers.

Thanks are due the following scholars for their assistance: Peter V. Bias, Professor of Business and Economics at Florida Southern College and author of *Meteors and Meteor Showers*; Paul C. Hewett of Corpus Christi College, Cambridge, and, until recently, Director of the Institute of Astronomy of the University of Cambridge; Chandra Wickramasinghe, Director of the Buckingham Centre for Astrobiology, University of Buckingham; Sir Colin J. Humphreys, former Goldsmiths' Professor of Materials Science at the University of Cambridge; and Roberta Olson, Curator of Drawings at New-York Historical Society. Thanks also to Roger MacFarlane and Paul Mills for graciously giving me pre-

publication access to relevant parts of their forthcoming work (the first of its kind) *Hipparchus' Commentary on the Phaenomena of Aratus and Eudoxus*.

Tyndale House Library (and, in particular, Ian Wilson) in Cambridge, England, provided an invaluable service by sending scanned versions of journal articles in Biblical studies that I was otherwise unable to obtain. Atlantic Productions generously sent me a complimentary DVD copy of the documentary "Star of Bethlehem: Behind the Myth" that they produced.

I am grateful to the makers of the following planetarium software programs: Project Pluto's Guide, Simulation Curriculum Corporation's Starry Night® Pro, and United Soft Media's Redshift. Calculations regarding comet brightness and size are based on Guide 9.0. Star and planet brightness values and the apparent positions of a comet in the sky are largely derived from Starry Night® Pro. Determinations of the location of planets and comets in space are based on Redshift 7. Thanks are due Seth Meyers of Simulation Curriculum Corporation for permission to make use of images from Starry Night® Pro.

Images of the planets in the illustrations are courtesy of NASA.

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I am thankful for the backing of my family. In particular, I would like to express my gratitude to my brother Roy for his friendship, kindness, wise counsel, and enthusiastic support. In addition, my father-in-law engaged me in many conversations regarding the Star of Bethlehem and helped kindle in me an interest in the modern debate.

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This book is dedicated to my father and mother, Drew and Florence Nicholl. I count it a great privilege to have them as my parents. Their love, faithfulness, prayers, and example have been a firm bedrock in my life. From my earliest years they have consistently got behind me as I have pursued my passion to study the Bible. Anything good that issues from my life may be credited to God and to them.

Colin Nicholl
North Coast, Northern Ireland
SDG

“Star of Wonder”

Introducing the Bethlehem Star

The Bethlehem Star is, without doubt, the most famous and celebrated astronomical entity in history. No other celestial object captures the attention of the world like it, particularly at Christmastime. This enormous fascination is found among Christians and non-Christians, young and old, and most peoples of the world.

THE STAR IN THE MODERN WORLD

Every December, planetariums and television channels put on special shows to discuss the Star, keenly aware that few, if any, astronomical issues or Biblical mysteries hold the spell over the popular imagination that the Magi’s celestial phenomenon does. Astronomers, even some who scarcely believe in God, give public lectures on it.

Each Christmas the Star features prominently in our celebrations—it is often found as the crowning glory of Christmas trees, embossed on Christmas cards, or perched loftily over the sets of nativity plays. Many of our Christmas carols mention the Star, and a good number are focused on it. Among the many is “We Three Kings of Orient Are.” In

it we actually join one of the Magi in addressing the Star:

Star of wonder, star of light,
Star with royal beauty bright,
Westward leading, still proceeding,
Guide us to thy perfect light.¹

This love for the Star is apparent all across the globe, but in some places the Magi’s Star enjoys special distinction.

Understandably, in few locations is the Star more celebrated than in the town of Bethlehem in the West Bank. There pilgrims can stay at the Bethlehem Star Hotel, do some shopping at the annual Christmas Market on Star Street, have a coffee at Stars & Bucks Café, and visit Manger Square, where images of the Bethlehem Star abound, none more striking than the massive illuminated comet set up on a pole. On Christmas Eve the annual procession to the Church of the Nativity culminates at a grotto (cave), where a large silver 14-pointed star marks the spot where, it is claimed, Jesus was born.

Bethlehem, Pennsylvania, known as

¹“We Three Kings,” by John Henry Hopkins (1792–1868).

“Christmas City, USA,” relishes in the stellar associations of its name. The most prominent manifestation of this is a spectacular 90-foot-high, 8-rayed star, illuminated by 250 bulbs, on South Mountain, that stunningly beams out over the city and is visible 20 miles away.²

Similarly, Palmer Lake in Colorado boasts a 500-foot-tall, 5-pointed, incandescent Star of Bethlehem on the side of Sundance Mountain.³

Perhaps no people celebrates the Star of Bethlehem more than the Poles. To them Christmas is known as “Little Star.” Festivities formally commence around sunset on Christmas Eve, when the first star is spotted and is called “the Star of Bethlehem.” The Poles enjoy a “Star Supper,” during which a “heavenly Star” cookie might be served. Then, according to the tradition practiced in many parts of Poland, the “Star Man,” the Santa-like gift giver in Poland who represents “the Little Star” itself,⁴ appears, bearing presents from “Star Land.”⁵ He is accompanied by the “Star Boys,” carollers dressed up as the Magi or other characters from the Christmas Story, and who carry a Star lantern.⁶

In parts of western Alaska, Orthodox believers with a Ukrainian heritage practice the yuletide tradition of “Starring”—carollers spin brightly decorated 8-pointed stars as they go from house to house, singing and giving gifts to children.⁷

And we should not neglect to mention the people of Mexico, who remember the Bethlehem Star when they create (and then smash!) vibrantly colored, 7-pointed Christmas piña-

tas, and when they decorate their houses with poinsettias.

The pervasive influence of the Star of Bethlehem can be detected in fields as diverse as horticulture and space astronomy. Many star-shaped flowers have been named after it, including one kind of orchid, two types of lilies, and five species of the perennial *Ornithogalum*. Moreover, the spacecraft Giotto, sent to investigate Halley’s Comet, was named after the artist who painted a magnificent fresco on the ceiling of the Arena Chapel in Padua, Italy, in which he portrayed the Bethlehem Star as a comet (see fig. 6.1).

POPULAR PORTRAYALS OF THE STAR

As famous and beloved as the Bethlehem Star is in the modern world, conceptions of it are surprisingly varied. Anyone leafing through carol books, collections of religious-themed Christmas cards, or nativity storybooks for children, or watching nativity plays or cinematic portrayals of the birth of Jesus will be exposed to a wide range of ideas concerning the Star. There is a consensus that the Star was an objective phenomenon, was beautiful and bright, and accompanied the Magi as they traveled westward to Judea; but beyond that, there is little agreement.

With respect to Christmas songs, while some suggest that the Star was a new astronomical entity and one even claims that it was a tailed comet, most are content to leave the question of the Star’s identity mysterious. The object is sometimes presented as so bright that its light bleaches out that of the other stars, and indeed as visible not only during the hours of darkness but also during the day-

² Wikipedia, s.v. “Bethlehem, Pennsylvania,” http://en.wikipedia.org/wiki/Bethlehem,_Pennsylvania#Christmas_star (last modified April 1, 2013).

³ See “Star Light, Star Bright,” Palmer Lake Historical Society, <http://palmerdividehistory.org/startale.html> (last modified May 7, 2011).

⁴ Wikipedia, s.v. “Christmas in Poland,” http://en.wikipedia.org/wiki/Christmas_in_Poland (last modified February 20, 2013).

⁵ Maria Hubert von Staufer, “Christmas in Poland,” <http://www.christmasarchives.com/wpoland.html> (last modified October 25, 2010).

⁶ Ibid.; Barbara Rolek, “Polish Christmas Traditions,” <http://easteuropeanfood.about.com/od/christmaseve/a/Polishxmas.htm> (last modified May 3, 2013).

⁷ Rebecca Luczycki, “Starring in the Night,” *Alaska* magazine, http://www.alaskamagazine.com/article/77/09/starring_in_the_night (accessed May 3, 2014).

time. As to color, some express a preference for its being silver.

Christmas cards, children's storybooks, and nativity play sets portray the Star as intensely bright, often rivaling the full Moon, as stunningly golden or silver, and as very beautiful. Sometimes it is presented as a curved-tailed comet, but most of the time it is an extremely bright, multi-rayed star with a particularly long downward ray. The Star is frequently depicted hanging over the manger, in which cases the downward ray is pointing down to Jesus below, with or without the shepherds and/or Magi in attendance. Of course, the Star is also included in scenes of the Magi traveling from their homeland toward Judea by camel.

Over the last couple of decades, a number of popular computer-generated imagery (CGI) films have portrayed the Star. Two of them present it as a conjunction, or alignment, of planets and stars.

The 2006 multi-million-dollar-budget movie *The Nativity Story*⁸ suggests that the Star consisted of the planets Jupiter and Venus becoming perfectly aligned with the star Regulus in the constellation Leo. As the Magi leave Jerusalem for Bethlehem, the three bright spots suddenly merge (at great speed, it must be said!), with the result that a long downward beam of light with an intensity approaching that of the Sun shines through a gap in the clouds into the cave where Mary is delivering Jesus.

Similarly, according to the British four-part TV drama *The Nativity*, first broadcast on BBC television in 2010,⁹ the Star consisted of Jupiter, Saturn, and Regulus in perfect conjunction. When the Magi enter Bethlehem just as the child is emerging from Mary's womb,

Jupiter, Saturn, and Regulus are merging immediately above her, causing a brightness like that of the full Moon to shine forth.

However, other CGI films have sought to portray the Star in more traditional terms. The 1999 Universal Studios made-for-TV movie *Mary, Mother of Jesus*¹⁰ shows it as a very large four-rayed, cross-shaped new star hanging over Bethlehem. This star is brighter than Venus, although not as intensely bright as the full Moon. Moreover, the popular 2013 live-action History Channel miniseries *The Bible*¹¹ portrays the Star as an incredibly bright star with eight rays.

It is clear, then, that in the modern world conceptions of the Star vary greatly.

THE ONGOING MYSTERY OF THE STAR

The diversity of contemporary portrayals of the Star is simply a reflection of the scholarly debate concerning it. As bright as the Star evidently was, for almost two millennia its identity has been enshrouded in a mysterious darkness.

The phenomenon witnessed by the Magi was the subject of speculation in the first millennium, and fascination regarding it endures to the present. The modern debate began with Johannes Kepler in the early seventeenth century. Even now, in the twenty-first century, the number of theories offered to explain the Star seems to grow each year. Any interested party will have to sort through countless hypotheses—was it a planet like Jupiter, a star, a conjunction of planets, a nova or supernova, a comet, a miraculous phenomenon, or something else? It has justifiably been described by one respected astronomer as “the greatest of all

⁸Mike Rich, *The Nativity Story*, directed by Catherine Hardwicke, produced by Wyck Godfrey, cinematic release December 1, 2006 (Los Angeles: New Line Cinema, 2007), DVD.

⁹Tony Jordan, *The Nativity*, television miniseries, directed by Coky Giedroyc, produced by Ruth Kenley-Letts, aired on the BBC, December 2010 (Amphill, England: Red Planet Pictures, 2011), DVD.

¹⁰Albert Ross, *Mary, Mother of Jesus*, television film, directed by Kevin Connor, produced by Eunice Kennedy Shriver, aired on NBC TV, November 14, 1999 (Universal City, CA: Universal Studios, 2010), DVD.

¹¹Roma Downey and Mark Burnett, *The Bible*, television miniseries, produced by Roma Downey and Mark Burnett, aired on the History Channel, March 3–31, 2013 (Beverly Hills, CA: Lightworkers Media, 2013), DVD.

detective stories”¹² and “perhaps the greatest of all astronomical mysteries.”¹³

Newspapers and magazines publicize any new hypothesis as though it might just be the critical breakthrough that enables us to identify the Star, no matter how profoundly and obviously flawed the theory may be. Whole books and DVDs are devoted to the task of identifying the Star. Some websites that promote particular theories get hundreds of thousands or even millions of hits. Internet discussion groups are weighed down with countless armchair experts sharing their hunches with the world.

The multiplicity of views and extravagant claims made by some, coupled with the lack of any real progress in the debate, has naturally engendered cynicism among many regarding the whole task. Indeed people would be forgiven for doubting that any definitive explanation of the Star will ever be presented, and for approaching any new proposed solution to the age-old problem with a healthy degree of skepticism. The whole debate about the Star of Bethlehem, after all, has become disconcertingly speculative. All too often, scholars have put forward astronomical explanations of the Star that are only superficially rooted in Matthew’s account and, upon close inspection, fail to take seriously key aspects of the narrative.

MOVING BEYOND FUTILE SPECULATION

Part of the problem is that academic interest in the Star of Bethlehem has been largely confined to the astronomical community, with relatively few contributions from the theological community. This has resulted in a scholarly debate that is heavy on astronomy but light on theology and history. Astronomer

Mark Kidger has humbly admitted that “An astronomer may not be the best qualified person to take on such a task [the quest for the historical Star], particularly in areas where even the greatest experts have profound and fundamental differences, and where many of the agreed-upon facts are based on the penetrating and complicated interpretation of subtle clues.”¹⁴

The history of literature on the Star bears out the truth of Kidger’s admission: the contributions of astronomers untrained in Biblical studies are all too often flawed in their treatment of the source material. They do not take sufficient account of critically important matters such as genre, subgenre, grammar, and historical background. Even the best astronomical essays on the topic have a tendency to discount cavalierly aspects of the Matthean account.

It should surely go without saying that any quest for the historical Star must be built firmly on the foundation of a rigorous analysis of Matthew 1:18–2:18. Only when this text has been mastered and the profile of the Star fully laid out can one realistically hope to deduce the precise astronomical phenomenon in view. What the whole debate concerning the Star calls for, then, is input from Biblical scholars.

Of course, just as astronomers contributing to the debate face the problem of being out of their comfort zone and area of specialization when they examine the pertinent Biblical and early Christian texts, so also Biblical scholars find themselves in alien territory when they move into the astronomical aspects of the task. What is needed, then, is interdisciplinary work and cooperation between the astronomical and theological communities.¹⁵

By training, I am a Biblical scholar. I have

¹² Mark R. Kidger, *The Star of Bethlehem: An Astronomer’s View* (Princeton, NJ: Princeton University Press, 1999), xi.

¹³ *Ibid.*, ix.

¹⁴ *Ibid.*, ix–x.

¹⁵ One positive recent development on this front was the multidisciplinary colloquium on the Star of Bethlehem at the University of Groningen on October 23–24, 2014; see <http://www.astro.rug.nl/~khan/bethlehem> (accessed July 5, 2014). A collection of papers presented at the colloquium is due to be published by Brill.

therefore been forced to spend the last few years trying to come to grips with relevant fields of astronomy so that I could develop the implications of the Biblical data in the astronomical arena. Equally importantly, respected members of the international astronomical community, professional and amateur, have graciously and indeed sacrificially given of their time and energy to assist me on the celestial end of things.

In this book I offer what I am convinced is the solution to the age-old mystery of the Star of Bethlehem. What I propose is rooted in a careful consideration of the relevant Biblical material and is, I believe, able to explain everything said about the Star in a natural and compelling way and in harmony with current astronomical knowledge.

When it comes to claims of major advances in the understanding of long-debated Biblical mysteries, many people are naturally very skeptical. We have all seen too many television documentaries on mysteries of the Bible. A grandiose claim is made at the start of the program, and we wait patiently—or, more often, impatiently—through commercials and a long, drawn-out build-up for the narrator finally to unveil the supposedly great discovery. When the program does eventually get there, almost without exception we end up rolling our eyes and regretting that we have just wasted an hour of our lives. The most common, but by no means the only, problem is that key details of the Biblical text have been twisted or ignored in order to accommodate the featured hypothesis.

Over against this tendency, my treatment of the Star of Bethlehem mystery will be driven by the Biblical data and will not play fast and loose with it.

Surprisingly, many have dismissed any possibility that a straightforward reading of

Matthew's text is compatible with a natural astronomical phenomenon. R. A. Oriti has written, "Those who believe in a literal [interpretation] of the Bible may choose to believe that the Star literally moved and stood over the young child. Such an interpretation must rule out any astronomical explanation."¹⁶ Even Mark Kidger has claimed that, if the Scriptural narrative is interpreted "literally," any scientific explanation is impossible.¹⁷

Certainly, if we were to judge the accuracy of Matthew's text according to how well it matches the various proposals regarding the Bethlehem Star offered in recent centuries, we might be tempted to concur with these negative assessments. The respected New Testament scholar Raymond Brown made the following statement: "*Really no one, including the astronomers, takes everything in the Matthean account as literal history.* Matt[hew] says that the magi saw the star (not planets, not a comet) of the King of the Jews at its rising (or in the East), and that it went before them from Jerusalem to Bethlehem and came to rest over where the child was. In recent literature I have not found an astronomical proposal that fits that literally."¹⁸

Of course, we should not excuse a low view of the accuracy of Matthew's narrative about the Magi and the Star on the ground that no astronomical hypothesis has yet succeeded in explaining all of its details.

As we shall see in the following chapter, Matthew's Gospel should be classified as an ancient Greco-Roman biography with a definite interest in historical accuracy. If Matthew, our major source regarding the Star, cannot be trusted in the little information that he gives us about it, then the quest for the historical Star is doomed to failure. Everyone in the debate should accept that the

¹⁶R. A. Oriti, "The Star of Bethlehem," *The Griffith Observer* 39.12 (December 1975): 9.

¹⁷Kidger, *Star of Bethlehem*, viii.

¹⁸Raymond Brown, *The Birth of the Messiah: A Commentary on the Infancy Narratives in the Gospels of Matthew and Luke*, 2nd ed. (New York: Doubleday, 1993), 612 (italics his). He goes on to state that Matthew's nativity account might be deemed essentially or partly historically accurate if we allow for poetic license and the use of symbolism.

preferred hypothesis is the one that matches Matthew's account most closely, and the ideal hypothesis is the one that fits it perfectly. Hence the more any hypothesis is in tension with the data in Matthew's Gospel, the more it should be regarded as inferior. Only when we begin with Matthew's account, interpret it straightforwardly and sympathetically, and resist the temptation to veer away from it in order to accommodate a pet theory can we rescue the discussion from the mire of endless speculation.

MATTHEW'S ACCOUNT OF THE MAGI AND THE STAR

We must now turn our attention to the Gospel of Matthew's account of the Nativity and, in particular, the Magi and the Star. We find this in Matthew 1:18–2:23. According to Matthew, an extraordinary astronomical phenomenon caused some magi from the east to make a long journey west to Judea in order to welcome the newborn King of the Jews. Remarkably, when they arrived at their final destination, Bethlehem of Judea, the Star pointed out to them the house where the baby Messiah and his virgin mother were staying:

Now the birth of Jesus Christ took place in this way. When his mother Mary had been betrothed to Joseph, before they came together she was found to be with child from the Holy Spirit. And her husband Joseph, being a just man and unwilling to put her to shame, resolved to divorce her quietly. But as he considered these things, behold, an angel of the Lord appeared to him in a dream, saying, "Joseph, son of David, do not fear to take Mary as your wife, for that which is conceived in her is from the

Holy Spirit. She will bear a son, and you shall call his name Jesus, for he will save his people from their sins." All this took place to fulfill what the Lord had spoken by the prophet:

"Behold, the virgin shall be with child¹⁹ and bear a son, and they shall call his name Immanuel"

(which means, God with us). When Joseph woke from sleep, he did as the angel of the Lord commanded him: he took his wife, but knew her not until she had given birth to a son. And he called his name Jesus.

Now after Jesus was born in Bethlehem of Judea in the days of Herod the king, behold, magi²⁰ from the east came to Jerusalem, saying, "Where is he who has been born king of the Jews? For we saw his star at its rising²¹ and have come to worship him." When Herod the king heard this, he was troubled, and all Jerusalem with him; and assembling all the chief priests and scribes of the people, he inquired of them where the Christ was to be born. They told him, "In Bethlehem of Judea, for so it is written by the prophet:

'And you, O Bethlehem, in the land of Judah,
are by no means least among the rulers of Judah;
for from you shall come a ruler
who will shepherd my people Israel.'

Then Herod summoned the Magi secretly and ascertained from them

¹⁹ My translation.

²⁰ I prefer "magi" (ESV footnote) to the rendering "wise men" (ESV text) and therefore will use that term (and "the Magi") throughout.

²¹ My translation.

what time the star had appeared. And he sent them to Bethlehem, saying, "Go and search diligently for the child, and when you have found him, bring me word, that I too may come and worship him." After listening to the king, they went on their way. And behold, the star that they had seen at its rising went before them until it came and stood²² over the place where the child was. When they saw the star, they rejoiced exceedingly with great joy. And going into the house they saw the child with Mary his mother, and they fell down and worshiped him. Then, opening their treasures, they offered him gifts, gold and frankincense and myrrh. And being warned in a dream not to return to Herod, they departed to their own country by another way.

Now when they had departed, behold, an angel of the Lord appeared to Joseph in a dream and said, "Rise, take the child and his mother, and flee to Egypt, and remain there until I tell you, for Herod is about to search for the child, to destroy him." And he rose and took the child and his mother by night and departed to Egypt and remained there until the death of Herod. This was to fulfill what the Lord had spoken by the prophet, "Out of Egypt I called my son."

Then Herod, when he saw that he had been tricked²³ by the Magi, became furious, and he sent and killed all the male children in Bethlehem and in all that region who were in their second year or under,²⁴ according to the time that he had ascertained from the Magi.

Then was fulfilled what was spoken by the prophet Jeremiah:

"A voice was heard in Ramah,
weeping and loud lamentation,
Rachel weeping for her children;
she refused to be comforted,
because they are no more."

But when Herod died, behold, an angel of the Lord appeared in a dream to Joseph in Egypt, saying, "Rise, take the child and his mother and go to the land of Israel, for those who sought the child's life are dead." And he rose and took the child and his mother and went to the land of Israel. But when he heard that Archelaus was reigning over Judea in place of his father Herod, he was afraid to go there, and being warned in a dream he withdrew to the district of Galilee. And he went and lived in a city called Nazareth, so that what was spoken by the prophets might be fulfilled, that he would be called a Nazarene.

So many questions fill the mind of the reader. What was this "star"? What was so striking about it? What convinced the Magi to make their trek westward? How could the star appear in the east, guide the Magi to Judea in the west, and then lead them southward from Jerusalem to Bethlehem, and finally pinpoint the very place in Bethlehem where the Virgin Mary and her holy son were? There can scarcely be any doubt that the Star, if it really did exist, was the most extraordinary astronomical phenomenon ever seen by humans.²⁵ Moreover, if it occurred and coincided with the birth of Jesus, then it would constitute a

²²In deference to the preposition that follows ("over" or "above"), I have translated the phrase "came and stood" (cf. NASB) rather than "came to rest" (cf. ESV). See Josephus, *J.W.* 6.5.3 (§289) for the expression "stood over" in an astronomical context.

²³In this context, "double-crossed" would probably be a preferable translation to "tricked."

²⁴Matthew's "two years old or under" actually means "one year old or under," since the Jews reckoned that a baby in the first year of life was already "one year old" and in the second year of life was "two years old." (See, for example, Robert H. Gundry, *Matthew: A Commentary on His Handbook for a Mixed Church under Persecution*, 2nd ed. [Grand Rapids, MI: Eerdmans, 1994], 35). "In their second year or under" is a preferable, dynamic-equivalent translation of the Greek.

²⁵Cf. David W. Hughes, *The Star of Bethlehem Mystery* (London: J. M. Dent, 1979), 13.

dramatic corroboration of Jesus's claim to be the Messiah.

OVERVIEW OF THE BOOK

In this book we shall first consider Matthew's Gospel and its account of the Nativity, in particular the story of the Magi's visit to Bethlehem (chapters 2–3). Based on this, we will draw up a suitable set of facts that candidates for the role of the Star of Bethlehem must be able to explain satisfactorily. Thereafter we shall consider the main hypotheses that have been put forward to explain the Star (chapter 4) and make our own case that one particular astronomical phenomenon lies behind the story of the Magi's Star (chapters 5–6). Following that, we shall attempt to extrapolate a more precise picture of the ce-

lestial phenomenon witnessed by the Magi in their homeland (chapter 7) and on what basis they came to the conclusion that it signified the birth of the King of the Jews (chapter 8). Next, our focus shall turn to the task of building a profile of the particular celestial entity known to us as the Bethlehem Star, based on the Biblical text, and, in light of this, draw on modern astronomical knowledge to discover as much as possible about it (chapters 9–10). Finally, after considering the entity in relation to its astronomical counterparts (chapter 11), we shall conclude our study by telling the story of the main participants in the story of the Magi and the Star from the point at which the Massacre of the Innocents occurred (chapter 12).

“I am simply in awe of this book.
An absolutely astonishing triumph.”

ERIC METAXAS, *New York Times* best-selling author, *Bonhoeffer*

The Star of Bethlehem is one of the greatest mysteries in astronomy and in the Bible. What was it? How did it prompt the Magi to set out on a long journey to Judea? How did it lead them to Jesus?

In this groundbreaking book, Colin R. Nicholl makes the compelling case that the Star of Bethlehem could only have been a great comet. Taking a fresh look at the biblical text and drawing on the latest astronomical research, this beautifully illustrated volume will introduce readers to the Bethlehem Star in all of its glory.

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DUNCAN STEEL, comet expert, Armagh Observatory; author, *Marking Time*

“An amazing study. The depth and breadth of learning that Nicholl displays is prodigious and persuasive.”

GORDON WENHAM, Adjunct Professor of Old Testament, Trinity College, Bristol

“An outstanding book, quite breathtaking in the range of its scholarship. A real *tour de force*.”

JOHN C. LENNOX, Professor of Mathematics, University of Oxford

“In every respect this volume is a remarkable achievement. I regard it as the most important book ever published on the Star of Bethlehem.”

GARY W. KRONK, author, *Cometography*; consultant, American Meteor Society

“Nicholl brilliantly tackles a subject that has been debated for centuries. You will not be able to put this book down!”

LOUIE GIGLIO, Pastor, Passion City Church, Atlanta, Georgia

“The most comprehensive interdisciplinary synthesis of biblical and astronomical data yet produced. It is a remarkable feat that a biblical scholar has been able to master the scientific data at such a level of erudition.”

SIMON GATHERCOLE, Senior Lecturer in New Testament, University of Cambridge

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