ABSTRACT: This talk explores some puzzles of multidimensional conservation laws (quasilinear hyperbolic partial differential equations) by looking at two types of characteristic families in a model system: the Euler equations of compressible fluid flow. There is as yet no existence theory for such systems, and a considerable amount of recent activity raises questions of whether these equations, and others like them, are even well-posed. The classical theory of characteristics provides a framework that unifies some observations, and suggestions directions for further study.