

Humiaki Huzita (1924 – 2005) was a pioneer in the field of the mathematics of origami and a bridge-builder between Japanese and Western folders and scholars. A physicist at the Italian Institute of Nuclear Physics in Padua, Italy, he had a profound understanding of Euclidean geometry and a strong curiosity about its relationship with paper-folding, and he made the work by masters such as Abe and Fujimoto known to the non-Japanese-speaking world.

He is best-known for his six axioms of the geometry of flat folding, which he developed together with Benedetto Scimemi, a mathematician at the University of Padua: they adapted the standard proof on ruler and compass constructions, based on Galois-theory, to the more general setting of origami constructions. Later, Hatori added a seventh axiom, which indeed describes a folding procedure sometimes used in origami, but does not extend the set of possible geometric constructions; as a matter of fact, Hatori's axiom deals with a construction which can be performed with ruler and compass. What makes origami geometry more powerful than ruler and compass geometry is Huzita's sixth axiom, of which all others can be considered special cases (in other words, the six –or seven– axioms are not minimal).

Huzita's contribution to the mathematics of origami goes beyond his axioms: in his work, he sought to construct a sound foundation for origami geometry. For instance, he proposed a definition of parallel lines (a and b are parallel if there is a line c perpendicular to both of them) and a substitute for Euclid's Fifth Postulate (if a quadrilateral has three right angles, then the fourth angle is right as well); he then showed how it can be used in the proof of other theorems. Moreover, he envisioned further developments such as multiple folding, thus anticipating, in some sense, Lang's angle quintisection.

Last but not least, in 1989 he organized the first of these meetings in Ferrara, Italy, where it all began: as a matter of fact, Margherita Piazzolla Beloch, whose earlier work on geometric constructions via paper-folding had gone almost unnoticed, was a professor at the University of that town in the Thirties of the past century. Huzita went on to publish himself the Proceedings, where he reprinted earlier works by her and others as well.

I had the privilege to discuss mathematical issues with him a number of times, which greatly contributed to my interest in the mathematics of origami, and I always appreciated his ability to look at things from novel points of view. In this paper, I give his work a retrospective look, more than ten years after his death, and attempt to pay him the tribute he deserves.