

the section on Mesoamerica lies somewhere between a strong undergraduate paper and a well-researched Wikipedia page.

The scholarship that *Astronomy in the Ancient World* relies on is primarily from the late 1990s. In many fields, that might not raise red flags; in Mayanist scholarship, however, the 1990s were the period in which our understanding of the hieroglyphic writing system had just begun to mature. Therefore, many of the interpretations generated during that decade relied on tentative readings that did not stand the test of time. McLeod makes extensive use of debunked interpretations, even recalling them for comparative material in his sections on Chinese and Indian astronomies. Perhaps least convincing is the forced attempt to relate the supernova of 1054 to a “Toltec conquest of Chichén Itzá.” The idea that the Toltecs conquered Chichén Itzá has not been considered a legitimate interpretation of the historical record since the 1960s.

Unquestionably, raising the visibility of non-Western sciences has value, but the author has not convinced me that this book has done it. Moreover, the fault is not McLeod’s alone. The lack of careful editorial attention is even revealed on the cover. McLeod describes the book as “an attempt to encourage deeper study and greater understanding of ancient and Non-Western astronomical traditions.” The cover image, however, is the painting *Astronomer by Candlelight* by Dutch Renaissance artist Gerrit Dou.

Gerardo Aldana

University of California, Santa Barbara

NEW BOOKS

Nonlinear science and chaos

Advances in Complex Societal, Environmental and Engineered Systems. M. Nemiche, M. Essaadi, eds. Springer, 2017. \$129.00 (297 pp.). ISBN 978-3-319-46163-2

Bifurcation in Autonomous and Nonautonomous Differential Equations with Discontinuities. M. Akhmet, A. Kashkynbayev. Springer, 2017. \$89.99 (166 pp.). ISBN 978-981-10-3179-3

Complex Dynamics and Morphogenesis: An Introduction to Nonlinear Science. C. Misbah. Springer, 2017. \$79.99 (463 pp.). ISBN 978-94-024-1018-1

Complex Networks and Their Applications V. H. Cherifi, S. Gaito, W. Quattrociocchi, A. Sala,

eds. Springer, 2017. \$279.00 (833 pp.). ISBN 978-3-319-50900-6

First Complex Systems Digital Campus World E-Conference 2015. P. Parrend, P. Bourguine, P. Collet, eds. Springer, 2017. \$139.00 (424 pp.). ISBN 978-3-319-45900-4

An Introduction to Complex Systems: Society, Ecology, and Nonlinear Dynamics. P. Fieguth. Springer, 2017. \$59.99 (346 pp.). ISBN 978-3-319-44605-9

Microwave RF Antennas and Circuits: Nonlinearity Applications in Engineering. O. Aluf. Springer, 2017. \$299.00 (1052 pp.). ISBN 978-3-319-45425-2

Network Analysis Literacy: A Practical Approach to the Analysis of Networks. K. A. Zweig. Springer, 2016. \$129.00 (535 pp.). ISBN 978-3-7091-0740-9

Network-Oriented Modeling: Addressing Complexity of Cognitive, Affective and Social Interactions. J. Treur. Springer, 2016. \$129.00 (499 pp.). ISBN 978-3-319-45211-1

New Advances on Chaotic Intermittency and Its Applications. S. Elaskar, E. del Rio. Springer, 2017. \$129.00 (197 pp.). ISBN 978-3-319-47836-4

Physics of the Human Mind. I. Lubashevsky. Springer, 2017. \$129.00 (380 pp.). ISBN 978-3-319-51705-6

Traffic and Granular Flow '15. V. L. Knoop, W. Daamen, eds. Springer, 2016. \$229.00 (639 pp.). ISBN 978-3-319-33481-3

Nuclear physics

Fundamentals of Nuclear Physics. N. Takigawa, K. Washiyama. Springer, 2017. \$109.00 (269 pp.). ISBN 978-4-431-55377-9

Superphenix: Technical and Scientific Achievements. J. Guidez, G. Prêle. Atlantis Press, 2017. \$179.00 (342 pp.). ISBN 978-94-6239-245-8

Tritium: Fuel of Fusion Reactors. T. Tanabe, ed. Springer, 2017. \$179.00 (365 pp.). ISBN 978-4-431-56458-4

Optics and photonics

Fibre Optic Communication: Key Devices. 2nd ed. H. Venghaus, N. Grote, eds. Springer, 2017. \$279.00 (847 pp.). ISBN 978-3-319-42365-4

Photon Management Assisted by Surface Waves on Photonic Crystals. A. Angelini. Springer, 2017. \$99.99 (64 pp.). ISBN 978-3-319-50133-8

Quantum Plasmonics. S. I. Bozhevolnyi, L. Martín-Moreno, F. García-Vidal, eds. Springer, 2017. \$179.00 (320 pp.). ISBN 978-3-319-45819-9

Particle physics

Geometrodynamics of Gauge Fields: On the Geometry of Yang–Mills and Gravitational Gauge Theories. 2nd ed. E. W. Mielke. Springer, 2017. \$129.00 (373 pp.). ISBN 978-3-319-29732-3

Light Cone 2015. G. Salmè, B. Pasquini, eds. Springer, 2017. \$169.00 (358 pp.). ISBN 978-3-319-50698-2

The Standard Model in a Nutshell. D. Goldberg. Princeton U. Press, 2017. \$85.00 (295 pp.). ISBN 978-0-691-16759-6

Plasmas and fusion

Inertial Confinement Fusion Driven Thermonuclear Energy. B. Zohuri. Springer, 2017. \$179.00 (313 pp.). ISBN 978-3-319-50906-8

Popularizations

A Big Bang in a Little Room: The Quest to Create New Universes. Z. Merali. Basic Books, 2017. \$27.99 (236 pp.). ISBN 978-0-465-06591-2

Can the Laws of Physics Be Unified? P. Langacker. Princeton U. Press, 2017. \$35.00 (271 pp.). ISBN 978-0-691-16779-4

Drawing Physics: 2,600 Years of Discovery from Thales to Higgs. D. S. Lemons. MIT Press, 2017. \$27.95 (246 pp.). ISBN 978-0-262-03590-3

From Bacteria to Bach and Back: The Evolution of Minds. D. C. Dennett. W. W. Norton, 2017. \$28.95 (476 pp.). ISBN 978-0-393-24207-2

Light After Dark II: The Large and the Small—Explaining the Unexplainable in Physics. C. Francis. Matador Books, 2017. \$18.43 *paper* (250 pp.). ISBN 978-1-78589-854-9

Making Sense of Weather and Climate: The Science Behind the Forecasts. M. Denny. Columbia U. Press, 2017. \$35.00 (292 pp.). ISBN 978-0-231-17492-3

Mask of the Sun: The Science, History, and Forgotten Lore of Eclipses. J. Dvorak. Pegasus Books, 2017. \$27.95 (272 pp.). ISBN 978-1-68177-330-8

The Mathematics of Secrets: Cryptography from Caesar Ciphers to Digital Encryption. J. Holden. Princeton U. Press, 2017. \$29.95 (373 pp.). ISBN 978-0-691-14175-6

Quantum Fuzz: The Strange True Makeup of Everything Around Us. M. S. Walker. Prometheus Books, 2017. \$28.00 (448 pp.). ISBN 978-1-63388-239-3

Quicksand: What It Means to Be a Human Being. H. Mankell. Vintage Books, 2017. \$16.95 *paper* (303 pp.). ISBN 978-0-525-43215-9

Rise of the Rocket Girls: The Women Who Propelled Us, from Missiles to the Moon to Mars. N. Holt. Back Bay Books, 2017. \$16.99 *paper* (337 pp.). ISBN 978-0-316-33890-5

Tales of the Quantum: Understanding Physics’ Most Fundamental Theory. A. Hobson. Oxford U. Press, 2017. \$29.95 (287 pp.). ISBN 978-0-19-067963-7

The Traveler’s Guide to Space: For One-Way Settlers and Round-Trip Tourists. N. F. Comins. Columbia U. Press, 2017. \$35.00 (288 pp.). ISBN 978-0-231-17754-2

True Genius: The Life and Work of Richard Garwin, the Most Influential Scientist You’ve Never Heard Of. J. N. Shurkin. Prometheus Books, 2017. \$25.00 (308 pp.). ISBN 978-1-63388-223-2

You Are the Universe: Discovering Your Cosmic Self and Why It Matters. D. Chopra, M. C. Kafatos. Harmony Books, 2017. \$26.00 (276 pp.). ISBN 978-0-307-88916-4

Quantum physics

The Atomic World Spooky? It Ain't Necessarily So!—Emergent Quantum Mechanics, How the Classical Laws of Nature Can Conspire to Cause Quantum-Like Behaviour. T. van Holten. Atlantis Press, 2017. \$149.00 (561 pp.). ISBN 978-94-6239-233-5

Decision Making and Modelling in Cognitive Science. S. Roy. Springer, 2016. \$94.00 (165 pp.). ISBN 978-81-322-3620-7

Photoactive Semiconductor Nanocrystal Quantum Dots: Fundamentals and Applications. A. Credi, ed. Springer, 2017. \$259.00 (174 pp.). ISBN 978-3-319-51191-7

Space and planetary science

Conceptual Shape Optimization of Entry Vehicles: Applied to Capsules and Winged Fuse-lage Vehicles. D. Dirkx, E. Mooij. Springer, 2017. \$129.00 (280 pp.). ISBN 978-3-319-46054-3

EChO — Exoplanet Characterisation Observatory. G. Tinetti, P. Drossart, eds. Springer, 2017. \$229.00 (514 pp.). ISBN 978-94-024-0836-2

Energetic Particles in the Heliosphere. G. M. Simnett. Springer, 2017. \$129.00 (241 pp.). ISBN 978-3-319-43493-3

Exoplanetary Atmospheres: Theoretical Concepts and Foundations. K. Heng. Princeton U. Press, 2017. \$65.00 *paper* (274 pp.). ISBN 978-0-691-16698-8

Magnetospheric Multiscale: A Mission to Investigate the Physics of Magnetic Reconnection. J. L. Burch, R. B. Torbert, eds. Springer, 2017. \$59.00 (745 pp.). ISBN 978-94-024-0860-7

Next Stop Mars: The Why, How, and When of Human Missions. G. Genta. Praxis/Springer, 2017. \$44.99 *paper* (415 pp.). ISBN 978-3-319-44310-2

Orbital Data Applications for Space Objects: Conjunction Assessment and Situation Analysis. L. Chen, X.-Z. Bai, Y.-G. Liang, K.-B. Li. National Defense Industry Press and Springer, 2017. \$179.00 (318 pp.). ISBN 978-981-10-2962-2

The Politics and Perils of Space Exploration: Who Will Compete, Who Will Dominate? L. Dawson. Springer, 2017. \$29.00 *paper* (199 pp.). ISBN 978-3-319-38811-3

Proceedings of the 12th Reinventing Space Conference. S. Hatton, ed. Springer, 2017. \$199.00 (242 pp.). ISBN 978-3-319-34023-4

Shapes and Dynamics of Granular Minor Planets: The Dynamics of Deformable Bodies Applied to Granular Objects in the Solar System. I. Sharma. Springer, 2017. \$179.00 (354 pp.). ISBN 978-3-319-40489-9

Solar and Stellar Flares: Observations, Simulations, and Synergies. L. Fletcher, P. Heinzel, eds. Springer, 2017. \$179.00 (319 pp.). ISBN 978-94-024-0934-5

Solar Planetary Systems: Stardust to Terrestrial and Extraterrestrial Planetary Sciences. A. B. Bhattacharya, J. M. Lichtman. CRC Press/Taylor & Francis, 2017. \$199.95 (540 pp.). ISBN 978-1-4987-6206-9

Space Weather Fundamentals. G. V. Khazanov, ed. CRC Press/Taylor & Francis, 2016. \$279.95 (406 pp.). ISBN 978-1-4987-4907-7

Spaceports Around the World, a Global Growth Industry. E. Seedhouse. Springer, 2017. \$54.00 *paper* (129 pp.). ISBN 978-3-319-46845-7

Stamping the Earth from Space. R. Dicati. Springer, 2017. \$44.00 (429 pp.). ISBN 978-3-319-20755-1

Theory and Design Methods of Special Space Orbits. Y. Zhang, Y. Xu, H. Zhou. National Defense Industry Press and Springer, 2017. \$129.00 (243 pp.). ISBN 978-981-10-2947-9

Statistical physics and thermodynamics

Electronic Control Fires: A Design, Manufacturing and Forensic Technical Perspective. J. E. Small. Springer, 2017. \$54.99 *paper* (70 pp.). ISBN 978-3-319-52844-1

Texts and education

Classical Mechanics: Including an Introduction to the Theory of Elasticity. R. Hentschke. Springer, 2017. \$89.99 *paper* (380 pp.). ISBN 978-3-319-48709-0

From Newton to Mandelbrot: A Primer in Theoretical Physics. 3rd ed. D. Stauffer, H. E. Stanley, A. Lesne. Springer, 2017. \$79.99 (270 pp.). ISBN 978-3-662-53683-4

Introductory Physics II: On the Duality of Electric and Magnetic Phenomena. S. K. Mtingwa. Triangle Science, Education & Economic Development, 2016. \$149.95 (603 pp.). ISBN 978-0-9884346-2-2

Mechanics and Thermodynamics. W. Demtröder. Springer, 2017. \$119.00 *paper* (450 pp.). ISBN 978-3-319-27875-9

Mechanics of Materials — Formulas and Problems: Engineering Mechanics 2. D. Gross et al. Springer, 2017. \$39.99 *paper* (212 pp.). ISBN 978-3-662-53879-1

Optics in Our Time. M. D. Al-Amri, M. M. El-Gomati, M. S. Zubairy, eds. Springer, 2016. \$54.00 (504 pp.). ISBN 978-3-319-31902-5

Problems in Classical and Quantum Mechanics: Extracting the Underlying Concepts. J. D. Kelley, J. J. Leventhal. Springer, 2017. \$99.00 (365 pp.). ISBN 978-3-319-46662-0

Statics — Formulas and Problems: Engineering Mechanics 1. D. Gross et al. Springer, 2017. \$39.99 *paper* (236 pp.). ISBN 978-3-662-53853-1

Theoretical Physics 5: Thermodynamics. W. Nolting. Springer, 2017. \$79.99 (282 pp.). ISBN 978-3-319-47909-5

Wave Motion as Inquiry: The Physics and Applications of Light and Sound. F. Espinoza. Springer, 2017. \$59.00 (232 pp.). ISBN 978-3-319-45756-7

Theory and mathematical methods

Advances in Disordered Systems, Random Processes and Some Applications. P. Contucci, C. Giardinà, eds. Cambridge U. Press, 2017. \$155.00 (371 pp.). ISBN 978-1-107-12410-3

Applied Nonautonomous and Random Dynamical Systems: Applied Dynamical Systems. T. Caraballo, X. Han. Springer, 2016. \$54.99 *paper* (108 pp.). ISBN 978-3-319-49246-9

Asymptotic Expansion of a Partition Function Related to the Sinh-Model. G. Borot, A. Guionnet, K. K. Kozłowski. Springer, 2016. \$89.99 (220 pp.). ISBN 978-3-319-33378-6

Dimensional Analysis for Engineers. V. Simon, B. Weigand, H. Gomma. Springer, 2017. \$99.00 (134 pp.). ISBN 978-3-319-52026-1

Directed Polymers in Random Environments. F. Comets. Springer, 2017. \$49.99 *paper* (199 pp.). ISBN 978-3-319-50486-5

Electronic Transport Theories: From Weakly to Strongly Correlated Materials. N. Singh. CRC Press/Taylor & Francis, 2017. \$169.95 (213 pp.). ISBN 978-1-4987-4359-4

Encyclopedia of Applied and Computational Mathematics. Vols. 1 and 2. B. Engquist, ed. Springer, 2017. \$189.00 *set paper* (1564 pp. *set*). ISBN 978-3-662-52872-3

Engineering Mathematics II: Algebraic, Stochastic and Analysis Structures for Networks, Data Classification and Optimization. S. Silvestrov, M. Rancić, eds. Springer, 2016. \$139.00 (436 pp.). ISBN 978-3-319-42104-9

FDTD Modeling of EM Field Inside Microwave Cavities. S. Narayan, K. M. Divya, V. K. Kanth. Springer, 2017. \$54.99 *paper* (71 pp.). ISBN 978-981-10-3414-5

Lieb-Robinson Bounds for Multi-Commutators and Applications to Response Theory. J.-B. Bru, W. de Siqueira Pedra. Springer, 2017. \$54.99 *paper* (109 pp.). ISBN 978-3-319-45783-3

Many-Body Methods for Atoms and Molecules. R. K. Chaudhuri, S. K. Chattopadhyay. CRC Press/Taylor & Francis, 2017. \$129.95 (219 pp.). ISBN 978-1-4822-1190-0

Methods of Applied Mathematics with a Software Overview. 2nd ed. J. H. Davis. Birkhäuser, 2016. \$99.00 (776 pp.). ISBN 978-3-319-43369-1

Model-Free Stabilization by Extremum Seeking. A. Scheinker, M. Krstić. Springer, 2017. \$54.99 *paper* (127 pp.). ISBN 978-3-319-50789-7

Notes on the Ellipsoidal Function. C.-H. Liang. Science Press and Springer, 2017. \$99.00 (97 pp.). ISBN 978-981-10-2907-3

Proceedings of the 7th International Conference on Discrete Element Methods. Vols. 1 and 2. X. Li, Y. Feng, G. Mustoe, eds. Springer, 2017. \$269.00 *set* (1455 pp. *set*). ISBN 978-981-10-1925-8

Quantum Isometry Groups. D. Goswami, J. Bhowmick. Springer, 2016. \$109.00 (235 pp.). ISBN 978-81-322-3665-8

Random Matrix Theory with an External Source. E. Brézin, S. Hikami. Springer, 2016. \$54.99 *paper* (138 pp.). ISBN 978-981-10-3315-5

Splitting Methods in Communication, Imaging, Science, and Engineering. R. Glowinski, S. J. Osher, W. Yin, eds. Springer, 2016. \$189.00 (820 pp.). ISBN 978-3-319-41587-1 **PT**