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Title: Parity for nestohedra
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In 1987, Street showed how each simplex generated an ω-category; that is, a (possibly) infinite-dimensional category. This allowed a general definition of the nerve of an ω-category. The ω-categories corresponding to simplices were called *orientals*, and Street later developed the formalism of *parity complex*, which abstracted the key features of these orientals, and also included as examples the cubes and the globes (balls). Various other researchers came up with alternative formalisms. All of them involve some sort of combinatorial structure involving faces with a specified orientation, called a parity.
The nestohedra are a family of polytopes which arose in work of de Concini and Procesi. They include the simplices, the cubes, the associahedra (of Stasheff and Tamari), and the permutohedra. I will consider these nestohedra as purely combinatorial structures, and describe a general notion of parity for them.
This is joint work with Christopher Nguyen, which builds on material in his thesis.