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Marjorie Senechal*, senechal@smith.edu, MA. *Parallelehedra and the rhombic triacontahedron*. Preliminary report.

Throughout the 115 years since he published it, E. S. Fedorov's short list of parallelohedra in R^3 has galvanized geometers and crystallographers to amend it, clarify it, rigorize it, and extend it. (Is his list complete? Are there necessary and sufficient conditions for belonging to it? Is convexity essential? What about higher dimensions?) I will discuss a family of skeletal parallelohedra hidden in the rhombic triacontahedron that raise such questions and illustrate a conjecture of Grünbaum (2010). This talk is dedicated to Branko's memory. (Received January 15, 2020)