Quasigroup actions and approximate symmetry
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Groups owe their importance to their permutation actions, which are the basic model for symmetry. Over the past 15 years, these permutation actions have been generalized to quasigroups, where they provide models for approximate symmetry.

After recalling the basic definition of a quasigroup permutation action, with Markov matrices replacing permutation matrices, attention will focus on a selection of the following topics:

1. Lagrangian properties.

2. Burnside's Lemma.

3. Sylow theory.

4. A simple Bol loop acting on a projective line.

5. Approximately symmetric fractal-type objects.

Topic 3 includes joint work with M. Kinyon and P. Vojtěchovský, topic 4 with K. Johnson, and topic 5 with J. Chalmers.