

amacını taşımıştır. Tıbbi deontoloji ve sosyal yardım, tabip örgütlerinin gündemlerindeki başlıca konulardır. Rekabet ortamının getirdiği sorunlar, diplomasız hekimler ve ağırlaşan yaşam koşulları, II. Meşrutiyet hekiminin diğer temel sorunlarıdır. Yazara göre, dönemin tabip örgütleri, “sağlık kurumlarının içinde bulunduğu kargaşayı ve Türkiye’deki hekimlik düzeyini aşamayan kuruluşlar olarak kalmışlar, ancak arayış içindeki tabiplere mesleki dayanışma bilincini aşılayabilmişlerdir.”

Eserin ana metnini tamamlayan dipnotları, en az ana metin kadar önemli ve ayrıntılı bilgiler içermektedir. Eser, tıp örgütleri hakkında ender bulunan evrakı sunarak Türkiye’de tıp ve sağlık tarihi konusunda yapılacak objektif değerlendirmelere zemin hazırladığı gibi, ileride yapılacak araştırmaların bugüne kadar kullanılan kaynakların (örneğin tıp yazmaları, arşiv belgeleri) ötesine geçmesi gerektiğini vurgulamaktadır. Bu eser, hem konu hem de kaynakları bakımından Türkiye’de daha önce yayımlanmış tıp tarihi eserlerinden farklı olduğu gibi, araştırmacılara yeni çalışmalar konusunda ipuçları da vermektedir.

Feza Günergun

Feza Günergun (ed.), *Pursuing Knowledge*. Istanbul: Istanbul University, 2016, 23x29 cm, 149 p., ISBN 978-605-07-0606-2.

Originally published in *Archives Internationales d’Histoire des Sciences*, vol.66, issue 176 (2016): 248-250 (Courtesy Robert Halleux).

This bilingual (English and Turkish) catalogue of the exhibition “Pursuing knowledge” at the Bayezid II Museum for Turkish Bath Culture of the Istanbul University, 26 September – 26 December 2016, offers beautiful illustrations and short descriptions of scientific instruments, manuscripts and prints from the University and private collections. The exhibition reflects the Ottomans’ transfer of knowledge between Central Asia and Western Europe from the late 13th century onwards. The Catalogue opens with an excellent introduction by Feza Günergun and a useful chronology “Science from the East – Techniques from the West” emphasizing Ottomans’ pursuit of Eastern sciences and Western techniques.

The items on display are grouped in eleven sections. The first, “Observatories and their Instruments,” includes manuscripts displaying miniatures of the Maragha Observatory (13th c.), and Istanbul Observatory (16th c.) of the astronomer Taqi al-Din, as well as drawings of his observational instruments. The second, “Instruments from the West,” provides a novel insight into the work of the Ottoman engineer and mathematician Feyzi Effendi who had been trained in the Enderun, the Palace School in Istanbul, and who wrote a

treatise explaining the rules for measuring the altitudes of celestial bodies with a sextant and for making calculations with the aid of logarithms. Another impressive personality was Ishak Effendi, the headmaster of the Imperial School of Engineering in Istanbul. He wrote a Turkish textbook entitled *Calculating the Angles by Reflections in Mirrors*, which deals with the reflecting instruments (octant, sextant and reflecting mirror) that were used by engineers, astronomers and navigators to determine the value of angles. The page on display in the Catalogue shows the reflecting circle that was improved by Jean-Charles de Borda in the late 18th century to determine elevation angles. We also find excellent photographs and lucid explanations of marine chronometers.

The third “Measuring, Drawing and Calculating,” features a splendidly illustrated Turkish translation of *Ashkal al-tasis*, a geometry book based on Euclid’s *Elements*, that was written in Arabic in the 13th century and was taught in Ottoman madrasas. The Turkish translation was encouraged by the stimulus that was given to the study of mathematics by the Sultan Selim III (r.1789-1807) who was also supportive of the transfer of science and technology from Europe. Another interesting translation, this time from German, is a book on the construction and use of the pantograph, which was invented in the 17th century and was used for copying shapes, drawings, and maps to any desired scale. The translator, Ömer Fevzi Pasha, was professor of topography at the Military School in Istanbul. Instruments for the use in warfare were made available in Turkish. Particularly well illustrated is the rendering of *Commentarii Bellici* (Vienna, 1718), part of the *Memorie della Guerra* of General Raimondo Montecuccoli (1609-1680). As a commander in the Austrian army, the General had fought against the Ottomans and defeated their army in the battle of St. Gotthard in 1664. The information he had gathered on the organisation and strategy of the Ottoman army had been included in this work. It has been argued that this book was influential in the reorganization of the Janissaries. The canons on the page on display were those used in drills by the French army officer, Comte de Bonneval (alias Humbaracı Ahmed Pasha) whom the Ottoman administration had appointed to train bombardiers and who had been given a course in the new mathematics. Works on the sector were also translated, for instance the chapter on that instruments in Nicolas Bion’s (1652-1739) *Traité de la construction et des principaux usages des instruments de mathématiques*. The sector, which came in common usage in the late 16th century, consists of two rulers of equal length joined by a hinge. It relies on the principle of similar triangles and is generally supplied with a pair of dividers. The scales engraved on the sector were used to solve different types of geometrical, arithmetical and trigonometric problems. The instrument was used

in various fields such as gunnery, navigation and surveying. More recent instruments include, among others, mechanical calculators.

In the fourth section of the Exhibition, “Experimenting, Measuring, Recording,” we find a vacuum machine, a portable pump for water in a box embedded with turquoise, and coil spring shoes that were used in lectures on experimental physics. These shoes, which were manufactured in Germany, illustrate the return of kinetic energy to potential energy with every step or jump. The rebound energy comes back to the body, and much of the energy that is otherwise lost to the ground is recycled in the wearer. Nowadays, many runners use updated models based on innovative technology. Tuning forks, which were invented by the English musician John Shore, are still in use. Those on Exhibition were manufactured in the United States and come from the acoustic laboratory of Istanbul University’s Faculty of Science. The fork consists of a handle and U-shaped elastic metal tines. When the tuning fork is hit with a hammer, the metal tines begin to vibrate, and the frequency generated depends on the length and the mass of the two tines.

The fifth section, “Reaching Distant Objects and Magnifying the Tiny,” includes microscopes, ophthalmoscopes, telescopes, refracting telescopes, stereoscopes, folding cameras with bellows. The sixth section, “Penetrating Matter,” displays Röntgen and Crookes tubes. The seventh section “Beware of Electricity,” provides illustrations from the Cabinet of Physics of the Imperial Medical School in Istanbul, a Van de Graaff generator and other instruments powered by electricity. In the eighth section “Physics in the Classroom,” we are introduced to teaching material from the Military School, Medical School, and the Engineering School in Istanbul as well as to electrostatic generators, optic voltmeters, and lecture slides. The ninth section, “Surveying and Mapping,” covers topography, military reconnaissance, mapping techniques, theodolites, and compasses among other items. The tenth section, “Melting, Distilling, Solving, Evaporating,” features a 17th century manuscript compiled by a dervish physician, Ömer bin Sinan of Iznik (Nicaea), who is known for his works in Turkish which introduced the iatrochemical therapies. Among his sources were European authors including Paracelsus. The manuscript discusses medical preparations such as powders, pills, pastilles, cataplasms, digestives, and ointments. The eleventh and concluding section “Discovering Nature,” puts to good use material from the Geology Museum of Istanbul University.

This catalogue provides a rich insight into the history of science in Turkey and will be appreciated not only by scholars but also by the general public.

William R. Shea