

Communicating with Anecdotes

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Abstract

We study a communication game between a sender and receiver. The sender chooses one of her signals about the state of the world (i.e., an *anecdote*) and communicates it to the receiver who takes an action affecting both players. The sender and receiver both care about the state of the world but are also influenced by personal preferences, so their ideal actions can differ. We characterize perfect Bayesian equilibria. The sender faces a *temptation to persuade*: she wants to select a biased anecdote to influence the receiver’s action. Anecdotes are still informative to the receiver (who will debias at equilibrium) but the attempt to persuade comes at the cost of precision. This gives rise to *informational homophily* where the receiver prefers to listen to like-minded senders because they provide higher-precision signals. Communication becomes polarized when the sender is an expert with access to many signals, with the sender choosing extreme outlier anecdotes at equilibrium (unless preferences are perfectly aligned). This polarization dissipates all the gains from communication with an increasingly well-informed sender when the anecdote distribution is heavy-tailed. Experts therefore face a *curse of informedness*: receivers will prefer to listen to less-informed senders who cannot pick biased signals as easily.

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1 Extended Abstract

Many economic theories of learning and communication assume that individuals update their understanding of the world by adjusting parameters in underlying models as new evidence emerges. While this may be effective among experts using a shared model “language”, this type



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of communication can be incomprehensible to non-experts who do not have a common model. Laypeople instead often rely on *anecdotal evidence* to communicate. However, this leaves room for agents to strategically choose which anecdote to communicate. Communication for the purpose of persuasion can induce the selection of a non-representative or even extreme, albeit factually-correct, anecdote.

In such a world, what anecdotes get communicated? How representative are they of the state of the world? And which speakers do people listen to?

Our Model

We formalize these questions and our answers in a model of a communication game between an informed sender and an uninformed receiver. The sender has access to a fixed set of informative signals, which we refer to as *anecdotes*, drawn from a single-peaked and symmetric distribution centered around the state of the world. She can select one of these anecdotes to send to the receiver. The receiver receives an anecdote from the sender and takes an action. Both the sender and receiver are impacted by this action and how it relates to the state of the world. But they also have *personal preferences* such that their ideal action may differ even if they have access to the same information. These personal preferences are shifts relative to the state of the world.

Our Results

As the sender cares about the action of the receiver, she faces a *persuasion temptation*. For example, if a newspaper would like to persuade a reader that the economy is growing (perhaps so that the reader makes a large investment, for example), the newspaper might select a more positively-biased anecdote about the economy. The sender must balance this temptation to persuade against the potential *information loss* incurred by sending unrepresentative anecdotes. If her communication carries very little information about the state of the world, the receiver's action will be poorly correlated with reality which in turn hurts the sender.

We analyze the behavior of the sender and the receiver at equilibrium to study the noise and bias of shared anecdotes under this anecdotal communication framework. We characterize perfect Bayesian equilibria of our communication game. At equilibrium, the sender chooses an offset (or *bias*), then always sends the anecdote closest to this offset from the state of the world. The receiver's strategy space then reduces to choosing a de-biasing offset, then taking an action based on this offset applied to the communicated anecdote.

Our main result is that the tension between the persuasion temptation and information loss leads to a *partial* unraveling in the communicated anecdote at equilibrium. The chosen anecdote is biased to a degree determined by the misalignment in personal preferences and the informedness of the sender. This gives rise to *informational homophily* where the receiver prefers to listen to like-minded senders because they provide higher-precision signals. Communication becomes polarized when the sender is an expert with access to many signals, with the sender choosing extreme outlier anecdotes at equilibrium (unless preferences are perfectly aligned). This polarization dissipates all the gains from communication with an increasingly well-informed sender when the anecdote distribution is heavy-tailed. Experts therefore face a *curse of informedness*: receivers will prefer to listen to less-informed senders who cannot pick biased signals as easily.

In the cases where the sender can *commit* to a communication scheme (e.g., when her reputation precedes her), we see a different type of behavior in the equilibrium. Here, senders will send the most informative signal no matter the gap between the personal preferences.