

Informational cascades and gaze cascade effect. An eye-tracking study

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Abstract. The theoretical analysis of informational cascades relies on the assumption that decision makers behave rationally in processing all the available information in order to decide if imitate or not previous choices. However, experimental evidence points out how subjects exhibit in the laboratory various cognitive biases in deciding if entering or not a cascade. Anderson-Holt (1997) find that a third of the subjects exhibit a tendency to rely on the simple counting of signals, while Nöth-Weber (2003) argue that subjects' overconfidence consistently explains the observed deviations from Bayes' rule. To detect if biases are motivated by the activity of information collecting we measure subjects' attention by monitoring their eye movements while the alternatives in each sequential choice (public previous choices and private signals) are being considered. Then, the information acquisition patterns of subjects, identified on the basis of their playing behaviour, are compared. Our preliminary results confirm the hypothesis proposed by Shimojo et al. (2003) of a gaze "cascade effect," according to which even if gaze is initially distributed evenly between the two stimuli then is gradually shifted toward the information consonant with the alternative they eventually chose. We also find some evidence of correlation between the alternative initially looked at by the subjects and their choices. This finding support the hypothesis that gaze direction plays an active role in information processing and, consequently, influences the process of decision making in a way that is not necessarily consistent with the principles of economic rationality. More generally, we argue that the process of decision making may emerge from gaze biases leading to increased exposure to external stimuli which translates into increased preference.

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