INTRODUCTION

Always the Whole and Its Parts

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We all agree that medicine is a biological science. When our elders understood this fact, they were faced with the difficulties of integrating within the complete organism the functions of its various organs. The relationships between the whole and its parts were therefore open issues at the beginning of modern medicine. They continue to be relevant today.

In 1827, Cuvier, the naturalist, prefaced his eulogy of three renowned physicians, Corvisart, the inventor of cardiology, Pinel, one of the founders of psychiatry, and Hallé, who advocated a scientific approach to clinical medicine, with this remark: “Which art is closest to divination? . . . All (the parts) play endless interactions, acting and reacting continuously with one another and with the whole. The sting of a pin can bring about tetanus; an imperceptible miasma . . . can spread death in a vast region in but a few days” (1). These words reveal the bewilderment of the founder of paleontology in front of medicine.

Since 1950, a reductive analysis has focused on the study of isolated factors, while no comparable attempts were made at establishing links to other normal or pathologic functions. Then, in the laboratory, test tubes had replaced live animals. But everything changed with transgenic mice and rats, leading to a different experimental pathology in which the whole is modified by a specific chemical anomaly of one part, thus revealing unexpected interferences.

For those who are smart enough to understand my broken English, I end with this quote from Claude Bernard, who, irritated by the continuous questioning on physiologic regulations by the mathematician Joseph Bertrand, responded, “There is someone who knows much more than you do about integrals. It is the dog now in experimentation” (2).

References