

SPICE

Student Perspectives on
Institutions, Choices and Ethics



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THE STUDENTS OF THE PHILOSOPHY, POLITICS, & ECONOMICS PROGRAM PRESENT

SPICE

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EDITORS' NOTE

To any and all friends of the Philosophy, Politics, and Economics major, we would like to present you with this issue of SPICE: Student Perspectives on Institutions, Choices & Ethics. While founding and organizing the PPE Journal last year was at times a challenging (yet always rewarding) process, we have found this year's continuation of the Journal to be nothing but an enjoyable task that has enriched our year in many ways.

As always, the students affiliated with the PPE major presented a strong selection of papers for us to choose from, and we thank all of the submitters for their time and effort. Simply reading through all of these papers provided us with some genuinely fascinating ideas on very relevant issues, ranging from the politics of preventing nuclear war, to the controversial use of cultural and religious symbols.

While obvious gratitude goes out to the students who offered papers for consideration in the Journal, it is also necessary to thank all of the Editorial Board and the rest of the staff for their invested time and much-appreciated effort. It is safe to say that this Journal would not exist if it were not for the combined contributions of the Editors, the referees, the Advertising Coordinator, and our Submissions Coordinator.

Last but not most certainly not least, we must thank Dr. Sumantra Sen for his invaluable assistance throughout this whole process. We all are extremely appreciative of his support and that of the rest of the PPE-affiliated faculty.

With that, we hope that you find this Journal to be as mentally stimulating as we did, and that you look forward to future issues.

Sincerely,

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In Search of Group Optimality

An Examination of the Effects of Anonymity and Task Complexity on Group Performance

C. MARK DISSTON

This study explores the effects of anonymity on group behavior and structure. We hypothesize that there is an optimal degree of anonymity for each type of task complexity. A completely anonymous group is expected to outperform its semi-anonymous counterpart on brainstorming tasks. However, we expect the greater knowledge of team structure and the high trust and cohesion that exist in semi-anonymous groups to help these groups do better on decision making tasks. This study further examines the role of trust in encouraging information sharing and critical evaluation. We find that high levels of trust may not be optimal when it leads to groups lowering their evaluation of teammate's suggestions. In this case a certain amount of distrust may be the key to strong group performance.

Introduction

We are in the midst of a communication revolution. The rise of the Internet, cell phones, and Blackberrys has led to a rapid increase in non-facial communication through e-mail, instant messaging, text and picture messaging on cell phones, and even online blogs. Businesses have been on the leading edge of this technology wave and frequently use these new innovations to help their workers communicate more effectively. However managers must be aware that virtual communication changes the process of group interaction and can strongly affect the optimal structure of a team.

In all organizations, developing individuals into working teams is an important tool that managers wield. They are aided in this endeavor by a myriad of academic research in the

area of group interaction and decision making. Early research in this field examined the effects of anonymity on group work performance, while contemporary research has primarily focused on the effects of the anonymous communication medium created by computers compared to face-to-face interactions.

However, little research has explored the effects of varying anonymity while holding the method of computer-mediation communication constant. As a result, we focused our research on filling this gap by investigating how performance varies as the anonymity of the computer-mediated groups is modified. It is our belief that various levels of anonymity will be best suited to particular task types. Therefore we will also examine the effects of varying task complexity on the performance of teams. The primary prediction is that anonymous groups will be best suited to brainstorming tasks, while semi-anonymous groups will be best suited to more complex decision making tasks.

Background

Process Loss in Groups

The old adage that the whole is greater than the sum of its parts often does not apply to teams. Process loss causes most groups to perform well below their potential. Reasons for this process loss can best be explained by status incongruities, free-riding, and normative pressures to conform (Steiner, 1972). It is this last contributor, normative social pressure, which creates the most process loss in groups since it strongly affects the ideas that are shared and accepted. The problem with normative influence is that it can cause critical information to remain unshared (Gigone and Hastie, 1993). In short it is easier to discuss shared information that has already been agreed upon than consider disparities that result from new information. Since normative influence is a key factor in determining what information gets exchanged and emphasized in group discussion it can lead to group overconfidence (Sniezek, 1992) and less extensive generation of ideas during discussion of decision materials (Crott *et al.* 1998). Most importantly, high levels of normative pressure leads to poorer decision making (for review, see Shul-Hardt *et al.* 2000). Thus it is important to monitor the extent of social influence on group decisions.

As we will see anonymity plays an important role in diffusing these harmful forces. Our research sheds more light on this topic and further explores the optimal group structure that will best combat the process loss created by normative social pressures, status disparities, and free-riding.

Group Development

It is clear that not all groups perform to the same standard. One explanation for the varying aptitude of groups is the extent of their development. At different points of maturity groups tend to focus on different priorities. Tuckman and Jensen (1977) helped originate the idea that most teams go through four stages of group development: forming, storming, norming, and performing. Through this process teams develop from an inhibited, information-seeking group to a team focused on particular tasks with defined goals and norms to regulate behavior. Newly formed teams often experience high-levels of production blocking because the team must first attempt to establish social norms as to what level of performance is acceptable and thus have less time to focus on the task (Paulus and Dzindolet, 1993). Teams in the performing stage function as a unit with high competency. Tuckman and Jensen proposed that communication was the easiest in the performing stage because procedures had already been developed (most likely intrinsically and not formally) for communication.

The Role of Task Difficulty

A good deal of incongruence exists in the current research on group decisions and the effects of anonymity. The mixed results obtained in previous research have led some academics to further examine the role of task type in group decisions. These researchers speculate that the task type that groups are asked to complete in an experiment can have a significant impact on their performance. Jessup *et al* suggest that task commitment might be an important moderator (1990). We believe that task complexity is a significant contributor to the differences in performance between anonymous groups and face-to-face groups and that modifying team's structures to match the complexity of the task will result in more optimal decision making and reduced process loss.

Brainstorming Tasks

Examining decision making in brainstorming tasks has been a popular focus of researchers. Brainstorming can be defined as a group performance technique designed to facilitate creative thinking (Osbourn, 1957). Early research on brainstorming showed that there is a significant amount of process loss in brainstorming groups. In fact, at times these groups did only half as well as nominal groups (Lamm and Trommsdorff, 1973). This wide discrepancy in performance can be attributed to the high amount of production blocking that

occurs. Production blocking is caused by a myriad of factors including: the ability for only one group member to speak at a time, the need for members to listen to one another, the lag time in waiting for one's turn to speak, and the difficulty in trying to not interrupt others. All of these difficulties create mental blocking that can derail existing trains of thought (Nijstad, 2000).

The obstacles of brainstorming in groups can be circumvented when teams communicate through computer systems. In order for computer mediation to work effectively the computer software must allow individuals to submit ideas without interruption in order to stop mental blocks or forgetfulness, it must allow individuals to be anonymous in order to lower their evaluation apprehension, and it must permit all contributions to be viewed simultaneously in order for teams to jump-start new trains of thought (Gallupe *et al.* 1991). Groups that are aided by computer systems can do better not only because each individual can contribute his or her ideas unimpeded, but also because members build off of others' ideas – in fact a stimulating effect is created (Kerr and Tindale, 2004).

Our experiment will further investigate whether creating a heightened degree of anonymity by routing communication through computer systems will help teams effectively overcome the mental blocks that often occurs in brainstorming tasks.

Decision Tasks

There are sharp differences between a brainstorming task and a decision making task. A decision task requires teams go through a multi-stage process in order to reach a consensus, while a brainstorming task requires little to no consensus among members. It is for that reason that success in a decision making task is contingent upon teams working cohesively with a high range of trust and free expression.

While it seems that many of the process losses in brainstorming groups can be combated by increased anonymity, this may not always be true in decision making groups. There are adverse affects of increased anonymity that can severely hamper a decision making group, mainly that it can encourage social loafing and free-riding. Social loafing can be disastrous in decision making groups because of the possibility that critical information for the task is not shared among group members. However it has been shown that social loafing can be abated if group cohesion (Everett *et al.* 1992) or motivation is sufficiently high.

Another significant factor to the success of decision making groups is the amount of minority influence on the team. Minority influence is important because strong beliefs by an in-group member can cause groups to think more critically about their decisions and the more critically groups examine their decisions the better they will perform. While this has been shown to be true in face-to-face groups, not all research has supported this outcome in anonymous groups. McLeod *et al.* claimed that minority influence is only significant in face-to-face settings (1997). It seems that the majority appreciates the courage and commitment it takes to express dissenting opinions in face-to-face settings and thus is more willing to think critically about all suggestions. In anonymous situations this courage is not evident and therefore teams don't value minority opinions as highly.

It appears that increased anonymity can actually hamper decision making groups by encouraging social loafing and decreasing the impact of important minority contributions. Strong group trust and cohesion, however, can help overcome both of these effects and leads us to believe that the semi-anonymous group will have a distinct advantage in completing the decision making tasks.

Computer-Mediated Communication

Communicating virtually with the assistance of computers changes group interactions primarily because of the increase in anonymity that it allows. This increase in anonymity results in a reduction in perceived status differences among group members (Bonito and Hollinshead, 1997) and is of great advantage to the group because members are more likely to contribute freely if they are of equal status (Dubrovsky *et al.* 1991). In addition people who are apprehensive or fearful of rejection will feel more comfortable expressing alternative viewpoints (Dittes and Kelly, 1955) in these situations. Importantly, when people work in anonymous computer-mediated groups, they are more critical and probing, and more likely to embellish on others ideas than those groups which did not work anonymously (Jessup, Connolly, and Galegher, 1990). Other research by Jessup *et al.* showed that when group members worked apart and anonymously, more ideas were generated and discussion was more critical than their non-anonymous counterparts (1988).

It seems that the increase in perceived anonymity by group members when communicating with the assistance of computers can help both a brainstorming and decision making group. However we expect these benefits to present themselves differently in the anony-

mous and semi-anonymous groups and lead to certain task-types being served best by particular group structures.

Hypotheses

While in recent years there has been an increased focus on computer mediated communication, little research has focused on the differences between anonymous and semi-anonymous groups. For this reason we chose to focus our research on this emerging area. Our hypotheses revolve around our belief that anonymous and semi-anonymous groups have different team strengths. It is our belief that the strengths of the anonymous group will allow them to perform better on the brainstorming task, while the strengths of the semi-anonymous group will lead them to performing better on the decision making task.

Brainstorming Task

We hypothesize that the anonymous group when completing the brainstorming task will do significantly better than the semi-anonymous group. The ability of the anonymous group to feel greater freedom of expression, have low evaluation apprehensions, and be more accepting of others ideas will allow them to accomplish the critical tasks of considering more idea and being more critical and probing of their answers than the semi-anonymous group. We expect three main causes to spur this result: lower normative pressure, lower evaluation apprehension, and the absence of strong roles within the group.

Lower normative pressure is expected in the anonymous group because members should feel greater levels of anonymity. This should occur because team members will interact under secret usernames and have no knowledge of who their teammates are, unlike the semi-anonymous group. Thus they should feel lower pressures to conform to the group decision.

The increase in anonymity should also lead to a lower level of evaluation apprehension. As previous research has shown, the lower apprehension and lower fear of rejection should encourage team members to contribute a wider range of ideas. These creative and atypical ideas will in turn create a stimulating affect that will result an even wider range of ideas.

Lastly the absence of strong roles within the group should help them complete the brainstorming task better than the highly structured semi-anonymous group. The lack of

defined roles means that each member has not cemented themselves into a role that confines their thinking.

Decision Making Task

We expect the semi-anonymous group to do better than the anonymous group on a decision making task because of their ability to reach a decision more effectively, have more purposeful discussions, and interact critically. We hypothesize that three main causes will prompt this result: less social loafing, high knowledge of group strengths and dynamics, and greater minority influence.

We expect less social loafing to occur in the semi-anonymous group for three main reasons. First since semi-anonymous teams will see each other soon after the experiment we would expect members to feel a stronger need to contribute to the group because they are more wary of the consequences of free-riding than the anonymous group. Secondly we expect that the semi-anonymous group will have higher group cohesion than the randomly assigned anonymous group and thus feel more of an obligation to not socially loaf off of their teammates. Lastly we expect a high level of trust to exist between group members which should lead members to feel more willing to contribute to the team's effort.

The prior knowledge of group strengths and dynamics will allow the semi-anonymous members to complete the decision making task better than the anonymous group because they will be able to immediately start to work effectively without the need to orient themselves. The semi-anonymous group has passed the forming and norming stages of development (as described by Tuckman and Jensen, 1977) and are in the performing stage where they will work most effectively. The combined strengths that the semi-anonymous group has in already knowing their roles, how they best contribute, and the strengths of their other team members combined with the positive effects of anonymity will allow them to perform very well on the decision making task.

The final key reason why the semi-anonymous group should do better than the anonymous group at a decision making task lies in the role of minorities. Minority influence is more important in decision making tasks because it is critical that all relevant information is shared in order to arrive at the correct decision. Minority opinions in the semi-anonymous group will have a greater influence because of the higher levels of trust and cohesion

that exist. These minority opinions will help promote greater group discussion and encourage group members to think more critically.

Experiment

The study asked students at the University of Pennsylvania to use an instant messenger program in order to compete in brainstorming and decision making tasks while interacting to varying degrees of anonymity. The dependent variable was the overall performance of each group. The task type and the degree of anonymity and familiarity between the group members were manipulated and each participant was asked to complete a survey expressing their opinion of the group's interaction.

Method

Participants and design:

The experiment was run on forty-five students at the University of Pennsylvania. The anonymous groups were made up of twenty-five walk-in participants who responded to an e-mail publicizing the experiment and the semi-anonymous groups were made up of twenty self-selected participants. Each group was made up of four members who were self-selected in the semi-anonymous groups and randomly assigned in the anonymous groups as each participant walked-in. The group participants interacted over an MSN Messenger program in chat rooms moderated by the experiment administrator. Participants were paid \$10 for their participation in a bundle of unrelated tasks that included this experiment.

Experimental Procedure:

To ensure anonymity each group member was given a confidential username and assigned a computer secluded from their team members. The groups participated in two games. The first game was a simple word building game whose purpose was to act as a warm-up and allow the users to get used to interacting in the chat room and with each other.

The second game varied by the task type being tested, either brainstorming or decision making. Groups participating in the brainstorming task were asked to do the following:

The game focuses on your team's ability to brainstorm as many names as possible that are recorded in the U.S. Social Security Administration's ranking of the Top 100 most common *female* Baby Names of 2005. The rules of the game are as follows: Your team will have 8 minutes to generate as many of the Top 100 most common female baby names as possible. Teams will receive 100 points if their list includes the #1 baby name of 2005 and each subsequent name will receive one point less (i.e. The 30th name receives 70 points, the 90th name receives 10 points). The highest possible score is 5050.

Groups participating in the decision making task completed a similar experiment that asked them to do the following:

The game focuses on your team's ability to correctly choose the Top 10 names that are recorded in the U.S. Social Security Administration's ranking of the Top 100 most common *female* Baby Names of 2005. The rules of the game are as follows: Your team will have 8 minutes to decide on the Top 10 most common female baby names of 2005, and list them in order. At the end of your 8 minute limit, you will be notified of one additional minute to list your final answers in order from 1 to 10. For each name listed, points will be given if it is in the Top 100 list based upon its ranking. The #1 baby name of 2005 will receive 100 points and each subsequent name will receive one point less (i.e. The 30th name receives 70 points, the 90th name receives 10 points). Bonus points will be rewarded for teams that correctly identify names in the Top 10. Teams who do this will receive an additional 100 points per name. The highest possible score is 1955.

After the experiment was finished, each participant was also asked to complete a post-game questionnaire in order to assess why certain groups performed better and to provide evidence for our hypotheses.

Results

Manipulation Check:

To assess whether the manipulation of the degree to which team members knew each other was successful, we examined the mean responses to the question: To what extent did you know the other members of your team before the experiment? Results show that the participants in the anonymous groups rated themselves as significantly less knowledgeable of their team members ($M = 1.45$) than the semi-anonymous groups ($M = 5.69$, $t = 74.969$, $p = .0000$). Between the anonymous and semi-anonymous groups there was no significant difference across the demographic checks of age, gender, MSN Messenger familiarity, class year, primary school, or knowledge of English ($p = .19$ to $.82$). Thus the group knowledge manipulation does not appear to have perturbed the other group measures.

While the manipulation needs to hold across anonymity, we don't expect it to hold across task type. This also proved true; when examining the manipulation across task type it is clear that that the knowledge manipulation is not significant ($p = .580$). Examining common demographics between task types also reveals that there was no significant difference in the group make-ups ($p = .819$ to $.943$)

Analysis

The post-game questionnaire resulted in many answers that were statistically significant even with such a small sample size. The analysis was generated using the average group response in order to accurately assess answers to the survey questions. We are most interested in the responses at the group level and not at the individual level within the group and thus the analysis was conducted comparing the group means across the degree of anonymity, task type, and across both anonymity and task type combined in a four way condition table.

Anonymous vs. Semi-Anonymous Groups:

Significant differences were found between the groups when asked whether they felt they would receive negative consequences from their team if they didn't contribute (q9, $p = .030$) and accordingly if they felt obligated to contribute because they owed it to their team (q12, $p = .078$). In both of these cases the anonymous group answered to a stronger

degree that they felt high pressure from their team to perform to a sufficient level. Differences were also evident between the anonymous and semi-anonymous group when they were asked questions dealing with trust and acceptance. The semi-anonymous group answered significantly more strongly that they felt there was a high level of trust on the team (q21, $p = .004$) and that all suggestions, no matter how unusual or strange, were acknowledged by the team (q23, $p = .041$).

Brainstorming vs. Decision Making Task:

As expected when comparing the group means across task type instead of anonymity different responses were significant. Groups participating in the brainstorming task reported that they felt freer to suggest unusual ideas once someone else in their group did ($p = .071$), while those taking part in a decision making task reported a greater division of positions on the team. The decision making groups felt that more defined roles emerged within the team ($p = .037$) and that there was a clearer leader on the team ($p = .066$). They also reported that they felt more free to question other people's ideas in the group than their brainstorming task counterparts ($p = .061$). Members involved in the decision making task also reported that they had a lot of influence over their team's activities ($p = .041$) and accordingly a great deal of power relative to other team members ($p = .092$).

Four-way Condition Analysis: Anonymity vs. Task Type

The final ANOVA analysis examined the group means by all four conditions. This test most clearly presented the data that supported our hypotheses of the interaction between task type and the degree of anonymity. The test showed that the Anon-DM groups felt more strongly that defined roles emerged within the team (q6, $p = .059$) and that there was a clear leader on the team (q7, $p = .067$). In contrast the Semi-BS groups felt the exact opposite - that little roles emerged (q6, $p = .059$) and that there was no clear leader on the team (q7, $p = .067$). There were two questions that showed responses that were nearly significant. Question 9 asked whether participants felt they would receive negative consequences from their team if they didn't contribute. The Semi-DM groups reported that they felt this was true to a lesser extent than the other groups ($M = 1.88$ compared to group mean of 2.967, $p = .109$). Question 17 asked whether members felt they had a lot of influence over their team's activities. The Semi-DM felt as if they had much more influence ($p = .109$) and the Semi-BS reported that they felt much less influence over their

group's decision than other teams ($p = .109$). There was a strong difference between the Semi-BS group and the Semi-DM group compared to the anonymous groups. Both of the semi-anonymous groups reported a much high level of trust on their teams than their anonymous counterparts (Semi-M = 4.63 compared to Anon-M = 3.71, $p = .059$).

Discussion

The analysis clearly shows that there are significant differences in structure, group psyche, and performance when examining anonymous and semi-anonymous groups. This discussion will first explain the disparity between the groups performing the brainstorming task and the decision making task and then examine the effect varying anonymity has on performance.

Brainstorming Task vs. Decision Making Task

The survey questions dealing with the differing task types were meant as a type of manipulation check to ensure that the groups viewed and reacted to the two tasks differently. While there was a significant difference between the scores for the brainstorming task ($M = 39.36\%$) and the decision making task ($M = 32.74\%$, $p = .014$), this can be attributed to the fact that the brainstorming task was inherently easier since it required teams to identify any names in the Top 100 and not only focus on the Top 10. No attempt was made to weight the scores with respect to difficulty since these differences were necessary in order to examine how varying degrees of anonymity effects team performance.

The innate difficulty in the decision making task required that leaders and clear roles develop in order for the team to work effectively. The survey results support this conclusion with the decision making groups reporting they felt there was a clear leader on the team significantly more than the brainstorming groups ($p = .066$). This was also clearly evident when examining the conversation transcripts. Comments such as "hm...what about in high school...what were there lots of," "What do we think is 1?" and "I think we should put them all in until we find something else to replace them" never occurred in the brainstorming groups. Members of teams in decision making tasks took on more defined roles and displayed more leadership because the task itself required it.

The survey results comparing brainstorming and decision making groups supports our hypothesis that teams will approach these tasks differently. Importantly it seems that one of

the primary ways to adapt to a certain task-type is by restructuring the team. This supports our hypothesis that different team structures will be best adapted to certain task-types.

Anonymous vs. Semi-Anonymous Groups

Our analysis in this area returned somewhat unexpected results. Contrary to our original hypothesis the anonymous groups outperformed the semi-anonymous groups in both the brainstorming task and the decision making task. The anonymous groups achieved a mean score of 41.90% across both task types while the semi-anonymous group only averaged a score of 29.55% ($p = .0000$).

It was our original hypothesis that the semi-anonymous groups would feel more pressure to conform than the anonymous groups and that they would feel obligated to contribute for fear of negative consequences from their teammates if they didn't. We did not expect the anonymous groups to feel these pressures as well because they had never met each other in person, were never going to actually meet one another during the experiment, and especially since they interacted under anonymous usernames. However the survey showed that the anonymous group actually felt more pressure to contribute and were more fearful that their teammates would look down upon them for not contributing than the semi-anonymous group.

An explanation for this unpredicted outcome can be found in the answers to the other survey questions. The semi-anonymous groups showed that they had significantly higher level of trust and cohesion than the anonymous groups ($p = .004$). By reading the conversation transcripts it is obvious that they interact much more informally than the anonymous groups. Users from a semi-anonymous group were much more willing to make jokes, interact socially, and admit to their mistakes. Informal conversations like the following were common in the semi-anonymous group:

upennuser4@yahoo.com says:
i can't spell!!
upennuser1@yahoo.com says:
haha

This would suggest that they are at the performing stage of development suggested by Tuckman and Jensen (1997) where they were most effective at completing tasks. However

their indifference to the quantity and quality of input from their teammates may show that they are in fact past the optimal stage of team development. In our research the high level of trust in the semi-anonymous group did little for their performance. In fact the bi-variate correlation between trust and performance is .234 ($p = .085$). This means that trust is *negatively correlated* with performance: higher trust is associated with lower performance (and vice-versa). This marginally significant outcome is surprising. It seems that the higher levels of trust on the semi-anonymous teams acted as a hindrance since it prevented team members from processing content more deeply.

The anonymous group on the other hand felt that they needed to prove something to their virtual teammates. No member of the anonymous groups wanted to be the person who held the team back. This created additional motivation to contribute to the best of their ability. Research by Hertel *et al.* (2005) showed that the Kohler effect can be found in virtual groups. This could have occurred in our experiment where participants worked harder in expectation that they would be the weakest member of the team. They knew that if they didn't perform well then their team would fail.

While high levels of trust may have prevented the semi-anonymous groups from critically evaluating contributions, it did contribute to team members feeling freer to suggest unusual ideas (q3, $p = .023$), as well as encouraging all members to contribute equally (q8, $p = .002$), and it also ensured that all opinions were received by the team equally (q19, $p = .0003$). However in our case these benefits did not lead to strong performance by the high trust groups. It seems that the ability to freely exchange information does not lead a priori to good performance. While free information exchange is important, evaluation and critical examination of the information is also imperative to team success. The surveys show that the information exchanged by the semi-anonymous was not evaluated sufficiently and likely led to their low performance. In addition there was no significant correlation between the high-level of trust and feeling accountable to the team (q12, $p = .168$) or feeling free to question others (q16, $p = .317$). This shows that the high trust created a feeling of security where members knew that the likelihood of receiving negative consequences from their teammates was low. This result is most crucial in the decision making task since critical assessment of information is necessary for the group to work effectively and perform to a high standard.

Four-way Condition Analysis: Anonymity vs. Task Type

The previous analysis has examined the effects of differing degrees of anonymity and task type, but the combined outcomes have yet to be inspected. An analysis of the four-way condition table shows that our original hypothesis was false; instead anonymous groups performed better on both brainstorming and decision making tasks. We believe that main reason this occurred was because the semi-anonymous groups were too trusting of each other: their high group cohesion and trust actually worked against them. In addition this analysis supported our previous findings that the decision making task required teams to develop a different structure with defined leaders and clear roles in order to work effectively. This adaptation of team structure to the task type was found in both the anonymous and semi-anonymous groups.

Conclusion

The overall analysis of this experiment shows that the hypotheses were not completely supported. The performance outcomes show that the anonymous groups functioned better on the brainstorming task as well as on the decision making task. However when examining the differences between the means of the two groups on each task it is clear that they are linked. While the anonymous group did better on both tasks, they did best on the brainstorming task. Equivalently while the semi-anonymous group did worse on both tasks, they were closest to matching the anonymous group's success on the decision task. Thus to a small degree the hypothesis that each group would do better on a different task is supported.

Another conclusion of this study is that when teams become too trusting and cohesive their performance tends to worsen. It may be that in order for groups to perform optimally only a moderate amount of trust and cohesion should exist between teammates. This would create a small fear of reproach in each member and encourage them to contribute competently. Additionally a small amount of distrust could also lead them to evaluate information more scrupulously since they have less confidence in the informational source. It is clear that in this study, high levels of trust led to less critical examination of information and in the end a lower level of performance. We surmise that the seemingly intuitive idea that the more highly cohesive and trusting a group is the better they will perform may in fact be misguided.

Research by Dirks (1999) supports our conclusion. His results showed that groups with higher levels of trust did not have better performance or better processes than groups with low levels of trust. Instead he found that the main benefit of trust lies in its ability to focus group members on team-level goals rather than on their individual aspirations. In tasks where team and individual goals are already closely aligned (such as in this experiment) trust plays an insignificant role in the performance of a team.

Extending this study to further explore the role of trust in team performance would be worthwhile. It seems that while trust and cohesiveness do allow for teams to align more quickly towards a common goal it can also lead to lower critical evaluation, lower levels of accountability, and a little desire to question others' contributions.

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Population Dynamics: A Computer Model of Discrimination

STEFAN BYRD-KRUEGER

Introduction

Discrimination exists almost ubiquitously in life. It is called both socially despicable and acceptable, politically incorrect and profitable, as well as evolutionarily stable and suicidal. Arguments can be made for a variety of positions on the issue, often with great confidence, yet it is difficult to deliver clear and consistent accounts of discrimination and how it affects its environment. The goal of this project was to provide a controlled analysis of discrimination and to reliably demonstrate its impact on the dynamics of population growth. This was done by simulating populations of simple, sexually reproducing individuals, modeling the progression of genes in the populations, and detailing how the dynamics of this progression were affected by a behavior of discrimination.

Despite the multitude of definitions and manners of discrimination, for the purpose of this project only one will be identified and discussed. There is no violence in this project, thus words and phrases like “domination”, “eliminating”, and “killing off” refer to the favoring of certain genes over others through random, rule-constrained reproduction, and not to any one individual damaging the status and capacities of its peers. Discrimination in this context will mean the act of selecting mates based on common characteristics, and rejecting mates that fail to meet a defined threshold of similarity.

The hypothesis leading up to this project was that a behavior of discrimination in a population would cause that population to divide up into distinct subgroups. Further stipula-

tions were made regarding the composition and behavior of these subgroups, but many of these were not able to be tested. The results of the experiments were sometimes surprising, yet explainable and often informative. In general, all populations tended to ultimately blend into one subgroup, independent of the presence of discriminators. The behavior of discrimination was found to be evolutionarily precarious for those who practice it, yet surprisingly capable of overcoming its risks and prospering despite them. Two different scenarios of linking discrimination to a specific genotype produced very interesting, yet very different dynamics. The most prominent impact of discrimination on a population was found to be a dramatic acceleration of genetic and subgroup domination.

The Program

The question asked before this project was quite simply, “how is a population affected by a behavior of discrimination?” To answer this we needed a population, a method of discrimination, the ability to identify discrimination in a population and its effects on that population, and the ability to observe populations with and without discrimination, repeatedly. These criteria were met with the development of a computer model incorporating all those elements and abilities. The program, the Discrimination Analysis Application, simulates a population through generations, given certain conditions, and records information about the population, such as the expression of genes and the size of various sub-populations.

In studying the effects of discrimination, two major sets of information were collected and considered, the statistics about gene expression and the sizes of various subpopulations. Information about gene expression refers to a percentage of a population exhibiting one of three genotypes (dominant, heterozygous, and recessive) for any given characteristic. The concept of a subpopulation refers to a specific group in which all members share identical characteristics. For example, if humans had only three characteristics – height, eye color, and hair color – one subpopulation of the human race would be tall, green eyed, brown-haired people.

The Model

Every simulation takes place in an environment, called a world, which consists of a series of populations, each representing a new generation through the passage of time. Populations are collections of persons all of the same generation. Each generation is the product of the previous population, that is to say, when one generation ends, the individu-

als mate, produce the next generation, and then expire. Persons themselves are each defined by their gender and a collection of arbitrary characteristics. Characteristics, or traits, are defined by the status of their two alleles, which combine to determine the trait's genotype (and phenotype, since all traits are expressed)

How it Works

Before starting the simulation, several parameters must be set. Changing parameters include how many generations the world should last, how many characteristics each person has, and the Discrimination Threshold, which dictates the behavior of discriminating individuals. Other parameters which were kept constant between simulations were the size of the starting population, and the maximum and minimum population sizes, two points which constrain population size by changing the rate of reproduction.

The simulator starts by creating the world and then spawning the first population. This population is designated "generation 0", and in it, the preset number of persons is created. Each person has a 50% chance of being male or female and is given the set number of characteristics. Each characteristic has two alleles, each of which can be dominant or recessive. In generation 0 these alleles are automatically and randomly set, with a 50% chance of being set to either state. If both alleles are recessive, the recessive genotype is assigned. If both are dominant, the dominant genotype is assigned. And if the two alleles are different, the characteristic exhibits the heterozygous. This process results in a starting population, roughly half female and half male, that on average is 25% recessive, 50% heterozygous and 25% dominant for every trait.

The next step is the selection of mates, which begins the process of creating the next generation. In turn, every male approaches available females at random (though the genders in this process could easily be reversed) and mates with the first match. It is at this point that discrimination introduces its effect. If a person discriminates, upon approaching a female, there will be a test to see how much the two have in common. If the two candidates have enough characteristics in common to match the predetermined Discrimination Threshold, then the two will mate as usual. If, however, the two share fewer traits than the Discrimination Threshold, the male will reject the female and approach another at random until he has mated, or until he finds that there are no acceptable unpaired females, in which case the male will remain single.

Upon completing the mating process, the next generation is created based on certain rules regarding reproduction. A new population is created and populated with the children of the couples from the previous generation. Each child gets its characteristics from its parents by receiving one allele each from its mother and father and having its genotype determined accordingly. The product of this reproduction process, the new “child” population, becomes the current “living” population, while the previous generation, containing the parents, goes dormant, no longer participating in any mating or reproduction.

The number of children in a new population is determined by whether the population is in a growing or a shrinking mode. Typically, the world starts as growing, which means that there are three children per couple, increasing the size of the new generation. This growth continues until the population size reaches a predefined maximum limit, when couples start having only two children per couple. With only two children per couple, each generation is smaller than the previous one, since there are often unequal numbers of males and females, leaving some unmated, and when discrimination exists some individuals may refuse to mate anyone. When the population size goes below the minimum limit, couples are again set back to having three children, and the cycle continues. This cycle constrains population growth and attrition, but also creates occasional bottlenecks in the population size, which accelerate changes in the expression of characteristics in the world.

This cycling process of mating and creating the next generation continues for as long as the simulator is set to run (sometimes thousands of generations). As it runs, statistics about each generation, its genes, and its subpopulations are recorded to a file for later analysis.

Findings

Genetic Domination by Homogeneous Genotypes

One unexpected discovery from this experiment was the unavoidability of domination among genes and subpopulations. Regardless of the presence of discrimination in a population, all genes tended to shift towards being expressed entirely in either the dominant or recessive genotype. Because of this, even in non-discriminating populations, one subpopulation always found its way to supremacy, pushing out all other subpopulations until the subpopulation became the entire population.

It was originally anticipated that the random interactions would keep gene expression relatively stable, particularly in a population without discrimination. However, in every simulation, for every characteristic, either the dominant or the recessive genotype rose to become the only genotype of that characteristic expressed in the population, while the heterozygous genotype was invariably pressed out of the population. Through the process of random mating, one of the two homozygous genotypes (where both alleles are identical) ended up dominating the population.

Though unanticipated, this trend is understandable and can be explained by the mechanics of the model. While the possible outcomes from mixing parents of different genotypes can be complicated, it is important to note that two parents who are both recessive or both dominant for a trait can only produce a child of the parents' genotype. Heterozygous parents, however, can give rise to all three genotypes. Thus, homogeneous populations reinforce themselves in reproduction, while heterogeneous populations will feed into the homogeneous ones. When a homogeneous genotype claims a majority of a population, its self-reinforcement is strengthened, as individuals of that genotype become more likely to mate with other individuals of that genotype, necessarily producing more homogeneous offspring. The result is a favoring of recessive and dominant genotypes, and an unbreakable hold on the population should either genotype achieve dominance.

As a result of the genotype domination, domination also occurs among the subpopulations. Again, subpopulations are defined by their genotypes, so trends among the genotypes will manifest themselves as trends among the subpopulations. When genetic dominance has been achieved by all characteristics, by definition all individuals can only express one genotype for each of their traits. Since a specific subpopulation is defined as a group of individuals who all share the same characteristics, a population in which all individuals are expressing the same genotypes for all traits is comprised of only one subpopulation. This subpopulation has achieved domination.

While domination may occur regardless of the presence of discrimination in a population, discrimination has an undeniable and dramatic effect on the rate of domination. Discrimination compels individuals to choose mates with more of the same characteristics. Thus, an individual who is recessive for a trait will more often mate with someone who is also recessive for that trait, hugely increasing the chance that the child will also be recessive. Without discrimination, the individual would pick randomly, which significantly decreases the chance of this genetic reinforcement. An increased level of discrimination can dramatically increase the rate of genetic drift.

Discrimination Adaptation

During the development of this program, one prediction made was that discriminators would be at a disadvantage, since discriminating individuals who reject potential mates would more often fail to find a mate than their non-discriminating counterparts. Yet in long-term analyses lasting several hundreds or thousands of generations, there appeared to be no difference in population growth rates. After a more careful analysis, it was discovered that in fact there is a disadvantage to discriminating, but discrimination quickly overcomes this, not by adapting to the environment, but by adapting the environment to discrimination.

Discrimination and its effects are more prominent in populations with a high number of characteristics and with a high Discrimination Threshold. Accordingly, a population was created with a relatively high number of characteristics (ten, compared with a usual three) and a high Threshold (eight, compared with a usual max of two), meaning that individuals would only mate with someone they were almost identical too. A Threshold of eight was chosen, because approximately one in ten populations survived, whereas at a Threshold of nine out of ten, even after three hundred simulations, no populations survived for more than three or four generations.

As mentioned, with a threshold of eight, most populations die off, indicating the disadvantage of discrimination, but what happened in the populations that did survive shed light on how moderate discrimination seemed viable in long run. As anticipated, as soon as the population spawns, discrimination causes many individuals to fail to find mates, and most die off in the first mating season. The population continues to plummet, but if the population survives, this decline bottoms out at less than twenty, or even ten individuals. This low is a crucial point in deciding the survival of the population, as even two compatible mates can produce incompatible offspring because of heterozygosity.

This low point, however, serves as an extreme bottleneck, that squeezes difference out of the population, immediately eliminating most genotypes, and ultimately saving discrimination. By the time the population starts to replenish its numbers, there are very few genotypes and subpopulations remaining. Individuals now find that most of the population is very similar to them, and match or exceed their Discrimination Threshold. By the time the population has fully recovered, any individual will happily mate with almost any other individual in the population. By killing off diversity, discrimination has effectively created a

world for itself in which everyone is acceptable. Discrimination has rushed the previously described process of subgroup domination, and therefore individuals no longer exercise their discrimination by rejecting mates. Since the population grows without discrimination, it no longer suffers from the disadvantage of discrimination and continues through population cycles like any other population. Since this genetic attrition happens so rapidly, eliminating most diversity in less than 10 generations, the long-run analysis of population size is unaffected by the discrimination disadvantage.

Discrimination Linked to a Genotype

In studying the effects of discrimination, having compared a population of discriminators to a population without discriminators, we will now consider a mixed population. This mix was achieved by linking the behavior of discrimination to the dominant genotype of an individual's first gene, characteristic 0. Because of this method, approximately 25% of individuals are born as discriminators in the first population. From this starting point simulations were run for two different scenarios with two different sets of rules. In one case, the standard case, all individuals dominant for trait 0 discriminated, and so, discriminators would only mate with someone similar to them. Inadvertently, another set of rules was tested in which discrimination was also sex linked, that is only the males dominant for trait 0 discriminated while females of the discriminating genotype could not discriminate against their suitors and would consent to any mate independent of their own genotypes.

In the standard case, which was originally planned for, discrimination proved fatal to the discriminating population. The discriminating subpopulations face a rapid decline as the dominant genotype for trait 0 was pushed out of the population, and the recessive genotype quickly ascends. The best explanation for this starts with the discrimination disadvantage. Since discriminators can reject available mates, they have a lower chance of producing offspring. Discriminators have the highest chance of producing discriminating children, so this decreases the probability that discriminators will increase. Simultaneously, non-discriminators (heterozygotes and recessives) tend to produce non-discriminating offspring, both because of their natural tendency to do so and because discriminators are less like to choose and accept them as mates, so the population of non-discriminators will increase. Furthermore, should a discriminator accept and mate with a non-discriminator, they will most likely produce a non-discriminating child (50% chance with a heterozygote and 100% chance with a recessive). This reduced probability of producing discriminators,

increased probability of producing non-discriminators, and genetic leakage out of the discriminating population all result in a vanishing discriminator population.

The other linkage scenario, where only males dominant for trait 0 can discriminate, was originally generated through an accident, a slight alteration in the code of the program, but met with drastically different results. Functionally, this alteration created a world in which only males had the power to discriminate. That is, a discriminating male could reject a female who is not similar enough to match his threshold, but a female who is dominant for the discrimination gene would be powerless to reject a non-discriminating male who shares no characteristics with her. The result of this scenario is a rapid ascendance of the discriminating genotype. This trend might be explained by the shift in mating preferences and the changes in gene progression that this shift elicits. The male discriminators in this population still suffer from the discrimination disadvantage by passing up opportunities to mate and pass on their genes. However, the females dominant for the discrimination trait are unable to discriminate, and therefore act as homozygous carriers for the trait (two dominant alleles). Unlike the typical heterozygous carriers (one dominant allele) who are likely to produce non-discriminating children, these dominant carriers are much more likely to produce a discriminating child, and cannot produce the opposite recessive children. Non-discriminators now have a larger chance of mating with someone who is dominant for the discrimination trait, and are therefore more likely to produce new discriminators. While there is still genetic leakage out of the discriminating population from discriminators who accept and mate with non-discriminators, there is now a more significant genetic influx of discriminators from non-discriminators mating with dominant carrier females. Together, the tendency of discriminating males to pick dominant carrier females over other non-discriminators, and the ability of dominant carrier females to readily mate with non-discriminators, producing more discriminators out of the non-discriminating population, might explain the ascendancy of the discrimination genotype in the population.

Conclusions

The clearest and most consistent effect of discrimination on its environment is an acceleration of change. Throughout the analysis of results, the ability of discrimination to accelerate change in a population remained prominent. In all simulations, populations shifted over time, with and without discrimination. Gene expression always polarized so that one genotype and one subpopulation would dominate the population. When discrimination

behavior was linked to a genotype, discrimination would die out in the standard scenarios, and in the sex-linked scenarios discrimination would thrive. Whether these shifts were caused by discrimination or natural trends resulting from random interaction, the greater the degree of discrimination in the population, the faster the shifts were effected.

The impacts of discrimination as detailed in this paper fit intuitively with some common concepts regarding such behavior. For example, it is understood that incestuous behavior can increase the chances of expressing a recessive disorder, such as sickle-cell anemia, or a dominant disorder like Huntington's disease. Discrimination, as put forth in this paper, causes individuals to mate with people who are similar to them, and as family members often share many characteristics, discrimination increases the prevalence of incest. It was demonstrated in this research that such discrimination accelerates a movement towards recessive and dominant genotype expression, corroborating and substantiating the commonly held belief that such behavior can lead to disorders.

This project also produced a basic model that fits what we observe as different ethnicities, or local subgroups among the human population. The model in this paper demonstrated that a diverse yet isolated population that breeds over many generations will tend to blend itself into one dominant subgroup. When we look at the development of the human race, we see that regional populations (i.e. the French, the Polish), which were geographically isolated before the modern age, blended themselves into separate groups with distinct features, so that one could tell them apart just by observation. Though this model does not come near to detailing the nuanced differences between and within ethnicities, the basic principles are echoed in both the simulated and the real worlds.

Despite these similarities, however, it should be well understood that this simulation of discrimination and the conclusions drawn from its study are by no means exhaustive. This model is successful at demonstrating the most basic effect that discriminating behavior can have on a small, isolated, highly simplified population. From it, we can gather intuition and broad understandings about discrimination, but we must be careful about directly comparing or applying this model to any real world societies or situations. There are several directions I would have liked to take this project in, and features I would have liked to add to the program, to make it more applicable and capable of accurately modeling real-life environments.

To start, changing the limits on population size might make a significant difference. The small population of this simulator and the frequently induced bottlenecks in the population likely played a significant role in the speed and abruptness of genetic change. When the population grows very small, it puts genotypes and subpopulations at great risk of dying off. In a model with a larger population, bottlenecking would play less of a role in population dynamics, making it easier to identify changes from other factors, such as discrimination.

It would be interesting to study the impact of giving discriminators the ability to settle for a near substitute in the event that a mate exceeding the Discrimination Threshold cannot be found. This would reduce the impact of the discrimination disadvantage, but also mitigate the domination-reinforcing effect of discrimination. It is difficult to say what, if any, effect this would have on a population, particularly in the long run. In conjunction with other changes in the program, slowing the drastic impacts of discrimination on population dynamics might allow genetic nuances the ability to develop into significant genetic movements.

Another addition might be the ability to introduce point modifications to the population. For example, instead of starting the population with discrimination in the sex linked scenarios, the world might start off with an all recessive non-discriminating population. Then at a given time during the population's progression, one or more dominant alleles could be introduced. It is conceivable that the non-discriminators would randomly pass the allele throughout the population as heterozygotes, and produce a population of discriminators, which would sustain itself, and eventually take over the population. Mid-simulation studies like this could take many forms and demonstrate a variety of outcomes.

One highly intriguing, major reconstruction could address the lack of environmental impacts in the model, such as pressures favoring or endangering certain genes. While in the current program a genotype on the verge of extinction stands little chance of recovery, such a minority might find itself with an evolutionary advantage over the majority. For example, if a minority of tall individuals had access to abundant food supplies in trees, while a short majority would overtax a limited food supply on the ground. Or contrarily, vulnerability could be linked to a gene in the form of a recessive genetic condition, leaving individuals less able to cope with an environmental danger, such as predators. While some of these ideas may prove complicated to enact, modeling real world environments and situations is ever appealing, and serves as a valuable tool in understanding the dynamics of discrimination.

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The Rationality of Fair Division as an Equilibrium Outcome in the Ultimatum Game

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Economic man is self-interested and rational. But in practice, humans often act irrationally and sacrifice their own self-interest for the benefit or detriment of another's outcome. Rooted in the same fundamental economic principles, is formal game theory, then, a wash? This paper sets out to bring together evidence from recent discussion in behavioral and evolutionary game theory in an attempt to rationalize fair division as a short run equilibrium strategy played by self-interested and rational human beings in the ultimatum game.

Introduction

Is formal game theory supposed to describe actual behavior or not? It's a seemingly simple question that game theory has successfully avoided for a surprising amount of time.

Imagine the following situation, which is called the 'ultimatum game' and is frequently employed by game theorists as a way to model human behavior. The rules are as follows: one bargainer (henceforth known as the 'first-mover') makes a proposal of how to divide a windfall of a certain amount with another bargainer (the 'second-mover'), who has the opportunity to accept or reject the proposed division. If the second-mover accepts, each bargainer earns the amount proposed for him by the first-mover, and if the second bargainer rejects, then each bargainer earns zero.

This stylized brand of negotiation was first studied by experimental economists, and their paper surprised traditional economists with the following solution: game theoretic analysis

favors an unequal split in equilibrium, predicting that the first-mover will walk away with everything in the end, and the second-mover with nothing. Furthermore, the solution is a subgame perfect equilibrium, meaning that at that particular ‘node’ in the game neither player could do any better by switching strategies (Güth *et al.* pp. 367-388).

Experimental evidence presents a compelling argument that in any kind of multistage game, players anticipate their opponents’ future actions. Assuming that he wants to maximize his monetary payoff, economists take this to mean that the second-mover in the game will accept any positive offer that the first-mover offers her under the simple assumption that any player would rather accept the offer and earn whatever she can, rather than reject it and earn zero. Eventually realizing that the second-mover will accept any non-negative offer that he offers her, in later rounds the first-mover will inevitably offer just the minimal amount necessary to keep the offer non-negative.

Formal game theory makes no claim over the “fairness” of this equilibrium –

assuming self-interest and rationality, the second-mover would do the same thing given first mover advantage. But in practice, human behavior frequently deviates from the game theoretic predictions (Halpern, “Elements” pp. 835-868). Ochs and Roth (pp. 355-384), among others, have noted that a notion of “fairness” might be influencing players’ behavior. How can we incorporate this idea into traditional game theory?

Fair Division in the Long Run

It is well known in economic literature that subjects do not anticipate future actions as they should according to game theoretic models (Harsanyi and Reinhard, pp. 80-106). Nevertheless, the fact that experiments in bargaining strategy consistently yield out-of-equilibrium results is bothersome to game theorists.

How does formal game theory cope with the concept of fair division? According to evolutionary models of behavior, randomly matched individuals playing the ultimatum game over the long run will typically observe one division almost all of the time. When all individuals in the population adopt the same strategy, this stochastically stable division yields close payoffs to those of the subgame perfect equilibrium (Young, pp. 145-68). Thus, we

can argue that fair division as equilibrium in the long run is at least theoretically possible, given the right conditions.

Brian Skyrms goes beyond this claim to assert that not just can the right starting conditions carry the “demand half” strategy to fixation according to discrete replicator dynamics, but the demand half strategy is in fact the only evolutionarily stable strategy (i.e. the only strategy robust to ‘mutant’ innovators if the whole population were to adopt the strategy). In short, fair division isn’t only possible – it’s also “more likely than not” (Skyrms, 2003, pp.17-29).

Skyrms, along with Jason Alexander, ran a large simulation in a population of 10,000 plotted on a square lattice, starting repeatedly at randomly chosen starting points to explore how “inevitable” the fair division outcome is and measuring the basins of attraction for the various polymorphic pitfalls on the way. Sure enough, fair division went to fixation in more than ninety-nine point five percent of the trials. The cases where it did not were all cases where the initial population contained fewer than seventeen players playing the demand-half strategy.

Skyrms and Alexander’s experiment shows that there are contagious dynamics of equal division when bargaining with neighbors. Bargaining with strangers in the ultimatum game leads to fair division from a randomly chosen starting point about 60 percent of the time. As soon as a small group of players playing the demand-half strategy form, justice is contagious and fair division takes over. In the “ultra-ultra long run,” fair division is the inevitable conclusion (Skyrms and Alexander, pp. 588).

Evolutionary game theory explains how “demand half” is a stochastically stable outcome in the ultra long run; however, as Skyrms points out, long expected waiting times call into question the explanatory significance of evolutionary analysis. We know that demanding half bodes well as a strategy in the long run, but what makes it better than the dominant strategy of demanding the total sum in the short run? As Camerer opines, there is no triumph for formal game theory until it can explain the behavior in early rounds that produces the fair division equilibrium in later rounds (Camerer, pp.167-88).

Fair Division in the Short Run

We know that “demand half” is a stochastically stable strategy in the long run, but can behavioral game theory explain how application of the fair division strategy can yield a subgame perfect equilibrium in the short run without the aid of any unnecessary psychological handwaving?

Lopomo and Ok offer a model capable of accommodating observed differences in experimental bargaining games and game theoretic predictions while still providing a rational theory of fair outcomes, which they achieve by rigorously modeling a concept they call “fear of rejection” (Lopomo and Ok, pp. 263-83). The notion presumes that people derive negative utility from rejection, and thus yield positive utility by avoiding it. The main contribution of the model is that it allows for the negative interdependence of preferences – that is, it allows for “altruism,” the idea that some people derive positive psychological utility by helping others, and that if large enough, this utility can dominate material preferences in utility maximization.

Nevertheless, there are at least three major concerns with Lopomo and Ok’s attempt at modeling bargaining behavior in the ultimatum game. The first is that the notion of “fear of rejection” depends on negatively interdependent preferences, which are not part of the game but rather implicit in the preferences and beliefs of the players. Interdependence of preferences keeps game theorists from modeling players as truly independent of each other, undermining the fundamental economic assumption that humans are self-interested beings. The second concern is over the model’s asymmetric dependence on negatively interdependent preferences (i.e. altruism) without considering the contra positive situation (i.e. positively interdependent preferences), commonly known as ‘spite’ and commonly neglected in the discussion of fairness norms in formal game theory thus far. Finally, the assumption that players are rational allows for players to think (i.e. assign a positive probability to the event) that his opponent may care about his relative share of the whole – which calls into contests the usefulness of the model altogether.

An earlier model developed by Matthew Rabin proposes a formal way to explain fair division in the short run, using rational choice economics, without the need for psychological handwaving. Rabin’s framework enables us to incorporate emotions into a broad number of economic models, developing a theoretic solution he calls a “fairness equilibrium” that

incorporates psychological evidence that (1) people are willing to sacrifice their own material well-being to help those who are being kind, (2) people are willing to sacrifice their own material well-being to punish those who are being unkind; and (3) fairness influences behavior the most when material stakes are low without having to rule out self-interest and rationality as fundamental assumptions (Rabin pp. 1281-1302). Modeling emotions like altruism and spite allows us to begin to understand their economic and social implications more generally.

Rabin divides utility into two inputs, material and psychological, and it can be both positive and negative. Intuitively, if a player thinks his opponent is going to act fairly toward him, he is more likely to act fairly in return. When both act fairly, both derive positive psychological utility. Acting fairly toward a partner who acts unfairly yields negative psychological utility, but a player can also produce utility by acting selfishly against someone who acts selfishly toward him.

Rabin's model does a good job filling the gap in coverage produced in cases where players have positively interdependent preferences by Lopomo and Ok's model. It also formally allows players the capacity to assign a positive probability to the event that his opponent cares about his relative share of the whole. Unfortunately, Rabin's model alone it still is not enough to model our experimental results from the ultimatum game.

If it were true that the fairness equilibrium was a complete model, we should be able to extend any complete model to incorporate evolutionary game theoretic results. However, it is not the case that Rabin's model can explain Brian Skryms' finding that fairness is a stochastically stable strategy that reaches fixation in the long run "more likely than not." This is not yet the case with Rabin's model. His model assumes that the utility derived from material payoffs in the ultimatum game monotonically increases along with the stakes, but the utility derived from the fairness remains constant as the stakes increase. Thus, in the long run, players' strategies are dominated by material outcome and fairness becomes indistinguishable from the subgame perfect equilibrium.

In a response to this problem in Rabin's "fairness equilibrium," William Robert Nelson, Jr. points out a small adjustment in Rabin's model that can make it infinitely more useful in explaining the kind of behavior in early rounds that produces the fair division equilibrium in later rounds. Nelson points out that by treating fairness as a standard economic good,

instead of as a normal good, you can allow for the theoretical situation in a game where the payoffs are *very very large* and concerns over fairness dominate a player's utility derived from material goods. If you incorporate the idea of diminishing marginal utility of wealth, fairness considerations may, at *very very high* stakes, dominate players' material considerations (1180-1183). Simply put: the richer you get, the less you have to worry about material needs and the more you can afford to focus on psychological needs. You can also see this effect in action in today's society, where corporate philanthropy is a virile business strategy and the world's richest man is also its biggest philanthropist (Conlin and Hempel).

With the Nelsen addendum, Rabin's model of "fairness equilibrium" is of great aid to the game theorist in explaining how behavior in the early rounds leads to stochastically stable fair division equilibrium in the limit. The U-shaped utility curve of fairness yields fair division in the limit as concerns for fairness dominate material wealth. The model can account for both altruism and spite, which are widely observed in the ultimatum and yet absent from in formal game theoretic model of human behavior.

Nevertheless, there is one final concern with this amended version of Matthew Rabin's model: like with Lopomo and Ok's attempt at modeling bargaining behavior in the ultimatum game, the concept of "fairness equilibrium" depends on negatively and positively interdependent preferences, which are not part of the game but rather implicit in the preferences and beliefs of the players. Interdependence of preferences keeps game theorists from being able to model players as truly independent of each other – which undermines the economic assumptions behind formal game theory. Any complete attempt at modeling bargaining behavior would have to be able to incorporate independence of preferences.

Bringing It All Together

Now that we can rationalize fair division in the short run using utility functions adjusted to reflect the psychological utility a player derives from achieving a fair division, can we use predictions made in evolutionary game theory to pull expected utility up by the bootstraps and accommodate the short run experimental results?

Predictions in evolutionary game theory give us a leg up in this endeavor: from models of neighborhoods interaction over the long run, we know that you'll reach fair division quicker bargaining with neighbors than you will when bargaining with strangers. A study done

by Jennifer Halpern confirms this prediction in the short run. Halpern examined how friendship alters expectations for pricing strategies in bargaining games and provides the evidence we need to confirm the equilibrium prediction of fair division in evolutionary game theory. Subjects were told that they were participating in a study designed to explore how people “like you” make pricing decisions. The experimenter randomly assigned the subjects to roles as buyer or seller and gave them a list of several commodities familiar to them. They were asked to imagine themselves involved in a transaction with someone of the same biological sex who was described as either a friend or someone that they did not know who is also a fellow student (“Effects” 64-68).

The following hypothetical commodities with their typical price ranges were included: concert tickets (\$10-\$26); dictionary (\$5-\$20); calculator (\$20-\$50); telephone (\$50-\$100); and a television (\$175-\$200). After reading each description, participants were asked to indicate how much they would offer if assigned to the buyer role, or accept for the item if in the seller role. The participants were reminded that negotiation was not possible.

For all five commodities, the friend was willing to accept an amount below the midpoint of the commodity’s typical price range, so friends were not just merely “splitting the difference” by selecting an obvious price point midway between the high and low end of the price range recognized by both parties, as is often suggested early papers on bargaining behavior. Halpern observed that that friend-sellers were willing to accept less than stranger-sellers, and friend-buyers were willing to pay more than stranger-buyers. Participants consistently offered more to hypothetical-friends than hypothetical strangers for all commodities. A similar hypothesis was confirmed about the effects of friendship on pricing expectation: participants consistently asked for more for all commodities from hypothetical strangers than from hypothetical friends.

The study also found that while stranger-buyers offered significantly less than stranger-sellers, friend-buyers and friend sellers *agreed* on price. It is not surprising that strangers disagreed about pricing (this gap in utility functions is what enables bargaining to occur); rather what is surprising is that these participants made these pricing decisions – which called for friends to agree and strangers to disagree – completely independently of one another, without the cues available in negotiation and with no signaling system in place.

Halpern's study strongly suggests that there is a tendency to alter one's expectations for an exchange based on anticipated future interaction (i.e. friendship). Unlike the model proposed by Lopomo and Ok which relied upon the outside concept of "fear of rejection" and did not allow us to cover situations where spite dominates behavior, the interaction between buyers' and sellers' roles in this study clearly shows that friendship is indeed a factor mediating price expectations.

What do these findings mean in context of evolutionary replicator dynamics and evolutionary game theory? As Skyrms showed in his neighborhood models of interaction, players playing the "demand-half" strategy do better in groups of neighbors playing the same strategy. Is the behavioral game theoretic model that we have just developed able to incorporate these payoffs?

The idea of social norms for friendship allows us to understand Halpern's experimental evidence that humans follow bargaining scripts that distinguish between friends and neighbors. A seller discounts a commodity for a friend because she trusts the friend to return the favor someday; the seller also expects there to be a "someday" in the future during which they will interact and wants to produce goodwill and maintain the harmonious interactions they have exchanged. Halpern calls this the notion of "scripts for friendship" – norms for fairness may call for us to play the "demand half" strategy with friends, but our scripts for dealing with strangers make no such considerations.

The concept of anticipated future interaction is helpful, but not necessary, to understanding friendship scripts. For example, if you are chosen as a godfather for a dying friend, you are probably likely to still honor the obligation to raise the child even though you know there will not be any future opportunities for him to return the favor. Similarly, the notion of trust is a necessary precursor to the "demand half" strategy but not sufficient enough to cue friendship scripts when dealing with strangers. This sheds some light on the Skyrms finding that the key to the contagion of a strategy is interaction along the edges of the "patch" as mapped on a lattice. You can trust that a department store's reputation for being fair to its consumers, but that doesn't mean that you will offer to pay more for their merchandise on account of that trust.

Fairness equilibrium and anticipated future interaction help explain the substantial frequency of rejected offers in the ultimatum game, a task which formal game theory has yet

to do. These rejected divisions, which result in Pareto-inefficient outcomes, do not occur in the traditional game theoretic model, which assumes that as utility maximizers players would accept any proposed division rather than reject it and gain nothing from the transaction. In the laboratory, however, the probability that an offer will be rejected is inversely related to the size of the offer within country irrespective of cultural norms of fairness. Furthermore, higher disagreement rates are not observed in countries where lower offers are observed and the probability that an offer is rejected is actually lower in countries where a lower offer is observed (Roth *et al.* 1068-95).

Conclusion

Traditional game theory, deeply rooted in economics, has had similar troubles asserting its relevance beyond the theoretical as a descriptive approach to modeling human behavior. Like economists, game theorists assume that humans everywhere deploy the same cognitive machinery for making economic decisions, and consequentially would behave similarly when faced with comparable situations. To the contrary, experimental evidence strongly suggests that social norms of the perception of fairness play a strong role in bargaining behavior, and suggest that these norms may vary across cultures (Henrich 973-979). Norms for fairness – which include both altruism and spite – helps extend traditional game theory to incorporate how human behavior differs from traditional game theoretical prediction. Matthew Rabin’s model of “fairness equilibrium,” combined with the idea of anticipated future interaction and the Nelsen addendum of a U-shaped curve of the psychological utility of fairness, rationalize the fair division equilibrium in the limit, as predicted by evolutionary game theory, without having to abandon the fundamental assumption that humans are self-interested and rational beings.

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Sense and Insensibility in the Cuban Missile Crisis

BLAKE GILLMAN

Deterrence is a theory concerned with the skillful nonuse of military force. Throughout much of the Cold War, the concept of mutually assured destruction was thought to have deterred the two great powers, Russia and the United States, from nuclear warfare. The problem, however, was that mutually assured destruction (or MAD) rested on contingent strategies that would not be rational for the two countries to carry out (Skyrms 24). In order to avoid the problem of modular irrationality inherent in MAD, the two countries had to somehow convey their commitment to perform the threat against their interests. This process involved the removal of choice and loss of control. During the Cuban Missile Crisis, Russia and the United States played the game of chicken against this deadly background. Chicken enhanced the credibility of MAD by creating the fear that the opposing country would follow through with its threat of annihilation. As the crisis escalated and the threat's fulfillment became imminent, Russia and the United States desperately sought a way to correlate their subjective utilities. Nobody would actually perform an act that promised damage on a nuclear scale. But who could be sure? Strong commitments, decomposed threats and promises, and empathy were all essential elements to avoid disaster. Not even then was the avoidance of general war guaranteed.

In mid October 1962, a U-2 plane had completed a photographic mission convincing the Intelligence Community that Russia was placing missiles and nuclear weapons in Cuba (Kennedy 19). The Cuban Missile Crisis had begun. A month earlier Moscow had publicly disclaimed any intention of introducing offensive weapons of any kind into Cuba (Kennedy 22). As it turned out, that had all been "one gigantic fabric of lies" (Kennedy 22). President Kennedy knew he would have to act. The question was how?

Three options were discussed: (1) “a diplomatic option,” in which the US would appeal to the UN without first threatening an attack; (2) a blockade of Cuba that would prevent Soviet supplies and men from reaching the island, which would entail the risk of heightened aggression; and (3) an air strike against missile sites and likely invasion (Blight and Lang 62). The first action was deemed insufficient because few believed diplomacy could persuade the Soviets to remove the missiles (Blight and Lang 62). Secretary McNamara, the strongest advocate of the second option, argued that a blockade constituted limited pressure that could be increased or limited as the situation developed. Most importantly, McNamara believed it would still leave the US in control of events (Kennedy 27). The last option, spearheaded by General Curtis LeMay, insisted that a mere blockade would neither remove the missiles from Cuba nor stop the work from going ahead on the missile sites themselves (Kennedy 27). The strongest argument in favor of option three was that a blockade around Cuba would tempt the Russians to implement a blockade around Berlin. In effect, the promise to lift the blockade in Cuba contingent upon the removal of missiles would demand the reciprocal act of removing the missiles surrounding the Soviet Union (Kennedy 28). As General LeMay put it, “This blockade and political action, I see leading into war. I don’t see any other solution for it... This is almost as bad as the appeasement at Munich” (Blight and Lang 65).

After the sides presented their arguments, President Kennedy had to decide the final course of action. What crystallized the decision in Kennedy’s mind was the warning from General Sweeney, Commander in Chief of the Tactical Air Command, that there was some doubt as to whether a major surprise air attack would destroy all the nuclear weapons and missile sites in Cuba (Kennedy 38). President Kennedy gave the thumbs up for the blockade. Justifying the stance, the Organization of American States, France, West Germany, and Britain unanimously supported the blockade (Kennedy 40).

Pressure mounted immediately after the blockade was enforced. A Russian tanker with little probability of carrying nuclear weapons was allowed to pass through, but was shadowed by American warships (Kennedy 57). The Air Force sent eight low-flying planes over Cuba morning and afternoon as US warships forced all six Russian submarines in the area to surface (Kennedy 59). As for President Kennedy’s strategy, “I don’t want to put him [Khrushchev] in a corner from which he cannot escape” (Kennedy 59). In the meantime, President Kennedy kept routine communications with Khrushchev. President Kennedy made clear his fear and accompanying threat that “[the Russians] would not correctly

understand the will and determination of the United States in any given situation” (Kennedy 61). Along similar lines, Khrushchev “resolved to take the measures which [the Russian people] deem necessary and adequate in order to protect our rights” (Kennedy 63).

Toward the end of the crisis, the level of pressure on both governments was extraordinary. In a letter many regard as incoherent, Khrushchev expressed his fear over the gravity of the situation: “This [fear over mutual annihilation] indicates that we are normal people, that we correctly understand and correctly evaluate the situation... Only lunatics or suicides, who themselves want to perish and to destroy the whole world before they die, could do this” (Kennedy 67). To bring the crisis to a peaceful conclusion, Khrushchev proposed the removal of the weapons already in Cuba in exchange for withdrawing the blockade and promising not to invade Cuba (Kennedy 68). The next day, however, Khrushchev amended his proposal with the additional stipulation that the United States removes its missiles from Turkey. Russia would then promise not to invade Turkey (Kennedy 71). The NATO countries wanted the US to stand firm and accept Khrushchev’s initial proposal, but not his second. By giving in to Khrushchev’s second proposal, the United States and NATO would demonstrate a weakness and damage their credibility. President Kennedy decided to accept the first letter and agreed to “work toward a more general arrangement regarding ‘other armaments’ (Kennedy 78).” Khrushchev accepted. The Cuban Missile Crisis came to an end...but barely.

In order for a threat to be effective, it must be costly to the side that issues it (Jarosz and Nye 154). The question is just how costly must it be in order to compel another party to perform or refrain from performing an act. For surely, a threat that entails mutual annihilation would not be believed by the threatened party unless the threatener was mad. Feigning madness is actually a quite effective way of convincing an opponent that it is in its best interests to back down (Kahn 45). The point is that each side to a threat must convince the other that it is committed to pursuing a course of action that is highly destructive to its own interests. The hope for each side is that the other will be rational and back down. Russia and the United States played this game of chicken during the Cuban Missile Crisis. Its aim was to put enough pressure on each other to settle the dispute without going to war (Kahn 187).

If a threat is not rational to commit in the first place, it seems highly unlikely that the threatened party will perceive the threat as credible. Each side in a threat has an incentive to bluff (Jarosz and Nye 154). The trick to convincing the threatened party of the immi-

nence of a threat is to deprive the threatening party of its ability to renege its commitment. Commitment essentially removes choice; a rational process. To commit to a threat against one's interest, one could "convey a revenge motivation very strong to overcome the prospect of self-damage" (Schelling 36). During the Cuban Missile Crisis, both the United States and Russia employed this tactic. On the day that Kennedy revealed the crisis to the United States in a televised speech, Kennedy also sent a statement to Khrushchev threatening "the will and determination of the United States in any given situation" (Kennedy 61). The Soviet Chairman replied with the threat that the Russians have "all that is necessary" to protect the rights of the Russians (Kennedy 62). Whether or not both sides really were committed to a revenge motivation is questionable. The transcripts of the Ex Comm discussions revealed sharply divided commitments (Jarosz and Nye 154). More than communication is required to convince someone of the credibility of a threat that would not be in one's interest to carry out (Schelling 35).

Another method of commitment is staking one's reputation on the fulfillment of a threat. If backing down from a commitment would entail "intolerable loss of personal prestige or bargaining reputation," the reliance on one's reputation could convey commitment effectively (Schelling 25). After deciding to implement the blockade against Cuba, the United States garnered unanimous support from the Organization of American States, France, West Germany, and Britain. Latin America and the United States' Western allies had given their pledge of support for the blockade. Implicit in this pledge of support was an approval of American values. The commitment now included the possibility of tarnishing American ideals at home and abroad if the United States were to back down. This possibility provided the "qualitative rationale" for the United States to maintain its commitment (Schelling 34).

Conversely, commitment may lead the other side to believe that preemptive war is the best way to reduce the damage from the imminent fulfillment of a threat. If a country regards war as inevitable, it may actually be safer for itself and the world to seize an opportunity rather than to wait (Kahn 54). The reciprocal fear of surprise attack may make it rational for both sides to strike even if the fear emanates from mutual misunderstanding (Kahn 52). The object of the game of chicken is the peaceful conclusion of negotiations "against the background of a threatened mutual homicide" (Kahn 135). However, when it is clear that the game of chicken has led to the brink of a nuclear conflict spiraling out of control, the least destructive response might very well be a preemptive strike. The commitment on both sides is so sound that the prospect of mutually assured destruction is actually a genuine pos-

sibility. This series of events unfolded during the Cuban Missile Crisis: a blockade was enforced around Cuba, a U2 plane was shot down, six submarines were forced to surface, and a Soviet-chartered Liberty ship was inspected (Kennedy 59, 64). President Kennedy was at the brink of war and about to invade. As it turned out, so were the Russians.

Still, if war broke out why should someone automatically assume it would lead to mutual annihilation? After one round of strikes both sides would perhaps come to their senses and realize tit-for-tat is an irrational strategy. Even with the certitude of an invasion, why presuppose the credibility of MAD? The Joint Chiefs of Staff were unanimous in this modularly rational view (Kennedy 28). As Air Force Chief of Staff, General Curtis LeMay assured President Kennedy there would be no response by the Russians to a preemptive US strike: “I don’t think they’re going to make any reprisal...I just don’t see any other solution except direct military intervention right now” (Blight and Lang 65). President Kennedy was skeptical of General LeMay’s confidence: “They, no more than we, can let these things go by without doing something” (Kennedy 28). General LeMay and President Kennedy differ on their convictions of Russian commitment. But as Thomas Schelling points out, it does not really matter who was right in terms of mutually assured destruction. The chance variable that a preemptive strike could lead to the escalation of war creates sufficient fear to make the threat of mutually assured destruction binding (Schelling 188). The final decision about what happens is not completely under the threatener’s control and the threatened party knows it (Schelling 188). Whether intended or not, the risk of all out war rises with conflict. It is essentially a matter of chance based on the nature and context of limited war that determines the likelihood of general war (Schelling 191). As such, it is vital that both sides can coordinate their expectations to conclude the conflict without bloodshed.

In order for a commitment to a threat to work there has to be empathy between both sides. Otherwise, the threat cannot serve its purpose. As Robert McNamara describes it in the *Fog of War*, empathy involves “put[ting] ourselves inside their skin and look[ing] at us through their eyes, just to understand the thoughts that lie behind their decisions and actions” (Blight and Lang 27). Just because the United States valued the lives of its citizens to a considerable degree did not mean the Russians ascribed to the same value system. During World War II, the Russians killed thousands of their own people to emerge victorious. Maybe the blockade against the greater threat of escalation was not enough to deter further Soviet aggression if Russia thought it could achieve a strategic goal by striking. Even if Khrushchev was highly sensitive to the lives of his people, perhaps others in the

Kremlin with significant sway were not as humane. The final decision sometimes reflects “individuals who do not have identical value systems and whose organizational arrangement and communications systems do not cause them to act like a single entity” (Schelling 16). That certainly was the case in the United States. As Attorney General Robert Kennedy recalled, “We had perhaps amongst the most able in the country and if any one of half a dozen of them were President the world would have been very likely plunged into catastrophic war” (Kennedy, 15).

Chairman Khrushchev demonstrated his desire to coordinate expectations with the letter he sent on October 26, 1962. To convey his appreciation of and repulsion to war, he said, “I have taken part in two wars, and I know that war ends only when it has rolled through the cities and villages, sowing death and destruction everywhere” (Blight and Lang 33). Khrushchev, however, was unsure whether President Kennedy was just as concerned about the gravity of the situation: “I do not know whether you can understand me and believe me” (Blight and Lang 33). Khrushchev’s letter is an instance of coordinating intentions and expectations (Schelling 57). It provided insight into the goals of the Soviets, the costs of action, and the condition of the military balance (Jarosz and Nye 155). Khrushchev was clearly not nearly as interested in hurting the United States as members of Ex Comm may have thought. He was trying to achieve a military objective and escape destruction at the same time (Kahn 61). Khrushchev, like Kennedy, was desperate to find a signal on which to converge his expectations. In such circumstances, “even a poor signal and discriminatory one may command recognition, in default of any other” (Schelling 70).

President Kennedy had understood the importance of empathy in drawing the Cuban Missile Crisis to a peaceful conclusion. In 1960 he had reviewed Basil Liddell Hart’s book Deterrent or Defense, which advocated the motto: “Keep strong, if possible. In any case, keep cool. Have unlimited patience. Never corner an opponent and always assist him to save his face. Put yourself in his shoes...” (Kennedy 11). During the deliberations with Ex Comm, Kennedy repeatedly reminded everyone to “think why the Russians did this” (Kennedy 11). Kennedy employed a strategy of “flexible response” (Jarosz and Nye 158). He recognized the necessity of denying the United States too great a reward from the Soviet’s concession (Schelling 35). Decomposition of a great threat into smaller threats enabled President Kennedy to convey both the credibility of his threats and his willingness to negotiate. By punishing the first few transgressions of the smaller threats, the larger threat becomes more credible (Schelling 41). When the United States imposed their block-

ade around Cuba, they did in fact board and search a Soviet run ship, shadow others with warships, and force submarines to surface. The fulfillment of these smaller threats strengthened the credibility of the larger though irrational threat of mutual annihilation. It also heightened the anxiety over the crisis, prompting a coordination of expectations between the United States and Russia that ended in *détente* (Kahn 135).

When Chairman Khrushchev, with obvious influence from hard line members of the Kremlin, sent a second letter requiring the United States to remove its Turkish missiles, NATO countries wanted the United States to stand firm with respect to the provisions of the first proposal. NATO countries understandably feared that a concession at this point would be interpreted as capitulation, designating a prior commitment as a fraud (Schelling 34). Giving in at this point could damage the larger threat credibility of mutual annihilation. Attorney General Robert Kennedy thought about ignoring the second letter altogether. Ignoring the letter at this stage might not have been such a bad idea because cutting off communication this late in the game of chicken would necessitate agreement at the risk of heightening aggression (Schelling 60). The letter President Kennedy wrote back to Khrushchev turned the threat of a possible Turkish Missile Crisis into a promise to “work toward a more general arrangement regarding other armaments” contingent upon the Soviets first removing the missiles from Cuba (Kennedy 78). President Kennedy essentially applied the tactic of decomposition to the area of promises. After Khrushchev removed the missiles from Cuba, President Kennedy would promise to lift the blockade and not invade Cuba (even though Cuba would now be strategically vulnerable and the CIA had wanted Castro out of power for quite some time). As an additional safeguard, Kennedy would also promise to remove the United States’ missiles from Turkey. This latter promise enhanced the promise to not invade Cuba because it was also an implicit threat. The Kremlin implicitly acknowledged that the United States would be in danger of provoking a Turkish Missile Crisis if it did not obey its promise to lift the blockade without invading Cuba. Thus the Cuban Missile Crisis came to a close with neither side really losing face and jeopardizing their balance of power. If anything, both sides had coordinated their expectations for peace that paved the way for *détente*.

If the United States had followed General LeMay and the Joint Chiefs of Staff’s advice there is a good reason to believe nuclear war would have been the result. General LeMay assumed the blockade and political action would lead to war (Blight and Lang 65). The only alternative in General LeMay’s mind was to initiate a preemptive strike. He was con-

vinced the Russians would obey modular rationality and concede right away. General LeMay was wrong, however. He had underestimated the subjective utility calculations of the Cubans. Fidel Castro was convinced the actions of the United States would result in war. In a letter on October 26, 1962, Castro expressed to Khrushchev his personal opinion: if “the imperialists invade Cuba with the goal of occupying it, the danger that that aggressive policy poses for humanity is so great that following that event the Soviet Union must never allow the circumstances in which the imperialists could launch the first nuclear strike against it” (Blight and Lang 68). Castro wanted to go down as a martyr. Since he concluded an American air strike and invasion of the island were inevitable, the best outcome Cuba could hope for was to also “pull the temple down on [the Americans’] heads” (Blight and Lang 80). The important point is that what may seem highly irrational to great powers may seem honorable and unavoidable to weaker nations (Blight and Lang 85). President Kennedy’s strategy of flexible response was effective against the Russians, but served no purpose against Fidel Castro. Cuba was so sure that the United States would strike, that Kennedy’s threat was meaningless. If the Cubans were resigned to the fate of destruction, seeking retribution in the process might be the best response- a *rational* response in light of their subjective utilities.

What country would ever place retribution above the security interests of its people? Castro said, “in the event of an invasion with 1,190 sorties...I would have agreed to the use of nuclear weapons. Because, in any case, we took it for granted that it would become a nuclear war anyway, and that we were going to disappear” (Blight and Lang 79). Castro misunderstood the game of chicken and tit-for-tat. Escalation could have occurred to the point of nuclear attack, but it did not have to. If Castro valued the lives of his people, he would have exploited every opportunity at concluding the game of chicken as peacefully as possible-even if it meant suffering damage to Cuba’s reputation and the loss of lives from limited reprisal. Instead Castro skipped to the horrible catastrophic conclusion that nuclear war inevitable. Herman Kahn points out, “it can make sense to commit oneself irrevocably to do something in a particular eventuality, and at the same time it may not make sense to carry out the commitment if the eventuality occurs” (Kahn 45). Fidel Castro thought otherwise. He really did “get in the car drunk, wear dark glasses, and throw the steering wheel out of the window as soon as the car got up to speed” (Kahn 188).

Why were Chairman Khrushchev and President Kennedy so sensitive to the implications of the game of chicken while Fidel Castro was so quick to jump to the conclusion of

mutually assured destruction? Perhaps the answer lies in the evolution of the three cultures. The evolutionary process occurs whenever there is significant variation in fitness (Dupre 329). Cultural evolution has provided variation consistent with the biological variation created by Darwinian evolution (Dupre 337). Features of the cultural environment could determine human behavior (Dupre 337). The specific behavioral repertoire in a social environment constrains the evolutionary possibilities of behavior in that environment (Dupre 335). Evolution has structured the mind, but it has only constrained the proximate causes of behavior (Dupre 340). The cultural contexts of individuals ultimately determine the behaviors that evolve. Is cultural evolution strong enough to overpower the biological instinct for survival? Castro had created the perfect environment for a culture to evolve. As dictator he himself constrained the behavior possibilities available in Cuba. He might even have indoctrinated the Cubans with sufficient nationalism to sacrifice their lives for a higher cause. After all, heroes are born exactly when self-interests get ignored.

Sometimes empathy is not possible. Even if all the right steps are taken to avoid disaster, catastrophe may nonetheless strike. Rationality applies to the decision makers. One person's rationality is another person's irrationality. The problem is that there are a number of subjective factors that go into one's utilities in rational decision-making. When dealing with the destructive power of nuclear weapons, the possibility that expectations cannot be coordinated is a risk too great for mankind. If nuclear weapons are to exist at all, we must be certain that those who have them share the same values and rationality.

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Cultural Crusades: Relativism and the FGM Debate

SONIA PASCAL

In the aftermath of September 11, 2001, and the subsequent United States' invasion of Afghanistan, much of President George W. Bush's rhetoric surrounding military action has been related to the status of Afghani women. As he signed the Afghan Women and Children Relief Act of 2001, surrounded by cherubic children and hand-picked women, his remarks focused on the "new-found freedoms" for Afghani women, and how women's rights had factored into his decision to oust the Taliban regime.ⁱ Likewise, Bush's comments on the Iraqi invasion have repeatedly castigated Saddam Hussein's treatment of women, thereby once again linking the status of women to the reason for the new "Crusade."ⁱⁱ In making an explicit connection between cultural practices and the need for external reform, George W. Bush has inadvertently stepped into a long-standing argument about cultural relativism versus the universality of human rights, especially as it relates to women.

For advocates of the relativist position, the *hijab* or veil worn by Muslim women is best understood as a practice of cultural specificity. Further, Western critiques of female genital mutilation (FGM) or punishments for crimes of honor, *hadd*, including being raped, are misguided; morality and justice is relevant only in a cultural context. The mere act of criticism, in this line of thinking, reinforces Western cultural hegemony, naturally assuming Western supremacy in philosophical and political thought. Even the idea of universal human rights is not sacred: individual rights, as opposed to collective rights or responsibilities, are denigrated as wholly Western. As Iranian President Mahmoud Ahmadinejad declared in a speech, "'Today, the worst type of dictatorship in the world is the American dictatorship which has been clothed in human rights."ⁱⁱⁱ

On the other end of the spectrum, universalism theorists imagine a set of presupposed, global human rights. As many critics have pointed out, the model for such rights is often a white man, necessarily involving a “moral chauvinism and ethnocentric bias.”^{iv} Between these extremes lies a wealth of opinions, from Lila Abu-Lughod’s defense of the *burqa* to Lawrence E. Cahoon’s attempt to find a consensus across cultures. Through an examination of specific cultural practices—*hadd* crimes, FGM, and the veiling of women within Muslim society—it is clear that no one theory proves to be a panacea. The cultural relativism argument correctly appreciates the legacy of Western colonial rule, and the need to understand the development of foreign customs, even as it fails to account for variations within a culture and the availability of choices to practitioners of a culture. The universalism argument correctly notes the limitations of culture as a political tool, particularly because of its shifting, fluid nature, even as it fails to account for individual agency and autonomy in promoting certain practices, potentially suppressing women’s voices yet again. In cases of women accused of *hadd* crimes, female children undergoing genital mutilation, and laws prohibiting half the population from appearing outside exposed to the open air, neither argument is sufficient. The international community can neither ignore so-called human rights abuses, nor perpetuate disempowering assumptions about non-Western peoples.

The invention of cultural relativism is relatively recent, although it stems from a long tradition of philosophical examinations of moral relativism. The work of Johann Gottfried Herder, a student of Immanuel Kant, established the notion of cultures, in direct opposition to general Enlightenment universality.^v In his *Ideas on the Philosophy of the History of Mankind* (four volumes published 1784-91), Herder established culture as the central mechanism through which to understand human identity.^{vi} His concept of cultures as plural in turn influenced Franz Boas, the “Father of American Anthropology,” who became the first to incorporate the principles of relativism into the cultural milieu, although he did not himself coin the term “cultural relativism.”^{vii} His work sought to bolster the primacy of the relativist approach in anthropology. He believed traditional anthropology was too invested in “right” and “wrong” societies. In his view, focusing on a progress narrative, i.e. First World vs. Third World, primitive vs. civilized, belies the cultural specificity of morality; thus, anthropological value judgments merely reinforce Western ethnocentrism.^{viii} Boas never questioned, however, the fact that culture and cultural relativism with it are uniquely Western concepts, and as such also evoke Western ethnocentrism.

Cultural relativism moved from the purely academic to the political realm in the post-World War II era with the Universal Declaration of Human Rights (UDHR). Given the atrocities of the Nazi regime, the international community sought to enshrine certain “human rights” to be protected by the United Nations. According to the Preamble, United Nations member states have “reaffirmed their faith in fundamental human rights, in the dignity and worth of the human person and in the equal rights of men and women and have determined to promote social progress and better standards of life in larger freedom.”^{ix} The Declaration serves only as an explication of those fundamental rights. Most of these rights, including the right to a nationality and the right to choose one’s spouse, are solely Western in ideology. Cultural relativists, many from the Boasian anthropological tradition, decried the underlying ethnocentrism of the document.^x Melville Herskovits, one of Boas’ students in the 1920s, issued a “Statement on Human Rights” that was adopted by the Executive Board of the American Anthropological Association. The Statement sets out its own principles for understanding human diversity in the face of universalistic arguments. The third directly addresses the UDHR in stating: “Standards and values are relative to the culture from which they derive so that any attempt to formulate postulates that grow out of the beliefs or moral codes of one culture must to that extent detract from the applicability of any Declaration of Human Rights to mankind [sic] as a whole.”^{xi} The Statement further calls for a “statement of the right of men [sic] to live in terms of their own traditions.”^{xii}

The import of the Statement on Human Rights carried beyond the anthropological sphere, although that was admittedly its most significant arena. From its first publication in a 1947 issue of *American Anthropologist* magazine through today, the debate between cultural relativists and universal theorists has raged unabated. There is no consensus around a set definition on either side, but cultural relativism, in its strictest sense, is well-summarized by theorist Jack Donnelly: “culture is the sole source of the validity of a moral right or rule.” In contrast, radical universalism holds that “culture is irrelevant to the validity of moral rights and rules, which are universally valid.”^{xiii} Donnelly identifies the drive toward universal doctrines of human rights—the UDHR and the Convention on the Elimination of all Forms of Discrimination (CEDAW) among them—as indicative of the primacy of the universalist doctrine, at least among politicians. However, while universality dominates among political elites, cultural relativism is the theory of choice for many scholars. Adamantia Pollis and Peter Schwab have been particularly instrumental in shaping the field. They claim that:

in many societies—Asia, Africa, Eastern Europe (including Russia), and the Middle East—the liberal doctrine of human rights does not speak to the people’s world view. The ontological foundations of their cultures and society, often reinforced by the political regime on matters such as the nature of man/woman, her/his identity, and the person’s relatedness to others and to society, differ in significant ways. Belief systems, values, and basic concepts, frequently articulated in nontranslatable words (hence the concepts are nontransferable), were and remain markedly different from those in the West.^{xiv}

Cultural relativism’s popularity has much to do with Pollis’ argument; relativism seems to avoid the essentialist trappings of Western ethnocentrism. The UDHR proves to be a particular point of contention, with the supposedly coherent notion of universal human rights as the usual place of entry. The very notion of a fundamental human right—that is, a duty of the state or others to recognize some mysterious characteristic intrinsic to every human—is anathema to non-Western cultures. Rights are seen as “the heirs of the ‘Judeo-Christian tradition.’”^{xv} A particular area of concern is the individualist mentality of Western thought in comparison to the group focus of some other cultures: for example, according to some ethnologists, “in Africa the individual does not exist.”^{xvi} If there is no consensus on the existence of an individual within society, some relativists argue, then there can certainly be no consensus as to whether that individual possesses rights. Moreover, relativism theory need not be explained by reference to abstract ideology; as A. Belden Fields and Wolf-Dieter Narr assert, “They [human rights] cannot be pulled out of the air or the mind of a thinker. . . . A theory of human rights must be based upon real human beings rooted in their social contexts.”^{xvii}

While cultural relativism has enjoyed a modicum of success in gaining followers since the 1947 Statement on Human Rights, it also has been widely critiqued. First, opponents point to the lack of uniformity in any culture, including that of the West. As Uma Narayan notes in “Essence of Culture and a Sense of History: A Feminist Critique of Cultural Essentialism,” culture is not dichotomous; presuming solidarity on behalf of cultural groups “depict[s] as homogenous groups of heterogeneous people whose values, interests, ways of life, and moral and political commitments are internally plural and divergent.”^{xviii} Even among those who do ostensibly condone or promote specific practices of a culture, like FGM, many may do so “in background conditions of intimidation and eco-

conomic and political inequality.”^{xix} This observation lies at the heart of Martha Nussbaum’s formulation of culture. Members of a particular society are constrained by “limits to the notions of consent and choice,” including illiteracy, poor education, “political powerlessness, malnutrition, and intimidation,” brought about by the dominant hierarchy.^{xx} She is referring to this aspect of culture when she claims that “a community is not a mysterious organic unity but a plurality of people standing in different relations of power to one another.”^{xxi} A practice like FGM is thus not an inherent, unimpeachable element of life; rather, it is an unjustifiable wrong caused by gendered power imbalances and perpetuated by those who directly profit from the custom, including the practitioners themselves and the men who maintain their dominance, sexual and otherwise.

Other philosophers situate the wrongs of cultural relativism within the nature of culture itself, emphasizing the fluidity of customs as an explanation for the ability—indeed, inevitably—of external forces to effect change. As Patricia Hill Collins states, “Culture... is not composed of static, discrete traits moved from one locale to another. It is constantly changing and transformed, as new forms are created out of old ones. Thus culture... does not arise out of nothing; it is created and modified by material condition.”^{xxii} Therein lays the possibility for transformative change; not necessarily in eradicating a particular custom, but in improving material conditions and fostering leadership among those within a culture who decry the specified practice. As Collins also notes, “oppressed peoples may maintain hidden consciousness and may not reveal their true selves for reasons of self-protection.”^{xxiii} Criticizing FGM, *hadd* crimes, or the restrictive *burqa* may thereby be seen not solely as Western imperialism, but as a reasoned understanding of cultural power structures.

Some proponents of universalism engage directly with relativist arguments in order to debunk them. Peter Jones, though admitting that any doctrine of human rights “is necessarily a universalist doctrine,” claims that human diversity need not interfere with a common conception of human rights.^{xxiv} “Human individuals exhibit different physical and personal characteristics, but that sort of diversity does not prevent our identifying all of those human beings as human and insisting that all are entitled to the same minimum of concern and respect merely as human beings.”^{xxv} Diversity of belief and practice is then the issue. Universalists have several explanations in this realm, too; Rawls’ concept of an overlapping cultural consensus is the most notable. The overlap consists of “thick but vague” concepts that are acceptable to almost all “rational” beings, including, perhaps, an “endorsement of an account of the human Good and key social practices and institutions

by distinctive cultural traditions.”^{xxvi} In this vein, those concerned with international human rights look for specific sites of commonality. For example, this practice may include comparing the Quran to the Old or New Testament in order to find religious proscriptions on human behavior, including the proper ways to treat other people. Consistency of the relativism is at stake, as well. As one Kosovar woman complained, “Our men tell the foreign men to ignore our ideas. And they are happy to do so—under the notion of ‘cultural sensitivity.’ Why is it politically incorrect to ignore the concerns of Serbs or other minorities, but ‘culturally sensitive’ to ignore the concerns of women?”^{xxvii}

An additional point must be made in terms of the cultural relativism debate: as Ann Elizabeth Mayer indicates, relativism “is not a concept developed for application in the field of law or for evaluating whether governments of nations are adhering to international legal norms. Instead, it is a term that was developed for use in anthropology and moral philosophy.”^{xxviii} Given a world in which 192 countries are bound by the international doctrine of the United Nations and the UDHR is the world’s most translated document,^{xxix} universalist theory is, without question, the predominating legal theory. Cultural relativism may prove to be a significant criticism of the universal application of supposedly Western human rights, but its central proposition—live and let live—is unsettling for most policy makers and moral persons.

Indeed, ignoring the colonialist legacy implicit in any formulation of Western philosophy, the theory of universalism has much to recommend it. Unlike relativism, universalism provides the possibility of international agreements, thereby, hopefully, stemming what are seen as abuses of Western notions of human rights. Like relativism, however, universality theory cannot hope to account for all interactions between cultures. FGM may be a reason to intervene in cultural practices, as will be discussed, but United States media “intervention” in the Philippines has transformed a cultural emphasis on bigger bodies to a larger societal pressure to be thin.^{xxx} Clearly, not all external involvement is positive. The prolonged history of colonialism—in terms of both land-grabbing and cultural programs designed to convert the minds of the conquered population—cannot be erased or subsumed under the new threat of global pan-cultural uniformity. Groups, and the social actors that ascribe to them, do differ in fundamental ways, within nations and across nations, from adherent to adherent and adherent to outsider. As Lila Abu-Lughod articulates, “We may want justice for women, but can we accept that there might be different ideas about justice and that different women might want, or choose, different futures from what we envision as best?”^{xxxi}

Justice for women may be dependent on different ideas about justice, but it also depends heavily on the specific circumstances being examined. *Hadd* crimes, FGM, and the veiling of women under Muslim law all present unique challenges to universalist theory. If the commonly-accepted Western definition of human rights abhors restrictions of freedom of choice, how can Westerners fathom a prescribed dress code? If gender equality, in the broadest sense, is an incontrovertible principle, how can the practice of mutilating only female children's genitals ever be deemed acceptable? And if any doctrine of human rights necessarily involves bodily integrity, how can being raped, the "ultimate violation," ever lead to capital punishment, not for the rapist, but for the victim? Cultural relativists and universalists alike struggle with these issues, as the West "confronts" Islam for the first time, arguably, since the Spanish Inquisition.

FGM is the most discussed example in the cultural relativist/universalist literature, as it is perhaps one of the simplest examples of a foreign cultural practice that Westerners find abhorrent. Although the practice varies considerably across the nations in which it is common, approximately 80% of the 2 million procedures performed every year involve excision of the clitoris and the labia minora.^{xxxii} Between 100 and 140 million women have undergone the surgery, most in the 28 African countries where FGM is the cultural norm, although it increasingly affects more women in the rest of the world, including the United States, as a result of global migration.^{xxxiii} Although mutilation is itself a problematic term—practitioners and proponents prefer female circumcision—it is medically accurate, in that all four of the World Health Organization's identified categories of FGM involve deliberate injury to the female genital organs.^{xxxiv} Western feminists have called the practice "torture," "barbaric, uncivilized, and inhumane."^{xxxv} From its harmful effects, including risk of hemorrhaging, chronic infections, blood poisoning, retention of urine, shock,^{xxxvi} HIV transmission, and long-term emotional and developmental trauma,^{xxxvii} it is not difficult to ascertain why so many people across the world decry the practice.

The nature of the ritual—mutilation of only women's genitals—leads often into a discussion of the enforced limitations for women in societies that practice FGM. Georgina Ashworth writes that "female circumcision is intended to prepare the female sex for a life of suffering; to state that her identity is pain and powerlessness, unquestioning submission to social norms defined by men."^{xxxviii} Although women are often the direct impetus behind individual surgeries, as the nurses who perform it and the female relatives responsible for holding the girl-child down, the operation is performed within a patriarchal framework

that demands female sexual purity. The Arabic term for genital cutting is *tabur* or *tahara*, meaning the ritualistic purification needed for one to begin praying.^{xxxix} Although the practice is not traditionally Islamic, and in fact predates Islam, some Muslim teachers hold that female circumcision is an “ennobling act,” proper, if not required, for Muslims.^{xl} Thus, even though many Muslim countries do not promote or permit FGM, the plurality of practitioners are Muslim. Regardless of the lack of scriptural basis for the procedure, it has become tantamount to a religious rite where it has been practiced.^{xli} Young girls who do not undergo the mutilation are considered impure; deemed, in societies like the Maasai of Kenya, unable to marry; in others ostracized as the Western equivalent of a “loose” woman.^{xlii} In other traditions, including the Nile Valley cultures of Egypt and Sudan, FGM is specifically linked to defining femininity; the clitoris and labia are considered “male organs” and removal results in “a more feminine and aesthetically pleasing body.”^{xliii} In most cultures where FGM is common, it is understood that genital mutilation will restrict the woman’s sexual pleasure, but that fact is often the point of the surgery. If a woman does not desire sexual activity, she is not likely to fornicate or practice adultery. She must submit to her husband, but will desire no other. In that way, then, FGM ensures female servility to male sexual dominance.

However, it is unlikely that millions of girls worldwide are subjected to a cruel practice for which there is no explanation. And indeed, practitioners of FGM defend their practice as traditional, as acceptable within their cultural milieu, and as necessary for the purity of womankind. For Muslims, FGM is often referred to as “sunna circumcision.”^{xliv} Sunna, or tradition, implies that the practice was sanctioned by the Prophet Mohammed. His actual words on the subject, “When you perform excision, do not exhaust [remove the clitoris completely], for this is good for women and liked by husbands,” can be ambiguously read as either acceptance of the practice, albeit in a lesser form, or a statement that renders the procedure nonessential.^{xlv} Nonetheless, there is often dispute about whether traditional Islamic law requires circumcision, and among Muslims in rural areas, traditional customs often supersede religious dogma. Fittingly, many rural Muslims are appalled to learn that other cultures do not circumcise their daughters.^{xlvi}

The seeming barbarianism of FGM, coupled with the cultural “naturalism” of the practice, make it a prime subject for the cultural relativism/universalism debate. On one hand, FGM violates all existing human rights law. It violently interferes with bodily integrity, claiming victims who are incapable of consent, much less informed consent; it presents

serious short- and long-term health hazards; and it negatively impacts one sex for the benefit of the other. Yet, female circumcision is also a long-standing cultural practice, followed for centuries by societies across continents, viewed as an essential stage in female development. How can the two theories be reconciled? Is it appropriate for Western feminists and human rights activists to demonize the practices of another culture?

Several theorists have proposed arguments, ranging from strongly universal to strongly relativist in scope. On the former end, Nussbaum places the blame for FGM on male domination. She quotes a man from the Ivory Coast: “[My daughter] has no choice... I decide. Her viewpoint is not important.” His wife, who herself opposes FGM, nonetheless concurs, “The man makes the decisions about the children.”^{xvii} Nussbaum therefore considers culture a façade for male domination, which she sees as reason enough for intervention. Her argument deemphasizes culture in the larger context of human rights, even as she attempts to understand why the practice would be culturally important. Next to Nussbaum on the continuum lies Ellen Gruenbaum, who recognizes the cultural import of what she calls female genital cutting (in order to avoid the stigma associated with mutilation), but asserts freedom of choice as a more important principle. She accepts that after the age of consent, one may choose to alter one’s own body, “but to impose a decision on a child that will permanently alter her body... is to deny her right to make that decision when she is old enough to understand the consequences.”^{xviii}

Among those who advocate for a more nuanced view, FGM is seen as misunderstood by the Western world, a problem for African women to fight without Western intervention, or not as significant an issue for African women as other rights abuses. Narayan uses the case of FGM in Sierra Leone as evidence that cultural change, particularly when prompted by Western intervention, can result in worse scenarios for women. What she calls a “synecdochic substitution”—part of a ritual being accepted for the whole—has resulted in a situation wherein “the disappearance of the initiation period seems to have modified the practice for the worse. The age at which excision is carried out has drastically decreased.”^{xix} Even activists against FGM do not see the West’s intervention as necessarily positive. Nahid Toubia has written that:

The West has acted as though they have suddenly discovered a dangerous epidemic which they then sensationalized in international women’s forums creating a backlash of over-sensitivity in the concerned communities. They have portrayed it as irrefutable evidence of the

barbarism and vulgarity of underdeveloped countries... It became a conclusive validation to the view of the primitiveness of Arabs, Muslims, and Africans, all in one blow.ⁱ

Awa Thiam concurs. "People who understand nothing of ritual practices must beware of attacking them... The women of Black Africa have suffered enough from these colonial and neo-colonial attitudes."ⁱⁱ Non-Western activists also criticize the focus on this issue when they see it as inextricably linked to other social ills for women, including malnutrition, child prostitution, and violence against women. They question the difference between FGM and the popularity of cosmetic surgery for Western women, especially new "hymen-repair" surgeries.ⁱⁱⁱ Many of these indigenous activists do not appeal to concepts of human rights in fighting their cause; they focus instead on health issues, thereby avoiding the need to attack deeply-held cultural beliefs. While Western intervention is seen as imperialism, public health campaigns by female health workers have been successful in educating thousands of women about the consequences of FGM for their daughters.ⁱⁱⁱ

If FGM is a difficult subject, given the revolting nature of the procedure to Western audiences and the deeply-rooted heritage of the custom to certain cultures, than punishment for *hadd* or, in the plural form, *hudud* crimes is even more complicated. The case of Amina Lawal brought international attention to the issue, and her situation provides excellent insight into the nature of Western and Islamic interactions. On March 22, 2002, Ms. Lawal, then a 30 year old Nigerian woman, was sentenced to death by stoning for bearing a baby out of wedlock. According to the provision of *hadd al-zina* in Islamic *Shari'ah* law, the law of the land in twelve northern Nigerian states, being pregnant and unmarried is sufficient evidence of one's adultery, and is therefore punishable by stoning. No composite form of proof exists for men, and indeed, the man who Lawal claimed had impregnated her was acquitted for lack of evidence. Only after the intervention of legal aid, several appeals, and the outcry of the international community, including from Oprah Winfrey, was Lawal given her freedom. Lawal's lead attorney, Hauwa Ibrahim, received international acclaim and numerous human rights awards. Although the president of Nigeria is himself Christian, and the secular laws seem to forbid established religious law, the government is reluctant to be seen as attacking Muslims, half of the Nigerian population. Lawal's conviction was eventually overturned, but the provision in *Shari'ah* law still stands: adultery or fornication is punishable by stoning. The complexity of the issue increases, however, in light of the definition of adultery; sexual intercourse outside of marriage, *zina*, is punishable by stoning, regardless of consent, unless a charge of rape can be proved by four pious

male witnesses.^{iv} Women are not considered reliable witnesses, so their testimony is only worth half of a man's testimony in court.^{iv} Moreover, according to the *'ulama*, or jurists interpreting the Quran, the witnesses must have witnessed the act of penetration, "just as the collyrium needle enters into the container, or the rope enters into the well."^{vi}

The history of *Shari'ah* law may provide better appreciation for the current debate over human rights in Islamic countries. *Shari'ah*, meaning "path" or "way," refers to the laws and customs given to the Muslim people from the Prophet Mohammed. These laws are thus necessarily holy laws, seen by clerics as immutable and unimpeachable. However, with the ascendance of Western colonization, the majority of the world fell under European-style legal systems. Although devout Muslims still adhered to the cultural practices ordained by *Shari'ah*, the existence of Islamic criminal penalties lapsed over the course of the 19th and 20th centuries. By the end of the latter century, with the resurgence of nationalism and self-governance, Muslim polities, like the northern states of Nigeria, re-adopted *Shari'ah* penal codes as an attempt at re-asserting "cultural authenticity."^{vii} *Shari'ah* criminal codes focus on three main areas: *quisas*, meaning bodily harm or homicide; *ta'zir*, crimes not explicitly mentioned in the Quran and thereby left to rulers to decide, and *hadd*, meaning "prevention, hindrance, or prohibition."^{viii} Among the crimes equated to adultery are theft, rebellion, and drinking alcohol. As "crimes of honor," that is, crimes that violate proper codes of conduct for Muslim individuals, criminal prosecution is seen as a way of maintaining cultural and religious allegiance. In sentencing Amina Lawal to death by stoning, then, the *Shari'ah* court was attempting to set a precedent for modern Islamic jurisprudence: Western human rights law has no effect on our culture. Even in their eventual defeat, though, with the release of Lawal under international (mainly Western) pressure, their right to rule remained unchallenged.

Although there were no cultural relativists actively advocating for the killing of Amina Lawal, her case still presents a problem for the relativist/universalist debate. Given self-determination and the principle of self-rule, should not Muslim states be allowed to punish "deviants" as they see fit, especially when so doing is in accordance with thousand-year-old traditional customs? As with FGM, those Muslims who oppose the practice still find themselves defending their right to rule themselves in accordance with Islam. According to Lila Abu-Lughod, the majority of Afghani feminists do not wish to abandon their religion; rather, they strive to be like other Islamic countries where women enjoy more freedoms. "They looked to Iran as a country in which they say women making significant gains with-

in an Islamic framework—in part through an Islamically oriented feminist movement that is challenging injustices and reinterpreting the religious tradition.^{lix} Similarly, Marnia Lazareg, in her criticism of Western feminist scholarship on Algeria and North Africa, asserts that “Western feminists must dispense with the stereotypical images and paradigms of Third World women and must be willing to think differently about the variety of modes of being female, including their own.”^{lx} Even Hauwa Ibrahim, the attorney who defended Lawal, incurring the wrath of her compatriots, understood the culturally-enforced limitations on her gender. She did not speak in the courtroom, although she was the most senior attorney on Lawal’s team, and she sought the tacit support of Islamic Mullahs for her case. Although she is herself against Nigerian *Shari’ah* law as full of “contradictions and typos,” she focused solely on the specific details of the case rather than larger structural issues.^{lxi} By working within the Islamic framework, these women achieve much more than Western intervention can without being stigmatized as colonizers.

The third significant point of entry into the cultural relativism debate about women also centers on Islamic law and practice, although it is far more common than women accused of *hadd* al-zina crimes, and therefore, far more of a recurrent issue. Under Islamic *Shari’ah* law, women are required to cover their heads. This tenet has been interpreted in various ways, most infamously under the strict Taliban rule of Afghanistan as requiring a full body covering, the burqa. As the “liberator” of the country, President Bush reveled in the significance of freeing “women of cover,” as he called them, from those who would “impose their world on the rest of us,” to quote Laura Bush.^{lxii} However, many of these “women of cover” have been reluctant to remove their head garments. Although latent fear of the Taliban is assuredly a factor, with increasing incidences of violence targeted against women who defy traditional expectations, there still remains the question—if Afghani women are now legally free to abandon their burqas, hijabs and chadors, why do they cling to them, defend them, and only appear outside if covered? Similarly, why do Muslim women in Western countries, including the United States, cover themselves, even though it is not required by law?

Again, the relativist/universalist framework is helpful for understanding the significance of the veil. On the latter end, Western feminists emphasize that the “choice” to wear a veil, even outside of a legally Islamic regime, is no choice at all, sanctioned as it is by ideas of purity and cultural duty. Where the hijab is legally required, the veil is seen as a larger veiling of women within society. Reza Afshari shares the story of Dr. Homa Darabi, an Iranian woman who committed suicide rather than wear the headscarf. After losing her faculty

position at the University of Tehran's medical school for refusing to adhere to the national dress code, Dr. Darabi "walked into a crowded square in northern Tehran, removed the headscarf required of women. . . , and doused herself with gasoline. As she shouted, 'Death to tyranny! Long live freedom! Long live Iran!' she set herself on fire."^{kiii}

In total contrast, Lila Abu-Lughod stresses the "tyranny of fashion" in every society, comparing the wearing of a veil to wearing a skirt or dress to a wedding or not wearing shorts to the opera.^{kiv} She emphasizes the positive attributes of the veil: its convenience for women who were heretofore restricted to the house lest they be seen by men, its status as a feminist move by a growing number of female Muslims, and most importantly, its meaning for those who choose to wear it.

A deeper understanding of the custom again proves fruitful. The Taliban did not invent the burqa, nor was it uncommon for Muslim women to cover themselves in Afghanistan before the start of their regime in 1996. Local Pashtun women wore the full-body cloak when appearing outside, as a way of maintaining modesty and honoring the Islamic provision of separating women from unrelated men.^{kiv} In this context, then, the *burqa* was liberating, allowing women access to the outside world while still preserving their cultural purity. Prior to the reinvigoration of Islamism in the 1980s, wherein many women adopted the veil either through renewed religious fervor through fear, women faced problems no matter what they wore. Caught in the struggle between Western capitalism and traditional conservatism, "there bodies seemed to be a battlefield where the cultural struggles of postcolonial societies were waged."^{kvi} Contrary to Western popular opinion, Muslim women were never culturally allowed to dress "freely." A woman's modesty and respectability were her most valuable commodities, and at no time were the Islamic gender spheres completely intermingled.^{kvii} It stands to reason, then, that women would not go "back" to Western clothes which they had in fact never worn, and which violated their own sense of honor and propriety.

Freedom, in this sense, is a troubled concept. Can freedom include the ability to dress as one pleases, even if that means wearing restrictive outerwear that those in the West find objectionable? Were Iran and Turkey free when, earlier in the 20th century, they forbade women from wearing the veil and insisted men wear Western-style clothing?^{lxviii} Were women free when they wore more revealing clothing only to be ogled at, propositioned, and sexually harassed by men?^{lxix} As Leila Ahmed noted, "Women stated that wearing Islamic dress resulted in a marked difference in the way they were treated in public

places.”^{lxx} The relativist approach may come closer to comprehending why so many women choose to wear the veil, even though the universalist critique is valid—their choices are not made within a vacuum. Nussbaum’s concept of the “limits to the notions of consent and choice” is once again relevant;^{lxxi} however, given the context of those who wear the veil and the harm it causes, it may prove to be the least likely battle feminists—Western or indigenous—can win.

Lila Abu-Lughod ponders a question that is well worth considering: “Do Muslim women really need saving?” She does not query further, but the logical next question is, if so, by whom? To suggest that Westerners have a responsibility to intervene in cases of flagrant human rights abuses misses the point; certain circumstances demand external pressure—including apartheid in South Africa—while other causes are only damaged by too much Western interference. Analysis must comprehend the entire situation: are the practices actually rooted in long-held cultural beliefs, or have they become hybridized versions in reaction to Western colonization?^{lxxii} “Under the impact of modernity, traditionalism is also pseudo-modernized. One cannot protect a tradition if one’s discourse is permeated by modern normative concepts.”^{lxxiii} Is the desire to “return” to a particular practice merely an elitist usurpation of tradition in order to achieve self-serving ends? As the All Africa Council of Churches articulates, “some leaders have even resorted to picking out certain elements of traditional African culture to anesthetize the masses. Despite what is said, this frequently has little to do with a return to the positive, authentic traditions of African tradition.”^{lxxiv} What is to be done when there is cultural dissension; when Afghani women, for example, beg Western aid to lift the legal restrictions on the veil? As Reza Afshari argues, even in fundamentalist Iran, “there is no political-cultural monolith; issues continue to exhibit the full spectrum of opinions from ultra-conservatism to cultural iconoclasm.”^{lxxv} And, most importantly, how does the West’s reaction to complaints of cultural relativism change in accordance with the accuser and the issue at hand? “The cry against ‘interference in culture’ is used as a defense of men’s rights, not of women’s; it is used to avoid creating a ‘national shame’ over the behavior of one sex toward the other, at the expense of the second sex.”^{lxxvi}

Although there can never be one correct answer to the cultural relativist versus universalist debate, there are several solutions that offer some hope. Rhoda Howard has proposed national legislation in Sub-Saharan African countries that would allow women to opt-out of traditional practices, rather than wholesale illegalization.^{lxxvii} Doing so enables progress

toward eradicating customs that are culturally enforced but not desired by all adherents. Annie Bunting observes a number of successful intercessions made on behalf of African women by African women, especially in raising public awareness about the health hazards of FGM.^{lxxviii} She goes on to suggest that the notion of Western must also be deconstructed and challenged, in order to understand the “multifarious cultural realities in the West.”^{lxxix} In doing so, she hopes to reduce the perception of Third World women as one essential unit. Ann Mayer is interested in addressing human rights issues in Muslim countries by looking at Islamic law. She notes that the 1792 Charter of the Islamic Conference, encompassing all Muslim countries, “expressly endorses international law and fundamental human rights, treating them as compatible with Islamic values.”^l

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