

Learning and Status in Social Networks

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Abstract

The patterns in which individuals interact have important consequences. One notable phenomenon is social learning, which occurs when asymmetrically informed individuals observe the choices of others before making their own choices. This process can lead to information cascades in which the ability to learn from others ceases quickly, implying little information aggregation. However, casual empiricism suggests that such inefficiency is unlikely: many people making similar decisions over time are unlikely to be continually wrong.

Experiments that implement a standard social learning paradigm are reported. We examine long sequences of decisions (up to forty) and study the effects of different signal qualities. In contrast to equilibrium predictions, a pattern of cascade formation, collapse, and re-formation is routinely observed. Under such dynamics learning continues throughout the sequence of decisions, so that the truth is nearly revealed. Quantal Response Equilibrium explains nearly all the features of the data.

In many applications strategic considerations should play a role in determining the timing of decisions. To understand how timing issues impact social learning, I study a model in which decision times are strategic variables and individuals have heterogeneous signal qualities. The main finding is that with two players, the player with better information announces first. Consequently, both players make the same decision, but because of the sorting effect, the outcome is informationally efficient. In comparison to the standard exogenous sequence assumption, welfare is always higher. When there are many players, a herd forms immediately, and it is always on the correct action.

We next study a model that addresses strategic formation of social networks. Individuals allocate a budget of resources across links to others. By separating benefit flows along the links into “giving” and “taking” components, we are able to study the implications for efficiency. The main finding is that inefficiencies at equilibrium are due only to the giving of benefit.

The final chapter analyzes large-scale social networks. The main question concerns how correlation patterns in links affect diffusion. A surprise is that in all of the simulations considered, the Susceptible-Infected-Susceptible model behaves identically on networks with varying correlation patterns.