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Book Review

Science and Technology in Medicine by Andras Gedeon, Springer, ISBN: 0-387-27874-5, Hardcover, 551 pp, 2006, Price: \$89.95

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Without Abstract

Given the perfusion of medical advance and the disparate sources these advancements draw from, selecting just 99 of “the most significant” discoveries over five centuries is no small task. One remembers endeavors like this one for their omissions rather than their accomplishments. Hence, Gedeon’ selection of these 99 discoveries is a matter of personal choice, and to his credit, the personalities he chose are indeed pioneers of medical knowledge and technology. *Science and Technology in Medicine* with its beautiful illustrations and concise text delineates the complex exchange among the sciences that underscores our increasing quantitative and technical medical diagnostic and therapeutic practices today.

Each entry starts with a one-paragraph biography of the personality, a summary of publications, and a paragraph titled “in perspective” which outlines how the discovery or invention helped extend the frontiers of medicine. Gedeon keeps the text to the bare minimum and lets the rich illustrations tell the story contextualizing it within the larger framework of the history of medicine. The visual effect evokes one’s curiosity at a fundamental level, and this I believe is one of Gedeon’s objectives.

The first entry focuses on Albrecht Durer’s efforts in 1525 of applying mathematics to discover proportion and form of the human body. Durer had a background in goldsmithing, painting and geometry. Applying these skills, the way he did seems natural in retrospect. Gedeon reproduces some of Durer’s works in the illustrations that follow. The last entry is that of Michel Phelps for the development of positron emission tomographic scanning.

Between Durer and Phelps are entries that document the contributions of medical giants like Pare, Pasteur, and Lister. There are also biographical accounts of luminaries that one does not normally associate with medical advancement per se, but whose contributions have helped advance the frontiers of medicine. Among Gedeon's entries, these would include Bernoulli, Fourier, Poiseuille and Doppler. Gedeon also profiles those who are better known for their contributions outside the medical field such as Wern (better known for his contributions to architecture) and Kepler (better known for his work in astrophysics).

At the end of the book, Gedeon classifies each entry as contributing to either mathematics, physics, chemistry or biology, and lists each entry in a timeline. The next illustration shows the network of interrelationships among all entries. This illustration reveals that medical advancement is based on the interconnectedness of ideas, some outside the "traditional" field of medicine, and on earlier inventions.

My five-year-old and I were enjoying some of the illustrations that I had tabbed before hand. These included color PET images of glucose metabolism of the brain when performing different tasks [p. 518]. The experience is helping him develop an empirical concept of "using one's brain," and Mom is helping him develop a metaphorical one. As he is surrounded by bespectacled adults, we had to look at eyeglass styles in the Middle Ages [p. 46]. His recent flu shot prompted us to look at the evolution of the syringe [pp. 70–71]. No doubt we will reference many other illustrations.

Gedeon wants us to interpret the history of medicine for ourselves. In the preface he writes: "Any selection of topics or specific discoveries is justly subject to criticism. Considering 99 books [sic] rather than an even 100 is intended to be a symbolic invitation to the reader to reflect on how the present framework could be modified according to his or her own knowledge and preferences [p. 10]." With exquisite illustrations and minimal text, *Science and Technology in Medicine* inspires us to achieve Gedeon's objective, and perhaps a little more.