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**BRANKO GRÜNBAUM**, University of Washington, Seattle, WA 98195, USA

*Polygons: Meister was right and Poinot was wrong but prevailed*

In a 1770 paper, A. L. F. Meister gave a quite general definition of “polygon”, and introduced other important concepts (such as the winding number of a curve or polygon about a point). His paper (in the *Novi Comm. Goetting.*) had no immediate influence, although it is mentioned much later by Moebius and others; most mentions misinterpret the definition. The approach to polygons proposed independently by L. Poinot in 1809 became widely known and generally adopted, possibly because he used it to find the four regular star polyhedra (usually known as Kepler–Poinot polyhedra); somewhat later A.-L. Cauchy proved that these are the only possible ones. As it turns out, Poinot’s approach is internally inconsistent, needlessly restrictive, and leads to many exceptions and loss of continuity in the types of polygons and polyhedra. Meister’s approach avoids these, and can serve as the starting point of a general theory of polygons and polyhedra, in a way that is very much in tune with modern research of these topics. It is hard to understand why—despite its shortcomings and inconsistencies—Poinot’s definition is still the one relied on almost exclusively. The talk will describe the two definitions, point out the problems with Poinot’s, and illustrate the simplifications obtained by Meister’s.