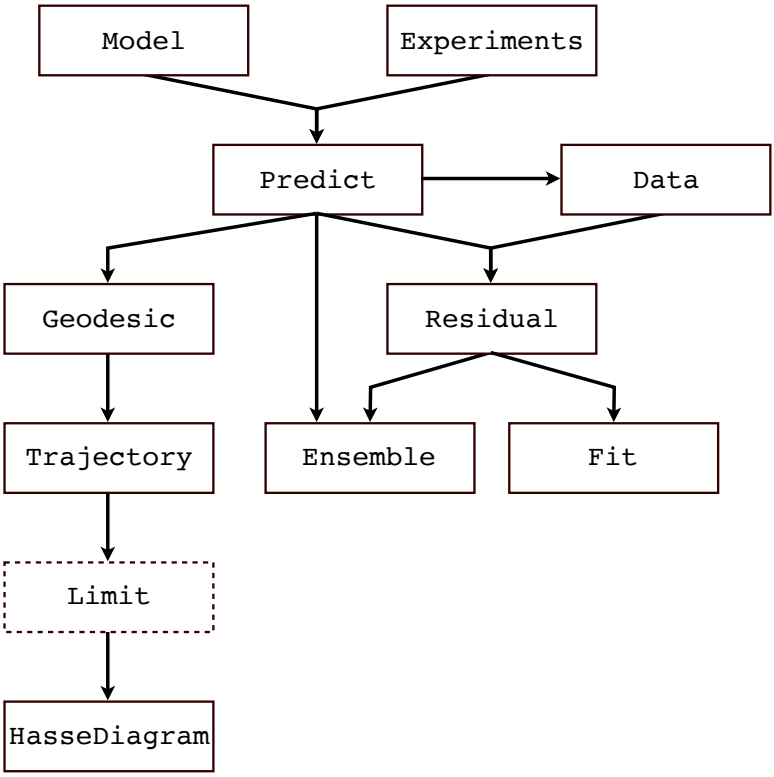

Figure 2.18: Relationships between the core classes in the package `infotopo`. The central class is `Predict` (ie, a prediction map f), derived from a `Model` object (specifying a mathematical model $\mathscr{M}$) and an `Experiments` object (specifying a behavioral space B and a sampling X). With a `Predict` object, one can perform a number of standard modeling tasks: generating predictions, fitting it to data (by creating a `Residual` object and computing a `Fit` object), and sampling the parameter space using different combinations of priors and posteriors (represented by `Ensemble` objects). A `Predict` object is also key to some information geometric and information topological analysis: it can generate a `Geodesic` object, which can be integrated to form a `Trajectory` object and the limiting behaviors can be examined in a `Limit` object (only partially implemented so far; hence the dashed box) constructed from an integrated geodesic; sampling many limiting behaviors starts to accumulate global and topological information, stored in a `HasseDiagram` object.