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A Stochastic Model for the Evolution of Preferences

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This paper presents a model describing the evolution of preferences as a stochastic process. These preferences are represented by weak orders, i.e., rankings with possible ties, on a set of alternatives, and can be modified under the influence of 'tokens' of information delivered by the environment according to a stochastic mechanism. The parameters of this mechanism can be estimated from the data and are descriptive of the environment. The potential effect of a token is to move an alternative up or down in an agent's ranking. Attitude change is modeled by the stepwise transitions between the weak orders, which takes the form of a Markov process. The model permits exact predictions (up to a small number of parameters) of panel data in which the judges have been required to repeatedly evaluate the alternatives at items  $t_1, \dots, t_n$ . An illustrative application of this model is described in a companion paper (Regenwetter, Falmagne and Grofman, 1995.) That illustration uses NES Thermometer (Rating) data on the 1992 presidential candidates.