1017-52-157　　　　**Satyan L Devadoss*** (`satyan.devadoss@williams.edu`). *Graph-associahedra and Coxeter complexes.*

The associahedron (or Stasheff polytope) is an object appearing in numerous areas of mathematics, from homotopy theory (operads), configuration spaces (particle collisions), statistics (phylogenetic trees), geometric group theory (Coxeter complexes), and combinatorics. Given any graph G, we construct a convex polytope based on G (dubbed the graph-associahedra) with some elegant properties. When G is a path, we obtain the associahedron; when G is a cycle, we obtain the cyclohedron. These polytopes appear naturally with respect to Coxeter groups, and provide the tiling for certain compactified real moduli spaces. (Received February 20, 2006)