Blake Dunshee, Mark Ellingham\* (mark.ellingham@vanderbilt.edu) and Joanna A. Ellis-Monaghan. Directed and directable embeddings.

An embedding of a digraph is a directed embedding if every face boundary is a directed walk. An embedding of an undirected graph is directable if its edges can be oriented so as to yield a directed embedding. We discuss the history of directed embeddings, starting with the work by Tutte and his collaborators in the 1940s on dissecting a triangle into smaller triangles. We provide a characterization of when an embedding is directable, and examine questions such as completing a partial directed embedding, where some but not all faces are prescribed. (Received January 31, 2021)