



inventors and patentees (rubber, coaches, and steam engines, respectively); William and James were cabinet makers like their father; and Charles was a portrait painter. Only Thomas, however, was successful in business, and only he died both wealthy and respected. The authors imply, but offer no full analysis, that Thomas was as shrewd and determined as he was honest and devout, whereas Walter was obsessed with invention and was a poor judge of character, William lacked ambition, and Charles was the naive victim of his own duplicity; John died young, and it appears James did too.

Besides the family history, the book is a treasure house for anyone interested in inventors and how they managed their intellectual property prior to the reform and consolidation in 1852 of the UK's patent system. Although the cost of a patent that covered England, Wales, and Scotland was not quite as high as the £400 cited on page 24, it was nonetheless very expensive—approximately £100 for both England and Wales, and an additional £100 each for Scotland and Ireland. It is evidence of Thomas's financial well-being that he was able to file at least 14 patents, as he describes it, "for the treatment and application of India rubber," which he collected and republished in 1853 to assert his priority, and that he prosecuted infringements of them in England's notoriously expensive courts. To what extent those patents were also a cause of his wealth merits further analysis. He decided not to patent his second most important invention—the rubber masticating machine—hiding it under a false name ("the pickle") and trusting his co-religionist workers to keep the secret.

Christine MacLeod
University of Bristol
Bristol, UK

**new
books**

instrumentation and techniques

Emerging Raman Applications and Techniques in

Biomedical and Pharmaceutical Fields. P. Matousek, M. D. Morris, eds. *Biological and Medical Physics, Biomedical Engineering*. Springer, Berlin, 2010. \$179.00 (477 pp.). ISBN 978-3-642-02648-5

Experimental Techniques in Nuclear and Particle Physics. S. Tavernier. Springer, Berlin, 2010. \$79.95 (306 pp.). ISBN 978-3-642-00828-3

Introduction to XAFS: A Practical Guide to X-Ray Absorption Fine Structure Spectroscopy. G. Bunker. Cambridge U. Press, New York, 2010. \$70.00 (260 pp.). ISBN 978-0-521-76775-0

Recent Advances in Spectroscopy: Theoretical, Astrophysical and Experimental Perspectives. R. K. Chaudhuri, M. V. Mekkaden, A. V. Raveendran, A. S. Narayanan, eds. *Astrophysics and Space Science Proceedings*. Proc. conf., Kodaikanal, India, Jan. 2009. Springer, Berlin, 2010. \$189.00 (228 pp.). ISBN 978-3-642-10321-6

materials science

Domains in Ferroic Crystals and Thin

Films. A. K. Tagantsev, L. E. Cross, J. Fousek. Springer, New York, 2010. \$279.00 (821 pp.). ISBN 978-1-4419-1416-3

Electro-Optical Effects to Visualize Field and Current Distributions in Semiconductors. K. W. Böer. *Springer Series in Solid-State Sciences* 162. Springer, Berlin, 2010. \$129.00 (125 pp.). ISBN 978-3-642-03439-8

Metal-to-Nonmetal Transitions. R. Redmer, B. Holst, F. Hensel, eds. *Springer Series in Materials Science* 132. Springer, Berlin, 2010. \$129.00 (185 pp.). ISBN 978-3-642-03952-2

The Oxford Handbook of Nanoscience and Technology. Vol. 1: Basic Aspects.

Take a Closer Look...

- 100, 200, 300 amu models
- Sensitivity to 5×10^{-14} Torr
- Better than 1/2 amu resolution
- Dual ThO_2Ir filament
- Long-lasting electron multiplier
- 6 decades of dynamic range
- Windows software

**RGA's starting
at \$3750**

Residual Gas Analyzers from SRS are designed to handle the toughest environments from basic research to semiconductor process monitoring. Thousands of SRS RGAs are in use worldwide, and have earned us a reputation for producing quality vacuum instrumentation at reasonable prices.

Our RGAs have greater dynamic range, higher resolution and better linearity than competitive models, and are easier to use. In addition, a dual ThO_2Ir filament and a unique four channel electron multiplier give SRS RGAs a longer lifetime than other designs.

Simply put, SRS RGAs offer better performance and value than any other system.



Stanford Research Systems
Phone (408) 744-9040
Fax (408) 744-9049
email: info@thinkSRS.com
www.thinkSRS.com



A. V. Narlikar, Y. Y. Fu, eds. *Oxford Handbooks*. Oxford U. Press, New York, 2010. \$235.00 (898 pp.). ISBN 978-0-19-953304-6

The Oxford Handbook of Nanoscience and Technology. Vol. 2: Materials—Structures, Properties, and Characterization Techniques. A. V. Narlikar, Y. Y. Fu, eds. *Oxford Handbooks*. Oxford U. Press, New York, 2010. \$235.00 (934 pp.). ISBN 978-0-19-953305-3

The Oxford Handbook of Nanoscience and Technology. Vol. 3: Applications. A. V. Narlikar, Y. Y. Fu, eds. *Oxford Handbooks*. Oxford U. Press, New York, 2010. \$235.00 (910 pp.). ISBN 978-0-19-953306-0

Precision Crystallization: Theory and Practice of Controlling Crystal Size. I. H. Leubner. CRC Press/Taylor & Francis, Boca Raton, FL, 2010. \$179.96 (206 pp.). ISBN 978-1-4398-0674-6

nonlinear science and chaos

Nonlinear Science: The Challenge of Complex Systems. Z. Yoshida. Springer, Berlin, 2010. \$129.00 (211 pp.). ISBN 978-3-642-03405-3

Permutation Complexity in Dynamical Systems: Ordinal Patterns, Permutation Entropy and All That. J. M. Amigó. *Springer Series in Synergetics*. Springer, Berlin, 2010. \$129.00 (249 pp.). ISBN 978-3-642-04083-2

Unifying Themes in Complex Systems VI: Proceedings of the Sixth International Conference on Complex Systems. A. Minai, D. Braha, Y. Bar-Yam, eds. *New England Complex Systems Institute Book Series*. Proc. conf., Cambridge, MA, June 2006. Springer, Berlin, and NECSI, Cambridge, MA, 2010. \$239.00 *paper* (627 pp.). ISBN 978-3-540-85080-9

optics and photonics

International Conference on Advanced Phase Measurement Methods in Optics and Imaging. P. K. Rastogi, E. Hack, eds. *AIP Conference Proceedings* 1236. Proc. conf., Ascona, Switzerland, May 2010. AIP, Melville, NY, 2010. \$256.00 *paper* (494 pp.). ISBN 978-0-7354-0783-1

Vision and Displays for Military and Security Applications: The Advanced Deployable Day/Night Simulation Project. K. K. Niall, ed. Springer, New York, 2010. \$189.00 (212 pp.). ISBN 978-1-4419-1722-5

particle physics

Advances in the Physics of Particles and Nuclei. Vol. 30. D. H. Beck, D. Haidt, J. W. Negele, eds. Springer, Berlin, 2010. \$89.95 (125 pp.). ISBN 978-3-642-04122-8

Electroweak Physics at LEP and LHC. A. Straessner. *Springer Tracts in Modern Physics* 235. Springer, Berlin, 2010. \$159.00 (214 pp.). ISBN 978-3-642-05168-5

Neutrino Factories, Superbeams, and Beta Beams. M. C. Goodman, D. M. Kaplan, Z. Sullivan, eds. *AIP Conference Proceedings* 1222. Proc. wksp., Chicago, July 2009. AIP, Melville, NY 2010. \$274.00 (509 pp.). ISBN 978-0-7354-0763-3

SUSY09: The 17th International Conference on Supersymmetry and the Unification of Fundamental Interactions. P. Nath, G. Alverson, B. Nelson, eds. *AIP Conference Proceedings* 1200. Proc. conf., Boston, June 2009. AIP, Melville, NY, 2009. \$399.00 *paper* (1159 pp.). ISBN 978-0-7354-0737-4

popularizations

Everywhere and Everywhen: Adventures in Physics and Philosophy. N. Huggett. Oxford U. Press, New York, 2010. \$99.00, \$24.95 *paper* (217 pp.). ISBN 978-0-19-537951-8, ISBN 978-0-19-537950-1 *paper*

How It Ends: From You to the Universe. C. Impey. W. W. Norton, New York, 2010. \$26.95 (352 pp.). ISBN 978-0-393-06985-3

How Math Can Save Your Life. J. D. Stein. Wiley, Hoboken, NJ, 2010. \$24.95 (242 pp.). ISBN 978-0-470-43775-9

Hubble: A Journey Through Space and Time. E. J. Weiler. Abrams, New York, 2010. \$29.95 (143 pp.). ISBN 978-0-8109-8997-9

The Matchbox That Ate a Forty-Ton Truck: What Everyday Things Tell Us About the Universe. M. Chown. Faber and Faber, New York, 2009. \$25.00 (269 pp.). ISBN 978-0-86547-922-7

Mathematics of Social Choice: Voting, Compensation, and Division. C. Börgers. SIAM, Philadelphia, 2010. \$35.00 *paper* (245 pp.). ISBN 978-0-898716-95-5

Physics of Sailing. J. Kimball. CRC Press/Taylor & Francis, Boca Raton, FL, 2010. \$49.95 *paper* (277 pp.). ISBN 978-1-4200-7376-8

Physics of the Human Body. R. P. McCall. Johns Hopkins U. Press, Baltimore, MD, 2010. \$80.00, \$45.00 *paper* (301 pp.). ISBN 978-0-8018-9455-8, ISBN 978-0-8018-9456-5 *paper*

Prepare for Launch: The Astronaut Training Process. E. Seedhouse. *Springer-Praxis Books in Space Exploration*. Praxis/Springer, New York, 2010. \$34.95 *paper* (246 pp.). ISBN 978-1-4419-1349-4

Professor Stewart's Hoard of Mathematical Treasures. I. Stewart. Basic Books, New York, 2010 [2009, reissued]. \$16.95 *paper* (339 pp.). ISBN 978-0-465-01775-1

Sneaky Science Tricks. C. Tymony. Andrews McMeel, Kansas City, MO, 2010. \$10.99 *paper* (145 pp.). ISBN 978-0-7407-7398-3

society and government

The Essential Engineer: Why Science

Alone Will Not Solve Our Global Problems. H. Petroski. Alfred A. Knopf, New York, 2010. \$26.95 (274 pp.). ISBN 978-0-307-27245-4

Turning Dust to Gold: Building a Future on the Moon and Mars. H. Benaroya. *Springer-Praxis Books in Space Exploration*. Praxis/Springer, New York, 2010. \$39.95 *paper* (402 pp.). ISBN 978-1-4419-0870-4

space and planetary science

Dynamics of Small Solar System Bodies and Exoplanets. J. Souchay, R. Dvorak, eds. *Lecture Notes in Physics* 790. Springer, Berlin, 2010. \$109.00 (517 pp.). ISBN 978-3-642-04457-1

Heliophysical Processes. N. Golpal-swamy, S. S. Hasan, A. Ambastha, eds. *Astrophysics and Space Science Proceedings*. Proc. sch., Kodaikanal, India, Dec. 2007. Springer, Berlin, 2010. \$249.00 (282 pp.). ISBN 978-3-642-11340-6

Moonwalk with Your Eyes: A Pocket Field Guide. T. Plotner. *Astronomer's Pocket Field Guide*. Springer, New York, 2010. \$34.95 *paper* (360 pp.). ISBN 978-1-4419-0645-8

statistical physics and thermodynamics

Stochastic Energetics. K. Sekimoto. *Lecture Notes in Physics* 799. Springer, Berlin, 2010. \$89.95 (322 pp.). ISBN 978-3-642-05410-5

Time, Chance and Reduction: Philosophical Aspects of Statistical Mechanics. G. Ernst, A. Hüttemann, eds. Cambridge U. Press, New York, 2010. \$85.00 (211 pp.). ISBN 978-0-521-88401-3

texts and education

Classical Mechanics with Applications. P. W. Johnson. World Scientific, Hackensack, NJ, 2010. \$56.00 (281 pp.). ISBN 978-981-4304-15-3

The Craft of Scientific Communication. J. E. Harmon, A. G. Gross. *Chicago Guides to Writing, Editing, and Publishing*. U. Chicago Press, Chicago, 2010. \$55.00, \$20.00 *paper* (225 pp.). ISBN 978-0-226-31661-1, ISBN 978-0-226-31662-8 *paper*

Electromagnetic Field Theory for Engineers and Physicists. G. Lehner (translated from German by M. Horrer). Springer, Berlin, 2010. \$109.00 (659 pp.). ISBN 978-3-540-76305-5

Essential Quantum Optics: From Quantum Measurements to Black Holes. U. Leonhardt. Cambridge U. Press, New York, 2010. \$120.00, \$49.99 *paper* (277 pp.). ISBN 978-0-521-86978-2, ISBN 978-0-521-14505-3 *paper*

Hands-On Introduction to LabVIEW for Scientists and Engineers. J. Essick. Oxford U. Press, New York, 2009. \$29.95 *paper* (511 pp.). ISBN 978-0-19-537395-0 ■