Historical evolution of the knowledge on cardiac automatism

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Prof. Franco Ruggeri Istituto di Anatomia Umana Università degli Studi Via Irnerio, 48 40126 Bologna The rhythm of the heart, observed by the prehistoric hunter in dying animals, provoked curiosity and stimulated the mind of man to understand its functional meaning.

Historically, in the Assiro-Babylonian and Egyptian cultures and, subsequently, the Greek civilization, the stream of thought of the early philosophers of nature, transmitted rational explanations, even if fragmentary, on the movement of the heart.

Plato, Aristotle and later the school of Erofilo and Erasistrato described the meaning of the movement of the heart and put forward the first scientific bases from which the extraordinary studies of Galeno took off to formulate a powerful theory on the anatomophysiology of the heart and of the blood that was to condition the whole of Western medical science up until the 16th and 17th centuries.

In 1628, the publication of the *Exercitatio anatomical de motu cordis et sanguinis in animalibus* by William Harwey twisted the theory of Galeno, confirming the hypothesis on the circular movement of the blood previously formulated by Realdo Colombo and Andrea Cesalpino.

Up until the 20th century the problem of the movement of the heart was to be challenged and encompassed the discoveries and physiological speculations by the different medical and philosophical schools of thought. During the first half of the 20th century the neurological and muscular theories were defined in order to clarify the genesis of the rhythmic movement of the heart.