

Mini-Course on Information Transmission and Expertise

Peter Norman

University of North Carolina at Chapel Hill

`normanp@email.unc.edu`

Many recent advances in economic theory are related to acquisition and transmission of information between various agents. Real world examples include information aggregation in voting, jury trials, advertising, and, more generally, transactions between buyers and sellers in which sellers have private information. In this course we will focus on the strategic relationship between *experts* and *decision makers*, which is complicated (and therefore becomes interesting) by the possibility that the expert(s) may have different preferences from the decision maker(s).

We still study two classes of models. The first, which are referred to as models of *cheap talk*, is based to the assumption that the expert has private information about some state of the world that a decision maker would like to know in order to make better decisions. In these models, the expert or experts send costless messages to the decision maker(s) and the most fundamental question in such a model is whether it is possible for informative communication to be sustained as an equilibrium outcome.

Another approach is to assume that it is possible to provide “hard information”. That is, unlike cheap talk models, the assumption is that the information provided is correct. However, even in this case it is possible to manipulate the decision maker by controlling the precision of the information being provided. A recent version of this strand of research is referred to as *persuasion games*, and these models are currently generating quite a bit of attention due to their tractability.

Outline:

1. Cheap Talk

- The basic cheap talk model.
- Cheap talk with multiple senders and receivers.

2. Persuasion Games

- Information orders: Blackwell’s theorem.
- Persuasion with one sender and one receiver.
- Persuasion with multiple senders.

References

- [1] Attila Ambrus and Satoru Takahashi. Multi-sender cheap talk with restricted state spaces. *Theoretical Economics*, 3(1):1–27, 2008.
- [2] Austen-Smith, D. 1993. Interested experts and policy advice: multiple referrals under open rule. *Games and Economic Behavior* 5, 3–43.
- [3] Marco Battaglini. (2002). “Multiple referrals and multidimensional cheap talk”. *Econometrica*, 70(4), 1379–1401.

- [4] Blackwell, D. (1953) "Equivalent comparisons of experiments." *The Annals of Mathematical Statistics* Vol.24(2). pp. 265-272.
- [5] Che Yeon-Koo, Dessein Wouter and Navin Kartik (2013), "Pandering to Persuade," , *American Economic Review*.
- [6] Chen Ying, Kartik Navin, and Joel Sobel (2008) "Selecting Cheap-Talk Equilibria," *Econometrica*.
- [7] Crawford, V. P.; Sobel, J. (1982). "Strategic Information Transmission". *Econometrica* 50 (6): 1431–1451. doi:10.2307/1913390
- [8] Gentzkow, M., and Kamenica E. (2015): "Competition in Persuasion," *Working Paper*, University of Chicago.
- [9] Gentzkow, M., and Kamenica E. (2015): "Information Environments and the Impact of Competition on Information Provision," *Working Paper*, University of Chicago.
- [10] Gentzkow, M., and Kamenica E. (2014). "Costly Persuasion, *American Economic Review: Papers & Proceedings*, Vol. 104(5), 457-462.
- [11] Jacob Glazer and Ariel Rubinstein. (2001). "Debates and Decisions, On a Rationale of Argumentation Rules," *Games and Economic Behavior*, 36 , 158-173.
- [12] Jacob Glazer and Ariel Rubinstein. (2004). "On the optimal rules of persuasion," *Econometrica*, 72(6):1715–1736.
- [13] Jacob Glazer and Ariel Rubinstein. (2006). "A Study in the Pragmatics of Persuasion: A Game Theoretical Approach," *Theoretical Economics*, 1 , 395-410.
- [14] Kamenica, E., and Gentzkow M. (2011): "Bayesian Persuasion." *American Economic Review*, Vol. 101(6), pp. 2590-2615.
- [15] Kartik, Navin (2009) "Strategic Communication with Lying Costs," *Review of Economic Studies*.
- [16] Krishna, V. and Morgan, J. (2001) "A Model of Expertise," *Quarterly Journal of Economics* 116, 747–75.
- [17] Paul R. Milgrom and John Roberts. Relying on the information of interested parties. *The Rand Journal of Economics*, 17(1):18–32, 1986.
- [18] Jacob Glazer and Ariel Rubinstein. (2006). "A Study in the Pragmatics of Persuasion: A Game Theoretical Approach," *Theoretical Economics*, 1 , 395-410.
- [19] Kamenica, E., and Gentzkow M. (2011): "Bayesian Persuasion." *American Economic Review*, Vol. 101(6), pp. 2590-2615.
- [20] Krishna, V. and Morgan, J. (2001) "A Model of Expertise," *Quarterly Journal of Economics* 116, 747–75.
- [21] Paul R. Milgrom and John Roberts. Relying on the information of interested parties. *The Rand Journal of Economics*, 17(1):18–32, 1986.
- [22] Wang, Yun.(2013) "Bayesian persuasion with multiple receivers." Working Paper, *Xiamen*.