



Thermal infrared multispectral "decorrelation stretch image of Death Valley, California, during the day, with bands 1, 3, and 5 in blue, green, and red. Colors show spectral differences; temperatures are in dark and light. Quartz-rich materials are red; carbonates are green to blue-green; volcanic rocks, shales, etc. are blue to purple." [From *Remote Geochemical Analysis*]

taining to the geochemical evolution of the surface materials. These two approaches are inherently complementary: each provides unique information on different aspects of the surface material, and neither alone will provide sufficient information to completely characterize a surface.

Although field investigation is usually the means of obtaining "ground truth" to verify the results of remote sensing, this has been possible to date only for the case of the Moon. The discussions dealing with the Moon serve as an excellent example of the complementarity of approaches, as we have available each type of remote-sensing data as well as in situ observations and returned samples. I found the lunar chapters especially enlightening, as much of the analysis happened during the Apollo era, before I was old enough to appreciate the scientific value of the data.

A quality of the book is that each chapter stands alone. On the plus side, this means that an individual interested in a single technique can focus on a small number of chapters or can see several different perspectives on a given topic. On the minus side, there is a good deal of redundancy, and information on a given topic may be widely scattered. For example, the properties of surface materials that are responsible for producing spectral features seen in reflec-

tion are described in at least four chapters and the composition of Mars as inferred from mid-infrared spectroscopy is discussed in two. Reflectance spectroscopy is dealt with in eight different chapters, and there is no simple division between theory, laboratory work, observations, interpretations, or individual planets.

Despite the inconvenience of having to skip around to find complete treatment of a given subject, the book succeeds remarkably well in its stated purpose. The chapters are authoritative, thorough, and useful at a level appropriate for both the knowledgeable outsider and the active practitioner. In the areas with which I am familiar, the discussions do a good job of summarizing the literature and the state of

the field. In the areas with which I am less familiar, the discussions are straightforward and usually clear and contain a large amount of information that I have found useful. I used the book in a course on remote sensing of planetary surfaces this semester and found it to be a most appropriate discussion of compositional remote sensing.

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Books Received

The Algebraic Theory of Modular Systems. F. S. Macaulay. Cambridge University Press, New York, 1994. xxxii, 112 pp., illus. Paper, \$19.95. Cambridge Mathematical Library. Augmented reprint, 1916 ed.

The Animal Rights Movement in America. From Compassion to Respect. Lawrence Finsen and Susan Finsen. Twayne, New York, 1994. xvi, 309 pp., illus. \$26.95; paper, \$15.95. Social Movements Past and Present.

The Antique Drums of War. James H. McRandle. Texas A & M University Press, College Station, 1994. x, 219 pp., illus. \$39.50; paper, \$15.95. Texas A&M University Military History Series, no. 33.

The Business of Alchemy. Science and Culture in the Holy Roman Empire. Pamela H. Smith. Princeton University Press, Princeton, NJ, 1994. xii, 308 pp., illus. \$45 or £30.

The Cambridge Encyclopedia of Human Evolution. Steve Jones *et al.*, Eds. Cambridge University

Press, New York, 1994. xiv, 506 pp., illus. Paper, \$34.95. Reprint, 1992 ed.

Cells and Cytokines in Lung Inflammation. Michel Chignard *et al.*, Eds. New York Academy of Sciences, New York, 1994. x, 380 pp., illus. Paper, \$110. Annals of the New York Academy of Sciences, vol. 725. From a conference, Paris, June 1993.

The Chemistry of Organic Arsenic, Antimony and Bismuth Compounds. Saul Patai, Ed. Wiley, New York, 1994. xvi, 962 pp., illus. \$425. Chemistry of Functional Groups.

Handbook of Electron Spin Resonance. Data Sources, Computer Technology, Relaxation, and ENDOR. Charles P. Poole, Jr., and Horacio A. Farach, Eds. AIP Press, Woodbury, NY, 1994. x, 660 pp., illus. \$115.

Handbook of Logic in Artificial Intelligence and Logic Programming. Dov M. Gabbay *et al.*, Eds. Clarendon (Oxford University Press), New York, 1994. 3 vols. Vol. 1, Logical Foundations. xvi, 518 pp., illus. \$95. Vol. 2, Deduction Methodologies. xvi, 511 pp., illus. \$85. Vol. 3, Nonmonotonic Reasoning and Uncertain Reasoning. xx, 529 pp., illus. \$95.

Health and Social Change in International Perspective. Lincoln C. Chen, Arthur Kleinman, and Norma C. Ware, Eds. Harvard School of Public Health, Boston, 1994 (distributor, Harvard University Press, Cambridge, MA). xvi, 508 pp., illus. Paper, \$15. Harvard Series on Population and International Health.

Lipases. Their Structure, Biochemistry and Application. Paul Woolley and Steffen B. Petersen, Eds. Cambridge University Press, New York, 1994. xiv, 363 pp., illus., + plates. \$59.95.

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Magmatic Systems. Michael P. Ryan, Ed. Academic Press, San Diego, CA, 1994. xxii, 398 pp., illus., + plates. \$119. International Geophysics Series, vol. 57.

Mapping the Mind. Domain Specificity in Cognition and Culture. Lawrence A. Hirschfeld and Susan A. Gelman, Eds. Cambridge University Press, New York, 1994. xiv, 516 pp., illus. \$64.95; paper, \$24.95. From a conference, Ann Arbor, MI, Oct. 1990.

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Neural Tube Defects. Wiley, New York, 1994. x, 299 pp., illus. \$76. Ciba Foundation Symposium 181. From a symposium, London, May 1993.

The Neurobiology of Central Nervous System Trauma. Steven K. Salzman and Alan I. Faden, Eds. Oxford University Press, New York, 1994. xiv, 347 pp., illus. \$95.

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Patty's Industrial Hygiene and Toxicology. Vol. 2, Part D, Toxicology. George D. Clayton and Florence E. Clayton, Eds. 4th ed. Wiley, New York, 1994. xviii, pp. 2395-3284, illus. \$195.

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When Death Is Sought. Assisted Suicide and Euthanasia in the Medical Context. New York State Task Force on Life and the Law, New York, 1994 (distributor, Health Education Services, Albany, NY). xviii, 217 pp., illus. Paper, \$9.

Wildlife Ecology and Management. Graeme Caughley and Anthony R. E. Sinclair. Blackwell Scientific, Cambridge, MA, 1994. x, 334 pp., illus. Paper, \$45.

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