

Products of Padua: and an Ancient Geared Clock that Tracks Planets' Movements

Some things take time, but a magazine ad more than 600 years in the making? That's unusual, but it's one way of looking at the ads for mG miniGears that featured a complex, highly geared, planet-tracking clock called the Astrarium.

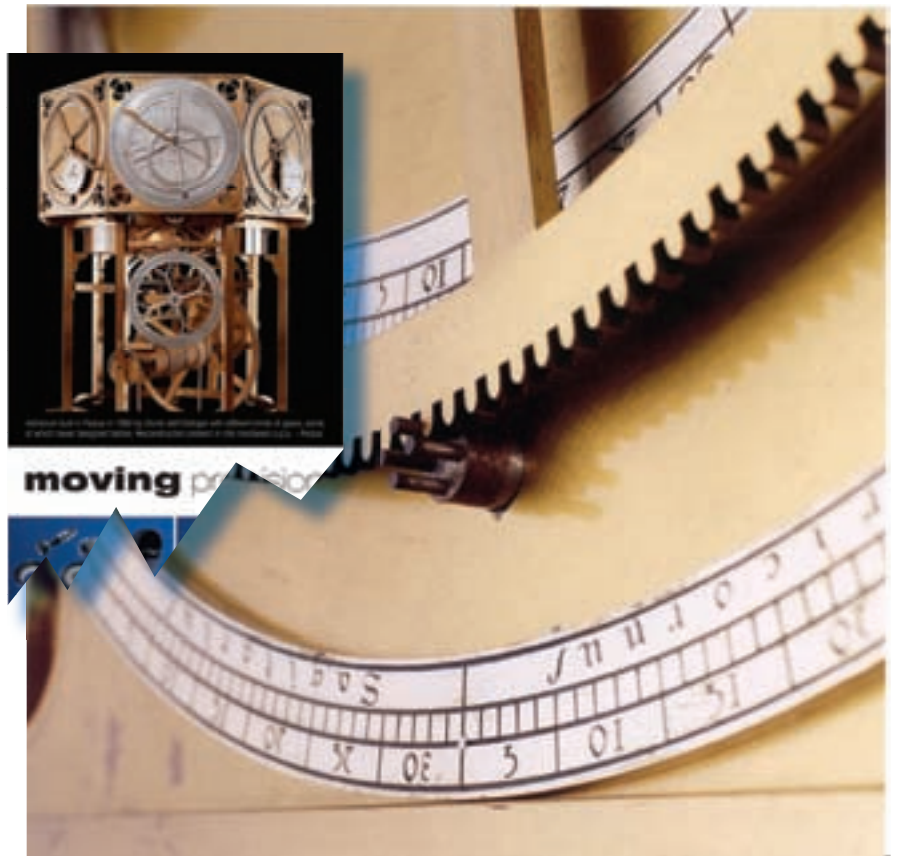
The Addendum team had noticed the clock in miniGears' ads in *Gear Technology*; the last one appeared in the Jan./Feb. '04 issue, and the top of it is at right. But we only recently learned the story behind the clock, why the ads featured it, and how a man's interest in the Astrarium led to the creation of two books and a CD about the ancient device.

The story starts with Giovanni Dondi, who lived in 14th-century Italy, in Padua. Although a doctor, Dondi was interested in astronomy and clockmaking, so much so he designed and built the original Astrarium in the 1360s. More than a regular clock, the Astrarium uses a year wheel and a geared assembly to track the movements of the sun, moon and five planets: Venus, Mercury, Saturn, Jupiter and Mars.

Dondi didn't include the other three planets because he didn't know about them. No one did. It's the 14th century, after all; Uranus, Neptune and Pluto hadn't been discovered yet.

Still, the Astrarium was a complicated device and needed 89 gears—including spurs, helicals, internals and ellipticals—to perform all its functions. Besides making it, Dondi wrote a manuscript, the *Tractatus Astrarii*, detailing how to build the clock; he left a way for the Astrarium to be brought out of the Middle Ages.

More than 600 years later, the Astrarium was brought out; it was re-created, built on commission in 1974. Two years later, an Italian engineer, Vincenzo de' Stefani, founded mG miniGears SpA. Already a resident of Padua, he decided to locate his gear-




manufacturing company there.

The coincidence of Dondi and de' Stefani both being Paduans might have come to nothing if not for one other coincidence. "I am a lover and a collector of ancient clocks," de' Stefani says.

Aware of the Astrarium, de' Stefani was especially interested in it because of its gears and its connection with Padua. He decided to feature it in many of his company's advertisements.

His interest led him to a publishing project: two books and a CD. Creating them involved a lot of work and several de' Stefani friends also interested in clockmaking and Padua's medieval history. One friend, Aldo Bullo, was especially important. A Latinist, he could translate the ancient version of the *Tractatus Astrarii*. Work started in '01 and was finished two years later.

The thinner of the books is Dondi's manuscript, reproduced page by page, cover to cover, in full-sized color photographs. In the thick book, each left page is a black-and-white photo of a page from Dondi's manuscript. Each right page shows the manuscript's handwritten Latin as typed Latin and typed Italian. The CD includes color PDFs of the manuscript and its English translation.

Clearly, the books and CD are an extension of de' Stefani's local pride in the Astrarium: "It is a glory of Padua." 

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