

Commentary on Chant & Ernst's 'Collective Action as Individual Choice'

Justin C. Fisher

University of Arizona (currently)

University of British Columbia (soon)

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<http://www.u.arizona.edu/~jcfisher>

Overview.

C&E aim to make a step towards a good conceptual analysis of *collective action*.

"[When] a phenomenon's apparent diversity is the result of a small number of variables, [this] reveals which features should figure into a conceptual analysis of that phenomenon" (pg 17)

C&E look for variables that account for the diversity across various e-mail games, and propose that these variables should play into our analysis of collective action.

Rubinstein's E-Mail Game



- State A is a bit more probable than State B.
- In A, both players prefer to do their own thing.
- In B, both players would most prefer mutual cooperation, but they'd hate to be the only one who cooperates.
- If you get lots of messages, that's a sure sign that you're in State B, and that the other player got lots of messages too.
- If you get lots of

Given lots of messages, should you cooperate?
It depends on what you think the other player will do.



If you think they'll cooperate, you should too.



If you think they won't, then you shouldn't either.



If you think they'll go with the flow, you should cooperate.



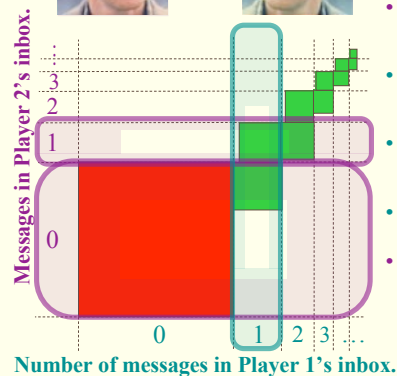
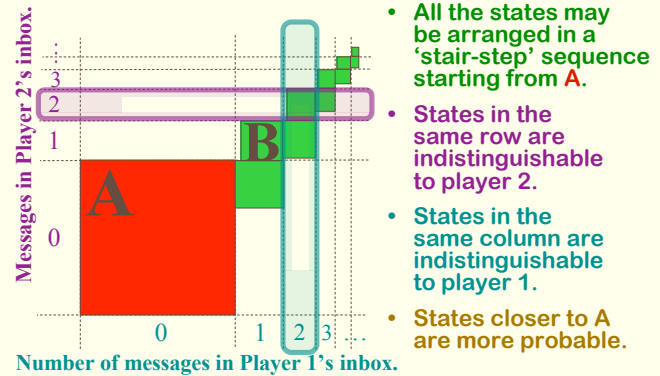
If you think they'll neurotically second-guess you then...?

Moral #1: Sometimes it's hard to make plans with a neurotic.



A Finer-Grained Partitioning of B-States

Rubinstein describes the e-mail game such that:



- I, player 2, got one message.
- So Player 1 got either one or two messages, probably just one.
- So he's probably thinking that I probably got zero messages.
- So he's probably thinking I probably won't cooperate.
- So he probably won't cooperate either.
- So I shouldn't cooperate.

Problem #1: Woody Allen is a freak.



- We all know that Woody Allens are rare and Annie Halls are common.
- Given this, it's *rational* for us to cooperate in e-mail games without second-guessing everyone.
- It's only when we start thinking about *crazy* people that the possibility of cooperation is threatened.
- Why should such far-out possibilities help us analyze collective action?

Interlude: Is Woody's Neurosis 'Rational'?

Standard Analysis:

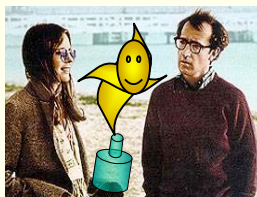


- Woody Allen is 'rational'; Annie Hall isn't.
- The E-mail game is a sad case where 'rationality' prohibits cooperation.
- If people were 'rational', cooperation would dwindle.

My Own View:

When two Annie Hall's have common knowledge that (probably) they're both Annie Hall's, they can cooperate in an E-mail Game without being guilty of any 'irrationality'.

Interlude: Genie Game

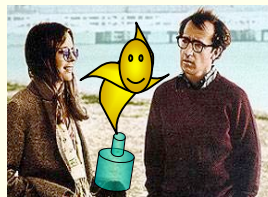


- Player 1 writes down an odd number
- Player 2 writes down an even number.
- Whoever writes the higher number wins \$100; the other wins \$50.

- There is no Nash equilibrium (whoever writes the lower number would do well to go higher)
- But it's clearly rational for each to just pick a big number and name it.

Interlude: Genie Game+ Sabotage

If neither player accepts \$1 to cancel the game, then

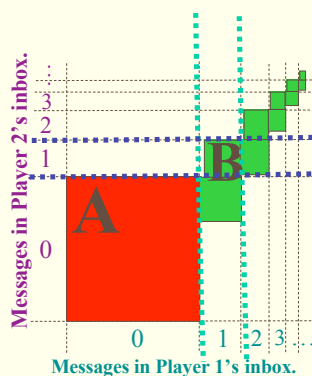


- Player 1 writes down an odd number
- Player 2 writes down an even number.
- Whoever writes the higher number wins \$100; the other wins \$50.

• Now there's a single Nash equilibrium – each takes \$1 and sabotages the chance to win more.

• But do we really want to insist that two people who cooperate in this game must be 'irrational'?

Wrapping up the Interlude on 'Rationality'



- Player 1 can set a threshold at an *odd* total number of messages.
- Player 2 can set it at an *even* total number.
- Whoever sets the lower threshold would do well to abstain or go higher.
- So the only Nash equilibrium is for each to abstain.
- But does this really mean cooperators are...

Moral #2: Darwin loves Annie Hall.

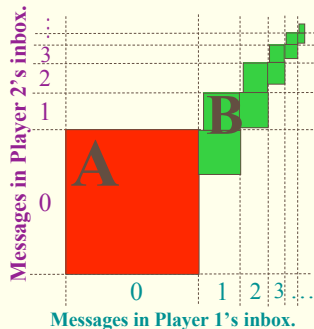


Moral #3: If the messages you're getting might be wrong, you'd better take this risk into account.



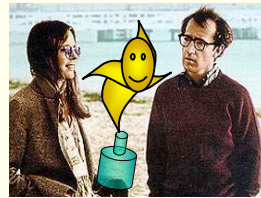
'Degrees of Interactive Knowledge' (pp 15-16)

One way to get this structure is if each message (but the first) is an auto-confirmation of the previous message, with a fixed failure rate.



- A confirmation email assures one player that the other knows the content of the previous message.
- The more messages get sent back and forth, the more mutual knowledge they're sure to have.
- If only they had full-fledged 'common knowledge' they'd rationally cooperate.

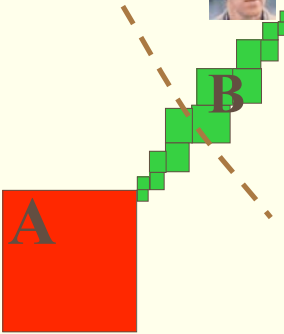
Problem #2: Common Knowledge is a Red Herring.



E.g., Woody's neuroticism poses a parallel challenge to the possibility of cooperation in the Genie Game with Sabotage, but this case doesn't involve any relevant lack of Common Knowledge.

Woody's real problem is that *he's a neurotic second-guesser*, not that he lacks common knowledge.

Problem #2 Continued.




- Suppose the probabilities for the number of messages each player will receive if B form a *normal distribution around a mean*, rather than geometric decay.
- Then Woody's second-guessing can't get all the way down to A, so he might cooperate afterall.
- Again, Woody's problem is that the original problem feeds his neuroticism; it's not that he lacks common knowledge.

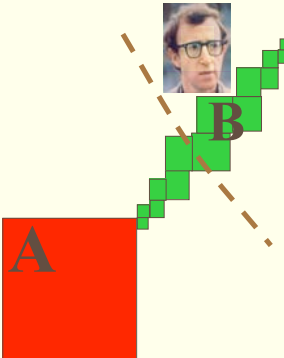
C&E's Conclusions.

“[When] a phenomenon's apparent diversity is the result of a small number of variables, [this] reveals which features should figure into a conceptual analysis of that phenomenon” (pg 17)

Several variables help determine the outcome of e-mail games, and hence should be included in our conceptual analysis of collective action:

- Degrees of interactive knowledge 
- Risk that messages might be wrong (noise)
- Costs of abandoning 'the status quo'

Problem #3: Many variables that might affect cooperation in email games deserve no home in a conceptual analysis.



- E.g. we saw that Woody might cooperate if the probabilities form a *normal distribution around a mean*, rather than geometric decay.
- But should we really include *this* in a conceptual analysis of collective action?

Conclusions.

- It is an important project to understand when coordinated action will (and won't) occur.
- But if this project is to yield conclusions about *ordinary coordinated actions*, we'll need *realistic models* of when ordinary coordinated actions do and don't occur.
- The E-mail Game always yields cooperation, except when there are neurotic freaks playing.
- It's fun trying to diagnose what's wrong with Woody Allen.
- But this sheds quite little light on ordinary coordinated actions.