

# The First Picture of a Dental Forceps in a Printed Book

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## Abstract

**Niccolo Leonico Tomeo authored numerous volumes on a variety of themes, and was principally responsible for reintroducing the works of Aristotle in the original Greek. In one of Tomeo's works, he included a picture of forceps holding an extracted tooth. This was the first time a forceps was pictured in a printed book.**

**T**he invention of printing in Europe, using movable type, is credited to Johann Gutenberg who published the first printed Bible in 1455. Just 70 years later, there appeared a book which contained the very first printed picture of a dental forceps. Surprisingly, it was not a book on dentistry! It was the work of the Renaissance scholar, philosopher and Aristotelian, Niccolo Leonico Tomeo, (Figure 1) and was published by Bernardinius Vitalis in Venice in February 1525. The author, since 1497 a professor of philosophy at Padua University, set out to explain some of the theories of the great Greek philosopher-cum-scientist, Aristotle.

Leonico Tomeo was born in 1456 or 1457 and died in March of either 1531 or 1533. He authored numerous volumes on a variety of themes, his last

work *De Varia Historia, Libri Tres* published in Venice in 1531, shortly before his death. He was an author of extraordinary beauty and style, and was principally responsible for reintroducing the works of Aristotle in the original Greek. As a result of Tomeo's writings, new attention was paid to Aristotle and a whole era of academic study of his works was opened.

## Tomeo's Work on Aristotle

Aristotle, (Figure 2) whose major writings date from about 350 B.C., is thought to have authored more than 150 philosophical treatises; only 30 of which have survived to our day. They cover an enormous field of philosophical problems, ranging from biology (he is called "The Father of Biology") to physics, morals, ethics, esthetics, and politics.

In the Middle Ages, leading schol-

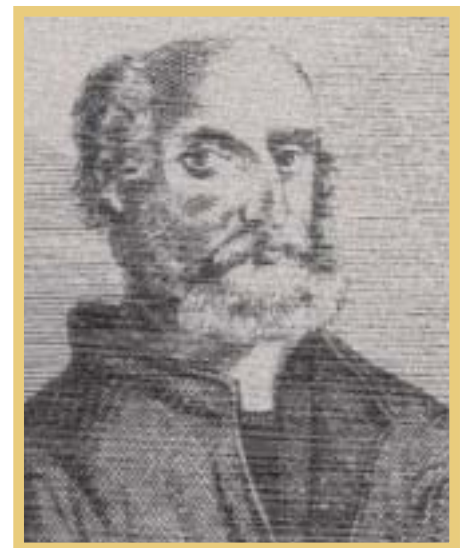


Figure 1. Niccolo Leonico Tomeo (1457-1533?)

ars such as Pico della Mirandola and Francesco Piccolomini, as well as Tomeo — all of whom studied at Padua — enthusiastically endorsed Aristotle's theories. However, with the coming of the Renaissance, key scholars such as Francis Bacon, Erasmus, Thomas More, and Galileo challenged Aristotle's theories. Aristotle differed



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from the more modern thinkers in his belief that the universe never had a beginning, would never change and would never end. To him it was finite. But to Isaac Newton, the cosmos was fundamentally different; it was open, differentiated and infinite. And when Copernicus brought forth his theory that the earth and planets circled the sun, Aristotle's universe was overthrown forever.

## Tomeo's Elucidation of Aristotle's Theory of Motion

One of Aristotle's most well-known works was his treatise *Meteorology*. Today the word refers to the study of the weather, but Aristotle meant it in a broader sense, using it to discuss the nature of the earth. The book, which is the subject of this paper, is *Opuscula Nuper in Lucem Aedita*, (Figure 3) and whose title self-effacingly characterizes the book as only a "little work." Included in this work by Tomeo is one of the earliest printed commentaries on Plato's work, *Timaeus*, which dealt with his beliefs on the nature of phenomena including physiology, nutrition, disease and locomotion. Plato was Aristotle's teacher and thus many of the teacher's doctrines were further examined by the pupil.

Aristotle had an overriding interest in physics. He wrote extensively on various aspects of the field and dealt at length with what he regarded as the laws of motion. He enunciated four basic rules regarding motion:

- Motion which affects the substance of a thing
- Motion which brings about a change in the quality of a thing
- Motion which brings about



Figure 2. Aristotle pictured on a modern Greek postage stamp.

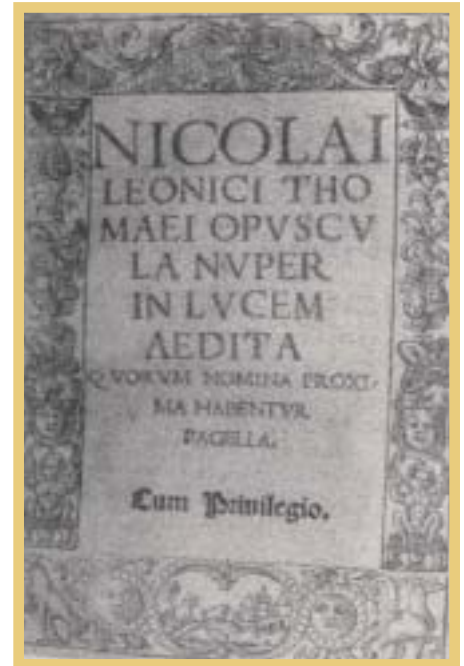


Figure 3. Title page of Tomeo's work which he calls a "little work."

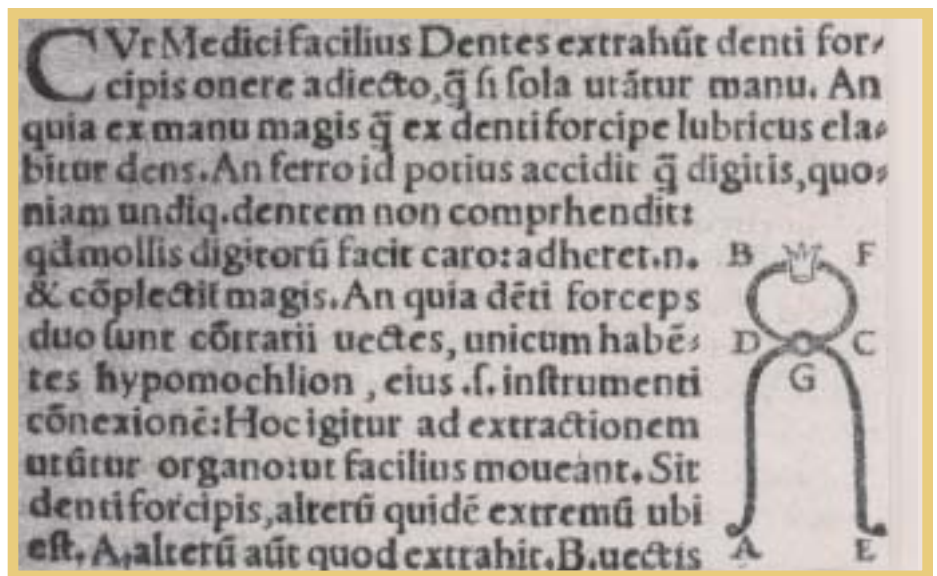


Figure 4. A portion of a page from Tomeo's book with the first printed picture of a dental forceps.

changes in quantity

- Motion which brings about locomotion, or change of place

The last of the four he considered the most important. So Tomeo set out to clearly define what Aristotle was

speaking of. And to illustrate the fourth of Aristotle's rules of motion — that which brings about change of place — used the example of a tooth being extracted from its bony socket. "Why can doctors more easily pull out teeth

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with forceps, than with the hand alone?" he asked and went on to discuss how the leverage action of the forceps added to the mechanical force needed to move the tooth.

To illustrate this he included in his treatise a picture of a forceps holding, in its beaks, an extracted tooth. (**Figure 4**) This is the very first time a forceps was pictured in a printed book. Paintings of forceps are ubiquitous, especially in the thousands of pictures of St. Apollonia, the patron saint of dentists and toothache sufferers. In the church of San Giacomo, near Spoleto, Italy, is a fresco of St. Apollonia, patroness of the church, by the artist G. Spagna. This however was painted a year after Tomeo's book was published. The great French miniaturist portrayed St. Apollonia — as the subject of a Miracle Play of the Middle Ages — in the beautiful manuscript *Book of Hours of Estienne Chevalier*, which was a highlight of the manuscript art of the 15th century. But as far as a picture in a printed book is concerned, a search has turned up none earlier than Tomeo's work. Even the *Artzney Buchlein*, the first book devoted entirely to dentistry, wasn't published till five years after Tomeo's work.

Thus a work dealing with a resurrected study of aspects of the universe by an ancient Greek philosopher who had lived two millennia before, serendipitously gives us the first printed picture of a tooth extraction forceps. **CDA**

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