

Let P be a polytope with facets f_1, \dots, f_n .

The subset $\{f_i \mid i \in I\}$ of facets of P is a *missing face* if

- $\bigcap_{i \in I} f_i$ is not a face of P and
- $\bigcap_{j \in J} f_j$ is a face of P for every $J \subsetneq I$.

The list of missing faces is sufficient to reconstruct the combinatorics of a polytope.

In the Coxeter diagrams, the vertices corresponding to facets in a given missing face span either a Lanner or a quasi-Lanner subdiagram.

Remark. The notion of missing face is known for any poset.