

Before the Bookmobile, there was the Bookwheel

Jack McGuinn, Senior Editor

Agostino Ramelli was a 16th-century Italian military engineer of some note who designed many machines and other contributions used in the go-go Renaissance period, including cranes, grain mills, and water pumps. But his most compelling apparatus was a real mindbender—a revolving wooden wheel with angled shelves that allowed users to read multiple books at one time.

Ramelli boasted, “This is a beautiful and ingenious machine, very useful and convenient for anyone who takes pleasure in study, especially those who are indisposed and tormented by gout.”

Huh?

Ramelli wrote this for *Le Diverse et Artificiose Machine*, his “catalog of creations,” one might say. And convenient, too! As Ramelli further explained, “Moreover, it has another fine convenience in that it occupies very little space in the place where it is set.”

One problem: Ramelli never got around to actually building the thing.

Indeed, the whole eccentric epic is laid out in a 2020 *Facebook* article by Claire Voon. The fact is, Ramelli’s bookwheel was eventually built—just not by Ramelli.

And, of primary importance to readers of this page, the bookwheel had gears—lots of gears. In fact according to Ian Kurtz, a Rochester Institute of Technology (RIT) grad and a member of the then undergraduate team that actually brought the bookwheel to fruition, “The actual construction may not have been worth the time with 16th-century techniques. Cutting the gears by hand would have taken a considerable amount of time. I think Agostino was more so showing his understanding of how gear systems worked.”

But for bibliophiles, the bookwheel has attained almost legendary status, which is why, in 2018, Kurtz and some fellow RIT students decided they were not only going to build Ramelli’s bookwheel—they would build *two*.

They studied closely Ramelli’s illustration and built it with wood stock popular in Renaissance times, i.e.—European beech and white oak. Then, utilizing 20th-century power tools, including a CNC machine along with computer modeling—the bookwheel was born.

According to Voon, Ramelli’s design probably led to wheels that were built in the 17th and 18th centuries, several of which still exist. But it was probably more complicated than it needed to be, a la Rube Goldberg’s comical machines back in the day.

“There are simpler objects you could build that would accomplish mostly the same goals,” Matt Nygren another RIT team member, explains. “This is more extravagant than it is entirely practical.” A more efficient bookwheel, he adds, would be one structured like a Ferris wheel, with hanging, weighted cradles rather than shelves that move along a gear system.

Less complex bookwheels did in fact precede Ramelli’s rotating system. Readers in the late Medieval Period could sit by a book carousel, which rotated open books along a horizontal plane, and didn’t require side supports. Steven Galbraith, curator of the Cary Collection, suspects that the Italian engineer was trying to improve this design and cater to an increasing need to cross-reference books, which were often large and heavy. “Through the 16th century, books are beginning to talk to each other a lot more—one might reference another—so a bookwheel could

have been convenient,” he says. “Some scholars say it’s the beginning of the idea of hypertext, the idea that a reader can sit in one spot and have access to multiple texts at once.”

The Cary Collection’s device is used for individual reading research, but it might have even more value as a teaching aid. At RIT, Juilee Decker, an associate professor of museum studies, has had her classes design visitor experiences around the bookwheel. Indeed, museums have displayed interest in the wheel, e.g.—in Russia, the Museum of Languages of the World built its own version using the RIT team’s plans, which are published online; and the University of the Pacific in California is also considering acquiring one.

But in the final analysis, Kurtz and Nygren agree that the apparatus, while historically significant, is more engineering oddity than useful machinery.

“I don’t think it’s something you should buy and try and keep in your living room—nowadays there are better tools for the job,” Nygren says. “But it’s certainly an eye-catching thing, and one of the fanciest ways I can think of for storing books.”

And there later came to be something much more practical and efficient—the library table.

A final nugget gleaned from Voon’s article that bears repeating. Do you know what the Japanese word *tsundoku* means? It’s a term describing the habit of acquiring books without reading them. 🌀

(Source: www.atlasobscura.com/articles/ behold-the-renaissance-bookwheel.)

