‘Good Culture’ and Precariousness Project

Report on Cooperation Games Event, Ashington

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Introduction

Humans are such a highly social species because of the mutual benefit that comes from sharing resources, skills, brute strength and ideas. The extent to which individuals are prepared to cooperate with each other consequently has a major impact on the flourishing of human groupings at all levels from small communities and organisations to nation states. And this is particularly true in conditions of greater adversity (Andras & Lazarus 2005; Andras, Lazarus & Roberts 2007).

The motivation to cooperate has been examined extensively by economists, psychologists and evolutionary biologists, both in the laboratory and in real-world settings, by employing a number of simple economic games. In these games individuals, in dyads or larger groups, make decisions that put into conflict their own well-being with that of the group to which they belong (Camerer 2003) and the outcome of this conflict is subject to many influences (e.g. Henrich et al. 2004; Bowles & Gintis 2011).

In classical economics people are assumed to behave ‘rationally’, which means selfishly; that is, in a way that maximises their personal gain or utility. However, these economic studies show, in societies around the world, that people are more altruistic or cooperative than this economic model would predict (e.g. Henrich et al. 2004). This fact provides a foundation for the hope that seeking ways to enhance cooperation could improve the conditions of communities in adversity.

The advantage to be gained from collaborating with others means that an enlightened self-interest is often not entirely selfish. However, the benefits of cooperation are undercut by the free-rider who seeks to take without contributing, and consequently fairness, and a validated trust in the fairness of others, are necessary if the benefits of cooperation are to be enjoyed.

In playing these economic games people are enabled to reflect on their own willingness to cooperate, and on the factors that encourage and constrain a

concern for others. It was with these considerations in mind that the event was organised.

The Event

We met in the snug at The Elephant pub in Ashington on 13 June 2015; myself, three members of the Brisbane group and four members of the Ashington group. I presented, and the two groups played, two games, the Ultimatum Game (UG) and the Public Goods Game (PGG, called Local Community Game at the event). An abbreviated script for the event is provided in the appendix.

The Ultimatum Game: Background

This is a game for two players – a 'Donor' and a 'Receiver' – and can be framed in any number of ways. The Donor is given some money, real or imagined (in our case real money: £1), and asked how much they would like to give to the Receiver; in our case any amount from nothing to £1, in 10p steps. The Receiver is told how much is offered and then must decide whether to accept or reject the offer. If the offer is accepted the two parties share the £1 in the way offered; if it is rejected neither party gets anything.

The rational (i.e. selfish) offer is 10p. This is because the rational response by the Receiver is to accept whatever (non zero) sum is offered (since it is better to have something than reject it and have nothing). Typically, however, Donors offer 30-45% of what they are given, and Receivers reject offers below 20% of the Donor's pot. Neither party acts rationally.

Results in the Ultimatum Game therefore suggest that humans have a sense of fairness (this holds for the motives of both both Donor and Receiver), and this seems to be universal.

Why is this? Current thinking is that we employ strategies that evolved in our early evolutionary history when we lived in small stable groups in which individuals were all known to each other and were highly interdependent (in hunting and gathering), and in which reputation therefore really mattered. Not sharing with others might have been of short-term benefit but in the long run free-riders would have been ostracized. We employ this kind of decision making in the present even when playing with a stranger we are unlikely to meet again. We have a conscience for adaptive, evolved, social reasons, and value our reputations highly.

The Ultimatum Game: Results

All four (anonymous) Donors offered a half of the £1 they were given and all donations were accepted. The donations were therefore on the generous side, compared to the norm, and acceptance by all Receivers was as expected.

The random allocation of Donors and Receivers resulted in all donors being from Ashington so, although donors and receivers were anonymous, it was clear that all receivers would be from Brisbane. (To increase the number of dyads to four one Ashington member played twice as a Donor, donating the second time to another Ashington member, with identical results to the Ashington-Brisbane dyads.) In discussion it was suggested that Donors may have felt more generous to guests and that if they knew that Receivers might have been from their own group they may have been less generous.

The game generated a lot of discussion about sharing in communities, only a little of which could be recorded on paper. A Brisbane member commented that when they go to another community to fish they always give some of the catch to the local community; when they go up country to their community, yabbies have been collected for them for a community party. Another Brisbane comment: an aboriginal woman in Western Australia who won millions on the lottery shared it generously with kin and friends, but not all aboriginals would have done so and white men might also do so. A third Brisbane comment: aboriginals they know, as well as themselves, have many pages at the back of their diaries filled with the bank details of kin and friends to whom they will be giving money, usually after a request (demand sharing). An Ashington comment: receivers offered only 10p might reject it to discourage greed.

The game employed real money and although I said that the money realised from the game was to be kept, all of the 40 10ps won from the game remained on the table for me to take home at the end of the evening!

Public Goods Game: Background and Methods

Typically in this game a number of individuals are each given a pot of money and asked to decide how much they wish to donate to a public good and how much they wish to keep for themselves. Donations to the public good are increased by some multiplier by a notional bank. The game continues for a number of rounds. In our version of the game each group (Ashington and Brisbane) represented a single individual so that there were just two ‘individuals’ in the game (for further details see the appendix). In each round each group came, independently, to a joint decision about their donation. In this way the private thoughts and feelings

of individuals that inform decisions in the typical game became part of a public discussion in which views could be explicitly aired and compared. The donations made in each round were marked up on a blackboard, at the end of each round, and remained for reference for the whole game, together with further calculations that made explicit the gains to the 'individuals' themselves and to the public good (the 'community'; Table 1). The table drawn on the blackboard before the game started contained room for one more round than was actually played; a deliberate tactic to avoid endgame effects.

As was explained to the groups the rational (selfish) decision in this game is to give nothing, but if all players donate (and best of all if they donate all of their funds) they do better than if all give nothing (see appendix). But again, as in the ultimatum game, studies find that players are typically irrationally cooperative, donating quite generously. However, donations tend to decline in succeeding rounds as the more generous players begin to feel less generous to the free-riders in the group.

Public Goods Game: Results

Both groups gave either £8 or £10 out of a possible £10 in every round (funds being notional), which is higher than generally found and did not show the typical decline over rounds. We agreed that this might be expected from (a) friends who (b) are community minded. Participants in experimental studies are generally strangers and may even be hidden from each other. The Brisbane group took longer to decide on their donation in each round than the Ashington group.

Again there was much discussion after the game about self versus community. The following points were made:

- Donations might be influenced by how the options were stated: as an absolute amount of money or as a proportion of salary; and if the former, the level of funds available in each player's pot.
- The importance of what a household could reasonably afford to give to the community. The Ashington group gave all their funds in 5 rounds out of 6 since they thought it was affordable by their households.
- Brisbane comments: one member focussed interest on the rate at which the total community fund was accumulating, and another thought that switching donations from the two groups from 10 and 8 in one round to 8 and 10 in the next might be best for the community. A third found this way of thinking new and interesting and wondered if it might be useful, in negotiations with various agencies, for their work in community development.

Table 1. Results of the Public Goods Game.

	Round:	**1**	**2**	**3**	**4**	**5**	**6**
1	Ashington donation	8	10	10	10	10	10
2	Brisbane donation	10	8	10	8	10	8
3	Ashington cumulative gain[1]	15.5	29	44	57.5	72.5	86
4	Brisbane cumulative gain[1]	13.5	29	44	59.5	74.5	90
5	Total donations to community (row 1 + row 2)	18	18	20	18	20	18
6	Community fund after interest added (row 5 x 1.5)	27	27	30	27	30	27
7	Share of community fund for each household (row 6/2)	13.5	13.5	15	13.5	15	13.5
8	Cumulative value of community fund (row 6)	27	54	84	111	141	168

Notes. 1. Cumulative gain = funds retained (£10-donation) + share of community fund (row 7), accumulated across rounds.

References

Andras, P. & Lazarus, J. (2005) Cooperation, Risk and the Evolution of Teamwork. In: *Teamwork: Multi-Disciplinary Perspectives*, edited by N Gold. Basingstoke: Palgrave, Macmillan. Pp. 56-77.

Andras, P., Lazarus, J. & Roberts, G. (2007) Environmental adversity and uncertainty favour cooperation. *BMC Evolutionary Biology 7*:240. doi:10.1186/1471-2148-7-240.

Bowles, S., & Gintis, H. (2011). *A cooperative species: Human reciprocity and its evolution*. Princeton: Princeton University Press.

Camerer, C. F. (2003). *Behavioral Game Theory*. Princeton: Princeton University Press.

Henrich, J., Boyd, R., Bowles, S., Camerer, C., Fehr, E., & Gintis, H. (Eds.). (2004). *Foundations of human sociality: Economic experiments and ethnographic evidence from fifteen small-scale societies*. Oxford: Oxford University Press.

Appendix: An abbreviated script for the event

We are going to play a couple of games that psychologists and economists have developed to examine how people make economic decisions.

Our aim is to help with your explorations of how communities work, and might work better.

I will say more about what each game can tell us about how we behave in communities after you have played it.

In brief this is what is going to happen:

- Two games – first in pairs, second in groups
- After the break we'll discuss how you came to the decisions you made in 2nd game, what this means for communities and human behaviour generally

ULTIMATUM GAME

Explain game

Donors and Receivers allocated randomly.

Receivers: Read offer from Donor, decide whether you will accept or reject the offer, mark envelope. Find your Donor and show your decision.

If offer is accepted divide money as agreed. If rejected return money to me.

- Put results on board
- Ask players why they played as they did
- Explain rational & actual play, **fairness** & **reputation**
- Invite discussion and answers Qs.

BREAK

LOCAL COMMUNITY GAME (Public Goods Game)

Two groups – Ashington (A) & Brisbane (B).

- Game to raise funds for the same single local community
- Imagine the community activity to be supported is one of your own choice (no need to specify)

Explain game

- Each group = Committee deciding for 100 households
- Decide how much each household contributes each round (=month): £0-10 (=20A$)
- Contributions are increased by 50% (government grant) and shared equally. You keep the rest.

So, for every £1 you give from each household, the whole community gets £**1.50**.

And since there are 2 groups, everyone's share of this £1 contributed to the common good, including yours = £1.50/2 = **75p worth** of community good.

But if you keep that £1 you have **£1,** whatever the other group contributes.

Does that mean that, if you want to maximize your earnings, you should contribute nothing?

It's more complicated than that . . .

Total result for each £ Given/Kept		Brisbane	
		Keep	Give
Ashington	Keep	1, 1	1.75, 0.75
	Give	0.75, 1.75	1.5, 1.5

Dilemma

- You always do better by Keeping, but if both Keep (and get £1) both do worse than if both had Given (when they get £1.50). It's a Prisoners' Dilemma.
- Since you are playing more than once you might want to take into account how the other group will respond to how you play.

You must decide

- What do you want the outcome to be?
- How can you achieve it?

First round – 2 minutes to decide
Later rounds – 1 minute (but in fact these limits were not imposed)
After each round - ring bell, collect decisions and display on blackboard

Any questions?
If confused – ask.

PLAY LOCAL COMMUNITY GAME

Discuss with groups if they wish.
Each round: scores retrieved and displayed.

BREAK

Discuss Local Community Game play with groups

- What strategies did you use? Feelings?

- Your response to other group's play, round by round?
- **What (balance) is best for community?**

Explain Local Community Game (=Public Goods Game)

- Economists – rational (=selfish)
- Here rational = give 0
    - Problem! If both groups (or >2) do this – the community loses – trust required
    - Iterated play: **Tit-for-Tat** is one successful strategy

- How do people play? Typically people give > 0 (40-60%), but decline over rounds, responding to low offers of free riders
    - This decline halted by valuing one's reputation & by punishment

Why are people fair, valuing trust and reputation, and not entirely selfish?

- We evolved in small social groups
- Rely on others for success – resources, strength, skills, knowledge
    - More so with cultural accumulation
- Cooperation is '**enlightened self-interest**' and works by **Indirect Reciprocity** (Via **Gossip** -> **Reputation)**

Again: What (balance) is best for community?
Ideas for promoting community cooperation?

The following was sent to participants after the event

If players value contributions to the public good more highly than funds they keep for themselves then the values in the matrix above will change. For example, if players value contributions to the public good twice as highly as funds they keep then the matrix look like this:

Total result for each £ Given/Kept		Brisbane	
		Keep	Give
Ashington	Keep	1, 1	2.50, 1.50
	Give	1.50, 2.50	3, 3

Now both parties do best by Giving, whatever the other does, Giving is the rational choice and the community benefits. Increasing the value that people bestow on their community is therefore one way of improving investment in that community.