Introduction

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In Venice in 1562, F. Sansovino printed a textbook of therapy, *Secreti Medicinali*, by Pietro Bairo, physician at the court of Charles II, Duke of Savoy (1486-1553), in Turin (fig. 1). Calculi are by far the major topic in the section dealing with diseases of the kidney and urinary tract. The titles of the chapters are: renal abscess; prevention of stone formation; treatment of stones in the urinary tract; bladder stones and their complications; bladder stones in children; and bladder ulcerations.

Diabetes is also mentioned, and the balance between urine excretion and water intake is stressed. At that time, the sweet taste of urine was an important aid in the diagnosis of diabetes. This diagnostic test was commonly the task of an assistant. The birth of modern nephrology was still very far off, and the position of assistants often very uncomfortable!

In 1844 Liebig reported the results of various experiments in man [1]. His conclusions were the following:

‘I have ascertained that the salt content of the urine, passed shortly after a copious drink of water, always exceeds that of the water, whereas in the later samples its content of salts, including phosphates, becomes vanishingly small. It follows that all salts present in the urine must be regarded as transient blood constituents which are excreted precisely because they are no longer appropriate to the normal blood constitution.’

Fig. 1. Title page of *Secreti Medicinali* by Pietro Bairo.

Liebig was a pioneer in providing information on the role of the kidney in maintaining the physicochemical stability of the animal organism. The concept of homeostasis was clearly outlined by Claude Bernard about 30 years after the publication of Liebig’s paper.

In the early years of the 20th century practical medicine was still largely empiric. Diagnosis was derived almost completely from a patient’s history and physical examination, while support from laboratories was very poor. Moreover, treatment was mainly symptomatic, and few specific drugs were available. English empiricism, developed by Locke, Berkeley and Hume in the 17th and 18th centuries, according to which knowledge derives only from experience and observation, was the philosophy followed by physicians. Soon, however, medical science with the support of other sciences, mainly chemistry and physics, was able to rapidly develop. Modern medicine was born.

Reference 1 Liebig J: *Uber die Constitution des Harns der Menschen und der fleischfressenden Thiere*. Am Chem Pharm 1844;50:161, cited in Gorman A Hills: *Acid-Base Balance*. Baltimore, Williams and Wilkins, 1973, p 85.

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