Class 9: Madness of crowds

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Sociology 204: Social Networks
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2/2 Consequences of interdependent individual decisions: Information cascades

What happens if we have a bunch of people who are all being influenced by each other?

Alice
Private Signal
Public Action

	Alice
Private Signal	shot bad
Public Action	

	Alice
Private Signal	shot bad
Public Action	no shot

	Alice	Bob
Private Signal	shot bad	shot bad
Public Action	no shot	

	Alice	Bob
Private Signal	shot bad	shot bad
Public Action	no shot	no shot

	Alice	Bob	Clarence
Private Signal	shot bad	shot bad	shot good
Public Action	no shot	no shot	

	Alice	Bob	Clarence
Private Signal	shot bad	shot bad	shot good
Public Action	no shot	no shot	no shot

	Alice	Bob	Clarence	David
Private Signal	shot bad	shot bad	shot good	shot good
Public Action	no shot	no shot	no shot	

	Alice	Bob	Clarence	David
Private Signal	shot bad	shot bad	shot good	shot good
Public Action	no shot	no shot	no shot	no shot

	Alice	Bob	Clarence	David	Edgar
Private Signal	shot bad	shot bad	shot good	shot good	shot good
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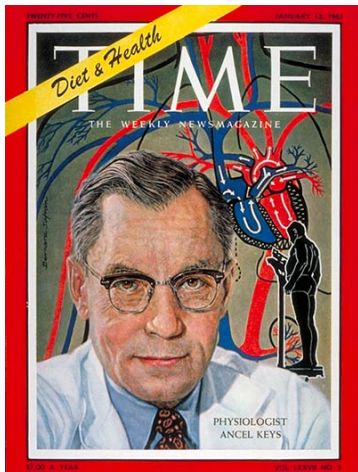|	Alice	Bob	Clarence	David	Edgar
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2. cascades can lead to non-optimal outcomes
3. can be fragile (if someone is willing to break them)
4. cascades depend on the difference between private signal and public behavior

Could something like this really happen?

Summary:

- many decisions are interdependent

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- ▶ many decisions are interdependent
- ▶ when there are interdependent decisions, individual rationality can lead to collective irrationality

Next class:

- ▶ Gladwell, M. (1996). The tipping point. *The New Yorker*.
- ▶ Watts, Chapter 8.
- ▶ Watts, D.J. (2002). A simple model of global cascades on random networks. *Proceedings of the National Academy of Sciences*. (Warning: this paper has hard math)