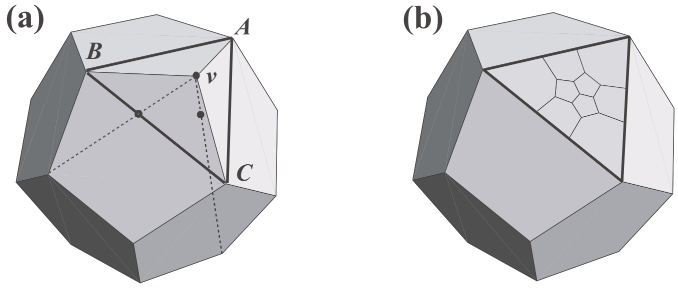

Fig. 9. Projection of a polyhedron from a vertex onto simplicial section.

The $\mathfrak{T}$ is an isohedral face-to-face tiling. The number of faces in a (non-strictly convex) stereotope P' is equal to $2(m + 3)$. We see that, in contrast to the D-S case, in isohedral face-to-face tilings with non-strictly convex stereotopes a tile can have an arbitrarily large number of facets and, respectively, the same number of neighbors along them.

One should underline that the face-to-face property of tiling has been attained in the last case for the sake of artificial subdivision of the boundary of polytope P. On the other hand, namely due to this subdivision the parallelepiped P turned from a convex polytope into a non-strictly convex polytope. If we did not make subdivision of the boundary we would keep strict convexity of P but loose its face-to-face property.

4. Monotypic Strictly Convex Tiles with Many Faces

The aim of the section is to present a face-to-face monotypic tiling in $\mathbb{E}^3$ whose all tiles are strictly convex and have arbitrarily many faces. We remind, by definition of a monotypic tiling, all tiles in the tiling have the same combinatorial type. In our case this type will be the combinatorial type of the n-gonal prism where $n \geq 3$. Additionally, this tiling will be a multihedral, or more concretely, tile-$(2n - 4)$-transitive tiling, that is, it will consist of precisely $2n - 4$ orbits of tiles with respect to its symmetry group.

The construction is based on a nice idea of SCHULTE (1984). We will demonstrate this idea by means of a way which one can pave plane by pentagons in. Let us take a convex polytope with pentagonal faces only and with at least one simplicial vertex v, for example, a regular dodecahedron. we draw a plane through all the three end points, say A, B, C, of edges coming out vertex v. This plane cuts off the pyramid with the apex v (Fig. 9a). The faces of the "truncated" dodecahedron are of three kinds: a sole "new" triangular face, three cut "old" faces, and nine uncut faces of the dodecahedron. Now we project from the v all the uncut faces of the "truncated" dodecahedron on triangle ABC. The projection of an uncut pentagonal face is a convex pentagon in triangle ABC (Fig. 9b). A common edge of two *uncut* faces is projected onto a common edge of the two corresponding pentagons in triangle ABC. If an edge of an *uncut* face is shared with some *cut* face then the edge is projected into a side of ABC. In our case of dodecahedron each side of triangle ABC is