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MR735005 (85e:52022)**[Grünbaum, Branko](#) (1-WA); [Mani-Levitska, Peter](#) (CH-BERN);****[Shephard, G. C.](#) (4-EANG)****Tiling three-dimensional space with polyhedral tiles of a given isomorphism type.***J. London Math. Soc. (2)* **29** (1984), *no. 1*, 181–191.[52A45](#) ([52A25](#))

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It is shown that given any combinatorial type of simplicial 3-polytope, there is a locally finite, face-to-face tiling of 3-dimensional space with polytopes of this combinatorial type. The construction is facilitated by a new transformation of simplicial polytopes which allows one to transform the shape of the star of a vertex to the shape of any prescribed combinatorially equivalent pyramid, and at the same time to keep all nonneighboring vertices far away from the chosen vertex. Although this transformation cannot be done at any vertex, it is shown that in any simplicial 3-polytope there always exists such a vertex.

[Reviewed](#) by [D. Barnette](#)

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