

Book Reviews

Stellar Spectra

Spectroscopic Astrophysics. An Assessment of the Contributions of Otto Struve. G. H. Huxford, Ed. University of California Press, Berkeley, 1970. xii, 468 pp., illus. \$10.

This memorial volume is not only a tribute to a great astronomer; it also gives testimony to the influence that Otto Struve has had on other astronomers and their work. As Herbig says in a beautiful introduction, Struve was a great worker and his philosophy was, "If something is worth doing, it is thereby worth publishing. . . . He was impatient with those who, in search of perfection or for other reasons, did not justify their scientific existence by publication."

The work consists of reprints of ten papers by Struve, published between 1929 and 1952, in ten of the fields in which he was interested and in which he was a scientific leader. Following each paper is an article by a specialist in the field who shows the present state of knowledge. This kind of presentation is particularly appropriate for showing the modernity of Struve's work. Take, for instance, the first paper, on spectral classification. Struve in 1933 poses problems which are still open, like those of narrow-line B-type spectra, which belong to two classes of objects; intrinsically slow-rotators and pole-on rotators. "We do not yet know whether the spectra of these two groups of stars are identical," Struve remarks. An answer to this question is just now beginning to be given by theoreticians, while observations are unable to discriminate. The existence of peculiar B stars with weak helium lines or other abnormalities has been underlined by Struve, and only in these last years has it become clear that these peculiar B stars represent the extension to high temperatures of the group of magnetic stars of type A. The conclusion by Struve is that two parameters are insufficient to describe the spectrum of an early-type star, a conclusion which is still valid, as the comment by W. W. Morgan, a pioneer in two-dimensional spectral classifications, underlines: "Struve's discovery was the

forerunner of the present fantastic complexity of the classification of the B stars."

The papers on shell stars, symbiotic stars, and spectroscopic binaries indicate the richness of physical phenomena that the spectra of these objects reveal. Specially close binaries, to which Struve devoted a long series of observations summarized in his famous book *Stellar Evolution* (1950), pose a lot of problems owing to the closeness of the two components and therefore to their physical interactions, like exchange of mass between the two components, formation of streams and envelopes surrounding the whole system, and reciprocal excitation by radiation and possibly by corpuscular radiation. Many of the problems Struve set are now objects of study by theoreticians and have been partly solved; many, as Popper observes, "remain largely unanswered." A difficult observational problem that could now be solved by means of the image intensifiers, which permit spectra of relatively faint stars to be obtained in a few minutes, is that of the limb spectra. Struve pointed out that anomalous intensities of the lines are observed when only a crescent of the eclipsed star is visible, but this problem, as Popper observes, has received little attention, and the few existing observations are in contradiction.

In my opinion, this book can be extremely useful to students and to researchers. Don't think of it as a historical book. The papers by Struve are an example of how criticism and knowledge of physical laws must be used in order to understand observational data. The only criticism that can be made is that the style of the articles of the contributors is not consistent. In some cases the articles are excellent and stimulating reviews of the various subjects, like those one expects to find in such collections as the *Annual Review of Astronomy and Astrophysics* or *Stars and Stellar Systems*; in a few other cases they are personal judgments of Struve's work and his way of attacking problems.

M. HACK

*Osservatorio Astronomico,
Trieste, Italy*

Physician to the West. Selected Writings of Daniel Drake on Science and Society. HENRY D. SHAPIRO and ZANE L. MILLER, Eds. University Press of Kentucky, Lexington, 1970. xl, 424 pp., illus. \$12.50.

Through their selection of writings and introductory essays, the editors present Daniel Drake (1785-1852), the outstanding physician of the Ohio and Mississippi valleys before the Civil War, as scientist and citizen concerned with promoting the intellectual and economic advancement of the entire area.

As a scientist, Drake, in a spirit characteristic of American science at this time, promoted "Baconian" method, repeatedly emphasizing the importance of gathering facts through observation and organizing them with the intent of inducing generalizations. In this Drake followed his teacher Benjamin Smith Barton rather than Benjamin Rush. As the editors point out, the method was particularly suited to the time and place: in a new country even the amateur could make significant contributions by gathering facts, thus furthering the democratization of science. In accordance with his views, Drake played a leading role in the establishment of museums, journals, and similar institutions. His own scientific writings, from an account of an epidemic in 1808 to the monumental *Principal Diseases of the Interior Valley* (1850), exemplify his adherence to the method. It enabled him to examine critically existing theories, but proved inadequate for the construction of new generalizations.

Shapiro argues that Drake's Whiggery was the social-political counterpart to his Baconianism. Miller pays more attention to Drake's interest in urban economic development, and in building unity throughout the West by railroads as well as by scientific institutions. Other selections published here illustrate Drake's concern, especially in his later years, for temperance and good order. Several selections present his ideas on medical education. That he found it necessary to tell entering medical students they must be good boys, not skip class, and work hard tells a lot about the schools of his day.

Overall, the selections, of which most are printed entire and the rest in generous segments, tend to emphasize Drake's scientific method, policy, and program and other public questions more than the medical side of his career. Although it seems to this reviewer that the editors have sometimes strained

Physician To The West Selected Writings Of Daniel Drake On Science And Society

Tobias Bleicker



Physician To The West Selected Writings Of Daniel Drake On Science And Society:

Physician to the West Daniel Drake, 1970 Daniel Drake was a pioneering American physician and prolific writer Born in New Jersey his family moved to Kentucky and by 1800 Drake was in Cincinnati Ohio studying to be a physician He received the first medical diploma granted west of the Allegheny Mountains and finished his studies at the University of Pennsylvania He settled in Cincinnati and was one of the founding organizers of the Medical College of Ohio as well as an asylum a church a medical journal and the Ohio State Medical Society Drake wrote on medical matters but was also interested in geology botany zoology and climate Dr Drake was continually trying to improve his city his profession medical education and scientific research generally He addresses these subjects and more in his writings

Physician to the West Daniel Drake, 1970 *Geographies of the Book* Charles W.J. Withers, 2016-04-15 The geography of the book is as old as the history of the book though far less thoroughly explored Yet research has increasingly pointed to the spatial dimensions of book history to the transformation of texts as they are made and moved from place to place from authors to readers and within different communities and cultures of reception Widespread recognition of the significance of place of the effects of movement over space and of the importance of location to the making and reception of print culture has been a feature of recent book history work and draws in many instances upon studies within the history of science as well as geography *Geographies of the Book* explores the complex relationships between the making of books in certain geographical contexts the movement of books epistemologically as well as geographically and the ways in which they are received

Curators and Culture Joel J. Orosz, 2002-06-28 The author researched ten museums founded prior to 1870 using primary sources Those chosen comprised a geographically diverse sample of pre 1870 American museums and covered a range of disciplines among them art history and natural science

Dictionary of Midwestern Literature, Volume Two Philip A. Greasley, 2016-08-08 The Midwest has produced a robust literary heritage Its authors have won half of the nation's Nobel Prizes for Literature plus a significant number of Pulitzer Prizes This volume explores the rich racial ethnic and cultural diversity of the region It also contains entries on 35 pivotal Midwestern literary works literary genres literary cultural historical and social movements state and city literatures literary journals and magazines as well as entries on science fiction film comic strips graphic novels and environmental writing Prepared by a team of scholars this second volume of the *Dictionary of Midwestern Literature* is a comprehensive resource that demonstrates the Midwest's continuing cultural vitality and the stature and distinctiveness of its literature

The People's Doctors John S. Haller, 2000 Samuel Thomson born in New Hampshire in 1769 to an illiterate farming family had no formal education but he learned the elements of botanical medicine from a root doctor who he met in his youth Thomson sought to release patients from the harsh bleeding or purging regimens of regular physicians by offering inexpensive and gentle medicines from their own fields and gardens He melded his followers into a militant corps of dedicated believers using them to successfully lobby state legislatures to pass

medical acts favorable to their cause John S Haller Jr points out that Thomson began his studies by ministering to his own family He started his professional career as an itinerant healer traveling a circuit among the small towns and villages of Maine New Hampshire and Massachusetts Eventually he transformed his medical practice into a successful business enterprise with agents selling several hundred thousand rights or franchises to his system His popular New Guide to Health 1822 went through thirteen editions including one in German and countless thousands were reprinted without permission Told here for the first time Haller s history of Thomsonism recounts the division within this American medical sect in the last century While many Thomsonians displayed a powerful vested interest in anti intellectualism a growing number found respectability through the establishment of medical colleges and a certified profession of botanical doctors The People s Doctors covers seventy years from 1790 when Thomson began his practice on his own family until 1860 when much of Thomson s medical domain had been captured by the more liberal Eclectics Eighteen halftones illustrate this volume **The University of Louisville** Dwayne D. Cox,William J. Morison,2014-10-17 Dwayne Cox and William Morison trace the twists and turns of the University of Louisville s two hundred year journey from provincial academy to national powerhouse From the 1798 charter that established Jefferson Seminary to the 1998 opening of Papa John Stadium Cox and Morison reveal the unique and fascinating history of the university s evolution They discuss the early failures to establish a liberal arts college tell the extraordinary story of the Louisville Municipal College U of L s separate division for African Americans during the era of segregation detail the political wrangling and budgetary struggles of the university s move from quasi private to state supported institution and confront head on the question of the university s founding date The history of the University of Louisville defies the stereotype of orderly and planned growth For many years the university was essentially a consortium of two professional schools medicine and law Not until the first decade of the twentieth century did the liberal arts gain a firm and permanent foothold Because of its early emphasis on practical professional education and the virtual autonomy of its separate units for many years the University of Louisville is unusual in the annals of higher education Technical Knowledge in American Culture Hamilton Cravens,Alan I Marcus,David M. Katzman,1996-04-30 Addresses the relationships between what modern day experts say to each other and to their constituencies Technical Knowledge in American Culture addresses the relationships between what modern day experts say to each other and to their constituencies and whether what they say and do relates to the larger culture society and era These essays challenge the social impact model by looking at science technology and medicine not as social activities but as intellectual activities **Selbsterkenntnis, Körperfühlen** Ruth Mayer,1997 **Internationale Bibliographie der Rezensionen wissenschaftlicher Literatur** ,1977 **American Studies** ,1983 **American Plagues** Stephen H. Gehlbach,2005 Highly readable American Plagues relays the most important epidemics in U S history The author s engaging writing style helps readers understand the major concepts in the spread of disease and the roles of medicine and public health in combating epidemics Current and classic medical studies are

used as examples throughout the text *The Publishers' Trade List Annual* ,1981 **The British Library General Catalogue of Printed Books to 1975** British Library,1985 **Medical Books and Serials in Print** ,1984 **Subject Index of Modern Books Acquired** British Library,1971 **Black Communities and Urban Development in America, 1720-1990: From Reconstruction to the Great Migration, 1877-1917 (2 v.)** Kenneth L. Kusmer,1991 **The Cincinnati Historical Society Bulletin** Cincinnati Historical Society,1969 Includes the society's Annual report *The Martial Metropolis* Roger W. Lotchin,1984 Covers the period between the end of World War I and the escalation of the Vietnam conflict during which both U S cities and the U S military came of age The cities chosen have had longstanding and broad partnerships with the military Each city is either broadly representative or typical of some part of the partnership and provides coverage for different services kinds of cities and geographic locations **American Popular Culture** Arthur Frank Wertheim,1984

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Table of Contents Physician To The West Selected Writings Of Daniel Drake On Science And Society

1. Understanding the eBook Physician To The West Selected Writings Of Daniel Drake On Science And Society
 - The Rise of Digital Reading Physician To The West Selected Writings Of Daniel Drake On Science And Society
 - Advantages of eBooks Over Traditional Books
2. Identifying Physician To The West Selected Writings Of Daniel Drake On Science And Society
 - Exploring Different Genres
 - Considering Fiction vs. Non-Fiction
 - Determining Your Reading Goals
3. Choosing the Right eBook Platform
 - Popular eBook Platforms
 - Features to Look for in an Physician To The West Selected Writings Of Daniel Drake On Science And Society
 - User-Friendly Interface
4. Exploring eBook Recommendations from Physician To The West Selected Writings Of Daniel Drake On Science And Society
 - Personalized Recommendations

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- Physician To The West Selected Writings Of Daniel Drake On Science And Society User Reviews and Ratings
- Physician To The West Selected Writings Of Daniel Drake On Science And Society and Bestseller Lists
- 5. Accessing Physician To The West Selected Writings Of Daniel Drake On Science And Society Free and Paid eBooks
 - Physician To The West Selected Writings Of Daniel Drake On Science And Society Public Domain eBooks
 - Physician To The West Selected Writings Of Daniel Drake On Science And Society eBook Subscription Services
 - Physician To The West Selected Writings Of Daniel Drake On Science And Society Budget-Friendly Options
- 6. Navigating Physician To The West Selected Writings Of Daniel Drake On Science And Society eBook Formats
 - ePub, PDF, MOBI, and More
 - Physician To The West Selected Writings Of Daniel Drake On Science And Society Compatibility with Devices
 - Physician To The West Selected Writings Of Daniel Drake On Science And Society Enhanced eBook Features
- 7. Enhancing Your Reading Experience
 - Adjustable Fonts and Text Sizes of Physician To The West Selected Writings Of Daniel Drake On Science And Society
 - Highlighting and Note-Taking Physician To The West Selected Writings Of Daniel Drake On Science And Society
 - Interactive Elements Physician To The West Selected Writings Of Daniel Drake On Science And Society
- 8. Staying Engaged with Physician To The West Selected Writings Of Daniel Drake On Science And Society
 - Joining Online Reading Communities
 - Participating in Virtual Book Clubs
 - Following Authors and Publishers Physician To The West Selected Writings Of Daniel Drake On Science And Society
- 9. Balancing eBooks and Physical Books Physician To The West Selected Writings Of Daniel Drake On Science And Society
 - Benefits of a Digital Library
 - Creating a Diverse Reading Collection Physician To The West Selected Writings Of Daniel Drake On Science And Society
- 10. Overcoming Reading Challenges
 - Dealing with Digital Eye Strain
 - Minimizing Distractions
 - Managing Screen Time
- 11. Cultivating a Reading Routine Physician To The West Selected Writings Of Daniel Drake On Science And Society

- Setting Reading Goals Physician To The West Selected Writings Of Daniel Drake On Science And Society
- Carving Out Dedicated Reading Time
- 12. Sourcing Reliable Information of Physician To The West Selected Writings Of Daniel Drake On Science And Society
 - Fact-Checking eBook Content of Physician To The West Selected Writings Of Daniel Drake On Science And Society
 - Distinguishing Credible Sources
- 13. Promoting Lifelong Learning
 - Utilizing eBooks for Skill Development
 - Exploring Educational eBooks
- 14. Embracing eBook Trends
 - Integration of Multimedia Elements
 - Interactive and Gamified eBooks

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web the Ag^+ AgCl and Cl^- AgCl ions become AgCl s but the Na^+ Ag^+ ions and the NO_3^- Ag^+ ions stay as Na^+ Ag^+ ions and NO_3^- Ag^+ ions these two ions are examples of spectator ions ions that do nothing in the overall course of a chemical reaction

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web the new format requires students to write balanced chemical equations showing only the reacting substances excluding spectator ions for three different sets of reactants and to answer a short question requiring no calculator about each reaction the questions are intended to test the students understanding of the meaning of the reactions

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web jun 2 2023 the spectator ions are cut out from a reaction hence the net ionic equation for the above reaction would be 2Cl^- Ag^+ Cu^{2+} CuCl_2 s 2Cl^- Ag^+ Cu^{2+} CuCl_2 s these spectator ions are not actively involved in the reaction the existence of spectator ions affects the Debye length

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