

Book review

Title: **Science and Technology in Medicine**

Subtitle: An Illustrated Account Based on Ninety-Nine Landmark Publications from Five Centuries

Author: Andras Geddes

Foreword: Leslie A. Geddes

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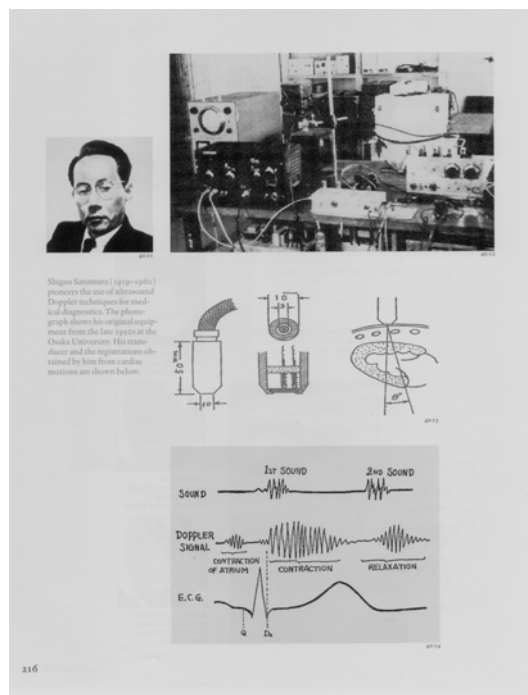
The aim of this book is to trace footsteps of science and technology in medicine through ninety-nine landmarks with original publications and episodes. The contents are filled with reflections and intellectual aspects which are always lacking in practical books. Leslie A. Geddes wrote in the foreword as “This book will be of value, not only to historians, but also those who wish to illuminate their lectures and speeches with relevant and interesting facts, some of which may be surprising.” Actually, this book is filled with full-colored high-quality illustrations which will be suitable as contents of lecture slides.

The author is a graduate of physics, being involved in research and development of biomedical equipments. Beside that, he is also known as a keen book collector.

The contents cover many different fields such as mathematics, physics, chemistry and biology, and landmarks are arranged almost chronologically. The selection of landmarks is unique and interesting. The first landmark is Dürer, the famous painter in sixteenth century. He extensively investigated spatial representation of objects, and finally published a book about human proportion.

Because landmarks were selected according to the contribution to medicine as the consequence, scholars in fundamental sciences are mentioned. For example, Legendre is mentioned for the application of the least square method in experimental sciences. In that sense, Fourier, Helmholtz, and Maxwell are also mentioned.

For each topic, further developments in the technology and their applications are also mentioned. For example, in the topic of the discovery of the Doppler effects, an episode where the different color tones of double stars that revolve around one another produced the hint for finding the effect, is followed up by further developments of its applications in clinical diagnosis. Among those, the first ultrasonic Doppler blood flowmetry by Shigeo Satomura is



introduced in detail with his portrait, the experimental equipments, the configuration of the transducer, and the obtained wave forms.

In the episode of finding a synthetic drug “Salvarsan” which is effective against syphilis, the contribution of Sahachiro Hata who was an assistant of Ehrlich, is mentioned. Hata joined Ehrlich’s research group and rediscovered a previously studied but rejected substance “606” after extensive tests in animals. Microscopic photographs demonstrating the result of Salvarsan treatment are shown with a portrait of Ehrlich and Hata.

In the topic of mass spectrometry, the contribution of Aston is mentioned who improved the resolution by combining electric and magnetic fields. As a further development, the soft laser ionization technique invented by Koichi Tanaka is mentioned. Umetsuro Suzuki is also mentioned who contributed to the separation and identification of amino acid as a collaborator of Emil Fisher.

While there were of course more Japanese scientists who had significantly contributed to clinical medicine but not mentioned in this book, that is natural because this book is not an encyclopedia but a big-scale narrative story consisting of strictly selected topics. Even so, I personally thought some topics which would be possibly involved such as the invention of the pulse oximeter by Takuo Aoyagi in relation to the initial study of blood gas analysis by Van Slyke.

Anyway, I was surprised by the fact that the price of such a full-colored luxury book of more than five hundred pages is only \$62.38. It suggests that this book is not a kind of specialty item but to be accepted by great many readers.