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Marston D E Conder* (m.conder@auckland.ac.nz), Mathematics Department, University of Auckland, Private Bag 92019, Auckland, 1142, New Zealand. *Observations and answers to questions about edge-transitive maps.*

A *map* is an embedding of a connected graph or multigraph on a closed surface, dividing the surface into simply-connected regions called the *faces* of the map. Any bijection from a map M to itself that preserves the vertices, the edges and the faces of M , as well as incidences between them, is called an *automorphism* (or symmetry) of M . The most highly symmetric maps are those for which the automorphism group $\text{Aut}(M)$ acts transitively and hence regularly on the *flags* of M , which are essentially incident vertex-edge-face triples. These *regular maps* have been studied for decades, dating back to the late 1800s. Lately, some attention has shifted to *edge-transitive maps*, for which $\text{Aut}(M)$ acts transitively on the edges of M . There are 14 distinct classes of edge-transitive maps, determined by the effect of the automorphism group ‘locally’, around a given edge. In this talk I will make some observations about these 14 classes, and describe the recent answers to open questions about them, many of which were posed in a 2001 paper by Širáň, Tucker and Watkins. Some of these answers were obtained in joint work with Isabel Holm (an honours student at the University of Auckland) and Tom Tucker. (Received February 03, 2021)