

Asymmetry

Right Hand, Left Hand: The Origins of Asymmetry in Brains, Bodies, Atoms and Cultures, by Chris McManus, 412 pp, with illus, \$27.95, ISBN 0-674-00953-3, Cambridge, Mass, Harvard University Press, 2002.

ALTHOUGH BEING ASKED TO REVIEW A book on everything to do with symmetry and asymmetry from the atomic to the societal level is daunting, it is nothing compared with writing such a book. The breadth of scholarship needed to undertake such a task requires intensity, passion, even zealotry. Professor McManus must possess these qualities and has succeeded in a difficult task.

Right Hand, Left Hand discusses symmetry and asymmetry from many perspectives—physics and chemistry, physiology and neuroscience, social anthropology and religion. Expert readers might find coverage of their own fields lacking, but as an overview, the work exceeds the sum of its parts and should be enlightening to most.

The book has 15 chapters. A Web site, <http://www.righthandlefthand.com>, expands the text's extensive but abbreviated references, provides additional notes ("hypernotes"), and includes links to book reviews. The first chapter, "Dr Watson's Problem," introduces the issue of asymmetry from a medical perspective, with a discussion of situs inversus. (The question of why this biological variation is rare is of fundamental importance.) Chapter 2, "Death and the Right Hand," discusses the Durkheim school of social anthropology, the death of some of its apostles in World War I, and anthropological aspects of death and left-right symbolism in various societies. In chapter 3 the author considers entities that have handedness and symmetry, such as seashells and spiral staircases, and introduces a key problem: that of describing right and left without showing it—try this at home. Chapter 4 elaborates on linguistic and behavioral asymmetry. Chapter 5, "The Heart of the Dragon," presents animal models of the development of asymmetry, while chapter 6 raises the question of whether basic molecular asymmetries, such as the dominance of L-amino acids, might ex-

plain asymmetry in nature. Chapter 7, "The Dextrous and the Gauche," treats the development and phenomenology of dexterity and proposes a model its inheritance.

Chapter 8 provides examples of laterality demonstrated through the neurology of brain lesions, often using historical figures (eg, Pasteur, Mach, and Fellini) for illustration, but is not a replacement for neurological textbooks or the medical literature. While it is true that "the right hemisphere is involved in the process called perception," one must keep in mind that other brain regions, such as primary sensory and sensory association areas, play important roles in perception. Visual agnosia can occur with left as well as right hemispheric lesions and most often occurs in the presence of bilateral lesions. Similarly, dysphagia is usually caused by bilateral cortical or brainstem lesions, although there are examples of dysphagia based on unilateral lesions, perhaps including the example given of Fellini choking on mozzarella shortly before his death. Figure 8.8 does not show a "thrombosis" but rather an infarction, presumably caused by thrombosis. Despite minor quibbles, the general flavor of hemispheric specialization is conveyed in a reasonable and entertaining manner.

Historical and cultural differences in the prevalence of handedness are introduced next (although the author uses the term incidence). A persuasive, non-mathematical presentation of the author's model of inheritance of handedness follows along with a discussion of environmental influences. In chapter 10, the author considers directionality in writing and reading and its evolution and related topics, such as driving on the right or left side of the road, advantages of playing sports left handed, and potential disadvantages of performing left-handed surgery.

Social stigma associated with left handedness is discussed in the next chapter. The number of epithets (eg, "keggie hander") was surprising to me. The author speculates that left handers can "find" other left handers, but the

comparison to "homosexuals, who are said to have a metaphorical radar for detecting other homosexuals (so-called 'gaydar')" seems out of place. Occasional local United Kingdom references might be missed by readers from other cultures.

Fallacies about handedness and symmetry, including data on differential mortality of right and left handers and other trivia, comprise two chapters. The two final chapters provide a summary and end with the author's thesis that societal and cultural aspects of symmetry might be traced to asymmetry at the elemental level, a compelling argument that is far from proven, as the author readily acknowledges.

The book is well organized with few typographic errors. The quality of some illustrations is poor, but that rarely interferes with their utility. Further development of the Web site might allow updating of concepts and addition of items such as the complete Flanders and Swan "Song of Asymmetry" and modern functional imaging and genetic techniques.

Right Hand, Left Hand is an enjoyable and clever book by an astute observer of the world. He brings together a breadth of information and generally presents arguments nonjudgmentally. Despite minor quibbles, it will on balance appeal to physicians, scientists, and lay persons and deserves a wide readership.

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NEW MEDIA

Medical Literature

PubCrawler: An Update Alerting Service for PubMed and GenBank, developed by Karsten Hokamp and Ken Wolfe, free Web site, Dublin Ireland, Department of Genetics, Trinity College, accessible at <http://www.pubcrawler.ie>.

THE INFORMATION EXPLOSION IN MEDICINE has left us overwhelmed by accumulating new knowledge. If one devoted only two hours a day to keeping up even within a subspecialty, one could hardly manage the task. Many replace the weekly visit to the medical

library with full-text online services and rely on abstracts, rather than accessing the full text. Even with such shortcuts, keeping updated has become a tedious task, owing to the large volume of publications and time spent interacting with the MEDLINE database.

Wouldn't it be nice to receive a regular e-mail, say, once a week, containing all newly published relevant citations? For such an option to be appealing, one would ideally construct the search query just once but retain the flexibility to change it later and receive a regular flow of updates without ever being handed the same reference more than once. It would also be desirable to have the data follow you wherever you may be.

PubCrawler is a simple yet flexible alerting service programmed by a team at the Department of Genetics, Trinity College, Dublin, Ireland. It is a free service accessible from any computer connected to the Internet. This program "piggybacks" on the National Library of Medicine's PubMed database. As such, it is an interface programmed to "push" to the user specifically tailored information at regular intervals. The contents, layout, and lag from publication to appearance of the citation are precisely those of the PubMed database.

The *PubCrawler* configurator starts by structuring a personal search, consisting of any number of discrete queries. Each search query, in turn, is built on isolated items that can be searched in specific fields (eg, author, address, title, etc) and strung by Boolean operators (and, or, not) like any MEDLINE search. Hence, one can easily construct search queries, such as all articles published by a certain individual or institute (any number of authors can be specified) or by specific field or topic using key words. The results are conveniently grouped so that it is clear which query yielded which references. Queries can address the PubMed (MEDLINE) database or the GenBank database (although nucleotide sequences cannot be entered as such).

Immediately after defining one's query, a first run retrieves all relevant articles published in the past month. From this point on, only new refer-

ences are retrieved, with neither redundancy nor gaps between one search and the next. At any point in the future, the search can easily be modified.

Once all queries are entered, some decisions need to be made: whether to receive an e-mail alert notifying of new search results, with a personal link (URL) accessible from any Internet-connected computer, pointing to the retrieved citations (with abstracts); or whether to receive actual search results in the body of the e-mail message (without abstracts). By choosing the personal link, which is the recommended option for those working online, a list of new hits appears, ordered by query (again, in the precise PubMed format) enabling access to the abstract. Next, the user is asked to indicate how often results should be sent (daily, weekly, monthly), on which days and at what time, and whether to be notified even if no new citations have been found.

Having introduced this software to a considerable number of colleagues, we can report that for the majority *PubCrawler* e-mail has become their primary means of keeping updated. New users are commonly dismayed to find by this means how much is published in their fields. Hence, we recommend that new users start with a small, limited search (eg, restricted to a dozen author names), and only later gradually extend it to include MeSH terms and other key words.

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RECEIVED

Alternative and Complementary Medicine

Herbal Medicine and Botanical Medical Fads, by Frank Hoffmann and Martin Manning, 241 pp, \$49.95, ISBN 0-7890-1148-4, paper, \$24.95, ISBN 0-7890-1149-2, Binghamton, NY, Haworth Press, 2003.

Anesthesiology

Holding Court With the Ghost of Gilman Terrace: Selected Writings of Ralph Milton Waters, edited by David C. Lai (in commemoration of the 75th anniversary of academic anes-

thesiology, Madison, Wis), 212 pp, with illus, paper, \$30, ISBN 1-889595-08-X, Park Ridge, Ill, Wood Library-Museum of Anesthesiology, 2002.

Biography, Memoir

Aidan's Way: The Story of a Boy's Life and a Father's Journey, by Sam Crane, 277 pp, \$18.95, ISBN 1-57071-903-9, Naperville, Ill, Sourcebooks, 2003 (professor of Asian studies' account of family life with profoundly disabled son, now 11 years old, born with anomalous brain abnormalities, and the support found in Taoism).

My Sum, "The Doctor," by Jonathan Singer, 224 pp, paper, \$19.95, ISBN 1-59129-648-X, Baltimore, Md, PublishAmerica, 2002.

Cancer

Hematology and Oncology, edited by Fred F. Ferri, George T. Danakos, and David C. Fairchild, et al (*PDxMD Medical Conditions Series*), 855 pp, paper, includes access to Differential Diagnosis Tool, Medical Condition Files, and Patient Information Materials at <http://www.pdxmd.com>, \$49.95, ISBN 1-932141-05-7, Philadelphia, Pa, PDxMD, 2003.

Cardiology

Blueprints in Cardiology, by Arjun V. Gururaj, Melanie Maytin, Michael W. Tsang, and Benoy J. Zachariah, 267 pp, with illus, paper, \$29.95, ISBN 0-632-04628-7, Malden, Mass, Blackwell Publishing, 2003.

Cardiology, edited by Fred F. Ferri, George T. Danakos, and David C. Fairchild, et al (*PDxMD Medical Conditions Series*), 791 pp, paper, includes access to Differential Diagnosis Tool, Medical Condition Files, and Patient Information Materials at <http://www.pdxmd.com>, \$49.95, ISBN 1-932141-01-4, Philadelphia, Pa, PDxMD, 2003.

Cardiovascular Pharmacotherapeutics, edited by William H. Frishman, Edmund H. Sonnenblick, and Domenic A. Sica, 2nd ed, 1072 pp, \$159, ISBN 0-07-136981-3, New York, NY, McGraw-Hill, 2003.

Textbook of Interventional Cardiology, by Eric J. Topol, 4th ed, 1123 pp, with illus, \$169, ISBN 0-7216-9449-7, Philadelphia, Pa, Saunders, 2003.

Dermatology

Dermatology, edited by Fred F. Ferri, George T. Danakos, and David C. Fairchild, et al (*PDxMD Medical Conditions Series*), 618 pp, paper, includes access to Differential Diagnosis Tool, Medical Condition Files, and Patient Information Materials at <http://www.pdxmd.com>, \$49.95, ISBN 1-932141-02-2, Philadelphia, Pa, PDxMD, 2003.

Education

A.C.E. Medical Mnemonic Flashcards, by D. Mulla-Ali, 94 double-sided 2.5 x 2.5 inch cards, \$9.99, ISBN 1-68890-126-2, New York, NY, Thieme, 2003.