Norms in Online Communities

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1. Introduction and Problem Statement

Alt.hackers is a newsgroup community with higher barriers to entry than most online communities. To post to alt.hackers, newcomers must hack into the board. Once in, the poster is expected to conform to the group's norm to discuss information about computers and technology. There's a rule requiring every post to include an ObHack—information about technology shared with others. Accordingly, in Wysocki's (2002) ethnographic study, he observed that almost all of the discussion displayed technical knowledge and wit.

Wysocki's account of alt.hackers includes a revealing description of social breakdown and norms in this community. In the so-called "Italian incident," a Usenet bulletin board in Italy started "leaking" messages into the alt.hackers site. A member of the group complained about these new posts, which were written in Italian, "why, oh, why do these RUDE BASTARDS *still* post here in a language only morons would speak?" Another member then replied that the complainer's post, besides being racist, had not included the obligatory ObHack. A spirited discussion and pursuit of the mysterious foreign messages ensued until an Italian hacker, Venom, bragged how a group of Italian hackers had decided to invade alt.hackers, "They can read any message you post, the complaints too, they simply don't care, and taunt you." Ultimately, the Italian hackers left, but at least one member of alt.hackers quit publicly in disgust because an alt.hacker member had violated the group's secret procedures, "Idiot. This whole situation was brought about by someone posting instructions on how to bypass the /one/ thing that prevented lusers. . ."

The Italian incident reveals how conflict in an online community challenges the collective expectations of community members, and how community members respond by articulating norms and sanctioning those who deviate from the norms. If community members continue to deviate, social breakdown ensues and members may leave the group. The development and enforcement of norms turns out to be a critical social infrastructure for online communities.

1.1. What are norms

Norms are beliefs shared by members of groups about what constitutes acceptable behavior in the group. Like alt.hackers, vitually all communities have norms, and they have many of them. These norms include universal mores like not lying and stealing, and more particular norms for the community, such as not sending commercial email to members or helping fellow members with problems. Norms are functional for individuals and for the community as a whole. As a source of informal social control in communities, norms reduce uncertainty about how others will behave, and they especially guide new members, who need to figure out what's expected by others. Norms regulate decision making and help avoid or resolve conflicts of interest between individuals and the group. New norms often arise out of disagreement or uncertainty, but once established, help prevent destructive and escalating conflict between individuals and subgroups.

We can distinguish norms from conventions or common practice that is not expected of everyone. An example of a convention is including a smiley emotican in IM messages. In most communities, the smiley is common but it is not a norm and nobody would be sanctioned for omitting it. Norms are also different from laws and rules. Norms are unofficial expectations whereas laws and rules are official expectations that are enforced by formal agents. Norms are a form of informal social control in the sense that they are enforced by members of the community themselves through social pressure. Informal enforcement

distinguishes norms from laws or rules, which are enforced by formally designated agents of the community such as list owners or "official" wizards.

Researchers argue about the causal relationship between common practices and norms. Homans argued that groups get used to a practice and start thinking of it as the right way to do things. If they do, then the common practice can evolve into a norm. This sequence of events helps explains such curiosities as why fashions change from one teenage cohort to the next. Somebody (maybe a celebrity) wears faded, torn jeans, a teen copies her, and before too long, every American fourteen year old not only has a pair but also thinks dark blue Levis are for old people.

Others have argued that norms generally arise because of social or economic conditions creating opposing interests, and that they have no necessary relationship to practices that happen to be performed frequently. Thus, for example, resource inequality among men is said to have given rise to norms allowing polygyny because it was beneficial to women and reduced social conflict. The norms changed to favor monogamy when men's status became more equal, giving rise to modern Western equalitarianism, equality between men and women, and higher status of women (Kanazawa and Still, xxxx).

The relationship between norms and laws or rules is also interesting. Whereas norms are implicit and do not have an explicit goal, rules and laws do. Rules and laws are imposed "top down"—they are made to achieve a goal. Laws and rules also have constituencies—people to whom the law or rule applies, whereas norms do not have explicit constituencies. Rules and norms may apply to one person or to many, whereas norms, by definition, have to be accepted by most people in a community.

Because norms are informal social controls, and based on people's beliefs, they require community acceptance and development. One might argue, in that case, that norms have to be initiated from within a community. The basis of norms in people's relationships and negotiations, in this view, is inconsistent with top down community planning or design. On the contrary, creative community design can help create new norms and overturn old ones. An example is the Grameen (village) Bank of Bangladesh. The Bank, started by an economist, gave loans to impoverished rural women to start businesses. To obtain a loan, the recipient had to band together with four neighbors. The group met with the lender and chose one of the group to get the first loan. Before another member could get a loan, the first borrowers had to make regular repayments. Repayment relying on neighborhood interdependence and surveillance has led to a remarkable 98% repayment rate (Holloway & Wallach, 1992). Further, the system empowered new entreprenuers and led to norms of capitalism in an area of the world charactized by strong sexist norms and sanctions.

1.2. Why online community norms are a design challenge

Norms in online communities pose a special design challenge for three reasons. The first reason is that the ease of access to online communities leaves norms vulnerable to disruption. Although the ease of access is a boon to people finding a compatible community, and to their exchanging messages of support and advice once they have joined, it also represents an irresistible opportunity to some would-be harm doers. At one university, a disturbed student easily created an alias and typed an aggressive message that he copied to 58 fellow students in a student bulletin board, whom he targeted because their names looked Asian. Spoofers post cryptic messages about eating cats and pit bull fighting in easily-located pet hobby groups. Extremists post messages that condone or advocate violence on community websites. Because of the reach of the Internet and the ease of cross-posting and moving around, a tiny minority of thrill seekers can do quite a lot of damage by violating community norms in outrageous ways.

Another reason that norms in online communities pose a special design challenge is that the comparative physical anonymity and geographic distance from others in Internet groups leads norm violators to feel they are safe from censure if they act badly. Norm violators can feel they are at low risk of retaliation online, especially in communities with no mechanisms for holding members accountable. Online text communications reduce social context information, especially visual information about the source of a communication. Photographs and movies can be altered or misidentified. People can conceal or misrepresent some aspects of themselves that we usually learn through visual observation, especially their age, ethnicity, physical attributes, health, and perhaps their social standing as well. Remailers, aliases, and encryption increase the difficulty of identifying someone and punishing misbehavior. Online communities benefit from physical anonymity in that it affords a sense of privacy to members who wish to talk safely and openly with others. The same feature, however, also aids those who wish to deceive and exploit others, and use norms against the group. For instance, in their search for relationships with children in sexually oriented communities, pedophiles pose as young boys or girls (Lamb, 1998), although this practice often results in pedophiles just meeting one another.

In a study of online and real world romances (Crornwell & Lundgren, 2002), almost 23% of online partners misrepresented their age versus just 5% of real world partners who did so; 28% of online partners admitted they had misrepresented their physical appearance, versus 13% of real world partners who did so. On the other hand, just 15% of the online partners had misrepresented their interests, fewer than the 20% who did so in real world relationships. The authors argue, “exaggerations of age can be made readily in cyberspace, and misrepresentations of physical attributes are difficult to disconfirm on a computer screen. False claims regarding interests, occupation, education, or other background characteristics may be more difficult to sustain as these become the topics for conversation, questioning, and further explanation (p 209).”

A third reason that norms pose a special challenge in online communities is that most relationships in online communities are weak, in the sense that most community members meet as strangers, and remain so. The social network is also dynamic, with members continuously entering and leaving the community. Members in weak-tie online communities may have quite positive feelings for members of the community, and may willingly exchange useful information and help. Nonetheless, the vast majority of these relationships will be narrowly focused on one mutual interest, and they will lack an enduring personal commitment to the relationship itself. Weak ties characterize many single-issue online communities with a revolving membership. In such groups, social distance is comparatively high, with a large majority of the members lacking either personal bonds to particular members or strong commitment to the group as a whole. Social distance among people increases the chance that individuals or factions in the group will ignore or violate norms, and will fail to contribute to norm development. Potential norm violators may not feel constrained by their sensitivity to the approbation of the group or by their feelings for the welfare of their victims.

Ease of access, anonymity, and weak tie community structures are what social scientists call "moderating" factors or conditions. That is, these attributes of online communities do not cause social breakdown, but they reduce internal and external pressures on conformity, and increase the likelihood that potential norm violators will act on more egregious plans or impulses. For example, studies of negotiation behavior show that online negotiators feel less restrained about expressing normatively inappropriate behavior, and make more threats and issue more ultimatums than do face-to-face negotiators (Morris et al., 2002).

Norms of any one community can be ethically good or bad, from the perspective of society as a whole. Norms can lag scientific evidence and reasonableness. In one online support group for manic-depression, group members advocated disability payments over trying to maintain a job, and pressured employed members to quit their jobs. "Pro-ana" websites promote anorexia and help teens hide this condition from their parents (Morris NYT/June 23, 2002). Some online groups shelter pedophilia, and attempts to contact children are supported by information from other adults in the online community (". .I would get what I would call leads from other adults. . .about boys they know, they'd abused or. . had contact with" ;Quayle & Taylor, 2001, p. 605). The newsgroup, bodyart, in which a man who abducted a teenager participated, provided a welcoming and respectful forum for his expertise. " I'm waiting for a mail from Scott Tyree before I go ahead and pierce my nipples," wrote one correspondent. One study suggests that although there are a large number of racist Web sites and several racist chat rooms, many active participants are the same people, who jump around from group to group (Glaser, Dixit, Green, 2002). Likewise, the comparatively small numbers who traffic in child pornography, stolen credit card numbers, or illegal drug sales move effortlessly from one community and website to another (e.g., Durkin, 1997).

2. Four Design Goals

Communities develop, sustain, and enforce norms in the service of different functions. Here are four functions we hope community norms will serve.

2.1. Norms will help members feel comfortable and safe.

Research (Gibson and Gibbs 2006) shows that creating a psychologically safe communication environment mitigates the negative effects of social distance. Norms can be encouraged that make individuals feel safe within the community. In online medical and mental health communities, there often is a very strong norm that individuals will not belittle each other. Another norm is that members should keep their identify private. One online bipolar community advises newcomers, "We discourage the use of age/sex/location (a/s/l). We urge you not to give your real name, location, address or phone number to anyone you meet in a chatroom. This is to protect your privacy and keep you safe."

2.2. Norms will help new members learn appropriate behavior and help old members teach newcomers.

Norms can guide newcomers on how to behave, and reduce their uncertainty about how things are done. Perhaps more important, norms for oldtimers guide their treatment of newcomers. The Goldfish and Aquariums Board (GAB) is a community for both experienced goldfish keepers and beginners. One page in their community website illustrates such an oldtimer norm, in making this appeal: "Sick Fish Helpers-Please Read." The administrator, "Goldie Lover," writes, "If you plan to help out in the sick fish forum, we need to be consistant with our info and we need to NOT overwhelm people with stuff that's not immediately relevant to what's going on." A member was reprimanded and ultimately ejected for giving inaccurate advice, and providing it in an inappropriate manner to a newcomer (example provided by Doreen Hartzell).

2.3. Norms will lead to a perception of fairness.

Although people do not like being denied what they want, they hate not being treated fairly. Take, for example, the online community, PsychCentral, authored and administered by John Grohol. The purpose of the community is to discuss mental and emotional problems such as bulemia, depression, grief, alchololism, and so forth. Despite a general policy of "live and let live," once the community grew to thousands of members, Grohol observed that topics like religion tended to polarize people, so he listed it as a discouraged topic. Some members objected

that religion was so important in their lives that it was not fair to ban the topic. Thus, to be fair, the community decided to ban outright religious discussion while allowing posts of spirtuality discussion and general well-wishes. Yet the ban has had to be modulated further, as seen in a recent vigorous thread discussing evolution and the schools. If Dr. Grohol were to arbitrarily close down such discussions, members of the community would think that action was “unfair” and violated other norms (free speech, for instance).

2.4. Norms will foster cooperation within the group and prevent or mitigate internal strife.

It has been argued that the reason human groups evolved systems of norms was to prevent self-interest from leading to social breakdown. Effective norms foster cooperation in the community. Norms to foster cooperation have been important even in the earliest years of the Internet when online communities were comparatively small. Here is a reflection on norms in Lamda-MOO, one of the first true online communities:

“After the public announcement. . . we started having disagreements about what was and was not proper conduct here. Eventually, I was approached by a number of players and asked to draft a set of rules for proper MOO behavior. . . I showed the draft to a bunch of people and asked for their comments on its style, completeness, and correspondence with their impressions of the `right' way of things. After incorporating suggested changes, the first version of `help manners' was publicized in the newspaper; I had, I think, done as good a job as I could of trying to capture the public consensus of that (admittedly early) time. Perhaps surprisingly, `help manners' worked quite well in reducing the number of incidents of people annoying each other. That society had a charter that reflected the general opinion and social pressure worked to keep the MOO society growing fairly smoothly.” [from a 1996 post, “LambdaMOO Takes a New Direction” in the LamdaMOO help system]

And here is another early attempt, by programmer Marcus Watts, to create community guidelines, from The Well in 1985,

**** ETIQUETTE ****

A note about etiquette. Keep in mind when responding to a topic or entering a new one that the other users also have feelings. Please avoid trampling on them. Also, remember that comments entered in hasty reaction to someone else's posting will be available to be read long after you have entered them. So it is wise to exercise some moderation and good judgement.

Due to their importance, there are many examples of cooperation norms in online communities that have been elevated to codes of conduct. Amy Jo Kim has a

webpage that provides codes of conduct for businesses and associations, www.naima.com/community/policies.html. Another list is at www.fullcirc.com/community/sampleguidelines.htm.

3. Theories

3.1. Theories from social psychology

All human groups and communities adopt group attitudes and practices that they believe are right, and they universally subject their members to pressure to conform to norms. Norms help group reach their goals by ensuring that people cooperate and work together. Norms also validate the group and its beliefs.

Some things in life have demonstrable truth and some do not. You can measure the area of a dining table top and determine objectively the number of place settings it will hold, but objectivity won't settle the best shape of table for a dinner for six or whether the meat loaf should be divided evenly or in accordance with guests' hunger. The latter choices have to be decided within the domain of social rather than physical reality (Festinger, 1954). To determine social reality, people rely on other people for information about what to do. One way they do this is to observe what most other people do, the *descriptive norm*. Another way they determine social reality is to learn a general principle guiding what people should do, the *injunctive norm*. An example of a descriptive norm for slicing meat loaf is that most people cut thicker slices for adults than for children, and for men than women. An example of an injunctive norm is our widespread belief in equal distribution of resources within a group. Because descriptive norms tend to be far more specific than injunctive norms, and easily linked to choices like slicing meat loaf, people in many situations tend to follow descriptive norms, or what most other people do (Cialdini, Kallgren, & Reno, 1991).

Understanding where norms come from is crucial in thinking about the design of norms. Because norms come from the members themselves, and most importantly from what they do rather than what they say, perhaps the most important design guideline is to design in such a way to encourage members' appropriate overt behavior --their posts, their videos, their blogs, their answers to others. (This admonishment doesn't preclude disagreement or injunctions.)

When people look to others to learn norms, they use a *reference group* rather than some combination of everyone they know. This process is called *social comparison*. The reference group is the community that matters to people with respect to that behavior. For example, for norms of sharing information in the workplace, people's reference group is likely to be their coworkers rather than all workers or their supervisors. In online communities, defining the reference group is an important aspect of designing norms. Each community wants its members to

look to the community itself as the reference group for behavior within the community, making the social comparison process similar across members. Many new members of online communities (or new communities) import norms from other communities or from "Net" culture. New communities also use hard-learned codes of conduct from older communities. If these norms are seen as outsider norms, or if reference group ties are weak, these imported norms and guidelines will have less power than if the norms arise from the community itself.

Psychologically, people feel *social pressure* to conform to norms. Social pressure is the feeling that others expect certain behavior. Many social psychology textbooks such as *Group Dynamics* by Forsyth and even Wikipedia describes early research on group social pressure and the rejection of deviants who do not conform to norms [http://en.wikipedia.org/wiki/Conformity_(psychology)].

3.1.1. Focus theory

In an influential paper, called "A Focus Theory of Normative Conduct: When Norms Do and Do Not Affect Behavior," Robert Cialdini and his students (Kallgren, Reno, Cialdini, 2000) articulated a psychological theory of norms that is highly relevant to online community norms. Cialdini made a strong distinction between descriptive norms (what most people do) and injunctive norms (abstract "shoulds"). In the experiments cited above, the authors studied littering and when people follow an anti-littering injunctive norm. What they found is that the norm had to be *salient*, that is, provoke attention, to be powerful. Thus, when students walked through a dining room that was either sparkling clean with no litter or littered with trash, they were more likely to litter than when only one piece of litter was on the floor. That one piece of litter, the authors argued, called attention (focus) to a violation of the anti-litterning norm, and thus made the appropriate behavior of most people salient.

Many social marketing programs deliver normative information as a tool to guide or change people's behavor, for example, to discourage illicit drug use. These programs are based on the consistent findings that most people overestimate the prevalence of undesirable behavior in others and use their peers' undesirable behavior as a standard against which they compare their own behavior. So, if you depict what most people are actually doing, you can change their perception of the norm and their behavior.

According to Schultz et al (2007), social norm marketing can backfire, as when nondrinking teens start drinking to catch up to their peers. The authors decided to combine descriptive and injunctive norms in a campaign to encourage energy savings. Households in the Descriptive-Alone condition got information about their own and the average energy usage of their neighborhood whereas those in the Descriptive-Plus-Injunctive condition got information about their own and neighborhood energy usage as well as information on how to save energy. Change in energy usage conformed to focus theory. Those in the Descriptive-Alone

condition who, prior to the study, were below average in energy use, increased their usage whereas those who started out above average decreased their energy usage. In the Descriptive-Plus-Injunctive condition, virtually everyone decreased their energy usage. Thus, providing most people are acting appropriately, it seems that information about what most people do as well what is right could be an effective combination for changing such behaviors as downloading music illegally and energy consumption.

3.1.2. Identity theory

The social identity perspective (Hogg, 2001; Tajfel and Turner, 1979) has improved our ability to predict when groups and communities will sanction people who violate norms. According to this perspective, when people identify with a group, their own self concept becomes enmeshed with the identity of the group. For example, a student who attends the University of Minnesota may think of himself not just as a college student, but as a "U of M student." The more someone identifies with a particular community, the more that person's self-perception shifts from being a unique individual to being a community member whose behavior is guided by community norms. When most members of the community identify with that community, someone who deviates from the norm reflects negatively on them and the community as a whole. Thus, distancing deviants from the rest of the community helps maintain the community's positive and distinct identity.

Although there are countless examples of community sanctions against deviants, some communities are harder on deviant members than others. Communities that are heterogeneous demographically, for instance, are probably more tolerant of deviance than those that are homogenous. Communities that desire to foster originality and innovation may be more tolerant than those that are more conservative. Sometimes communities have high achieving members, who differ from others, but who are source of pride rather than considered rate busters. Michael Hogg and his colleagues (2005) have argued that communities with an individualistic culture are more likely to adopt individuality as a norm and are less likely to punish deviants than are communities with a collectivist culture. In individualistic cultures, difference may be taken as a sign of character and courage whereas in collectivist cultures, the same difference would be considered disrespectful and a threat to group harmony.

Several researchers have examined how the comparative anonymity of online communities changes conformity to norms. Overall, we know that anonymity increases people's feelings of doing whatever they want because they cannot be identified for censure. However, there is a counter-acting process that can be more important inside a community. With anonymity, it is harder to get to know individual members as unique persons, and more of a feeling of depersonalization. Because of depersonalization, anonymity paradoxically can

increase group identity as compared with individual bonds, and thus conformity to group norms (see Postmes, Spears, Lee, and Novak, 2005).

3.2. Theories from economics

Economics generally sees norms as a problem of self interest. That is, how does a society evolve cooperative behaviors to overcome conflict?

3.2.1. Game theory

According to rational choice theory in economics, norms emerge to enforce cooperation in situations in which individuals or subgroups have conflicting self-interests or incentives. A core concept is the Nash equilibrium—a pattern of group actions in which no person has an incentive to deviate from the group actions.

Communities with incentive problems are modeled as games in which incentives are represented in monetary units (although economists today recognize that people may seek psychological rewards such as esteem and avoid psychological costs such as embarrassment). Two games especially relevant to online communities follow.

Prisoner's Dilemma

	Person 2 Cooperates	Person 2 Defects
Person 1 Cooperates	3,3	-5,5
Person 1 Defects	5,-5	0,0

In the prisoner's dilemma, above, the integers represent outcomes, or payoffs. Let's suppose an online financial community is trading stock advice, and defection represents giving false tips for stock, causing the price to go up. Then, the player quickly sells at the bumped-up price. We can represent the incentive structure of this situation in the table. The integers in the table represent hypothetical payoffs. The first person's hypothetical payoff is the first integer, and the second person's payoff is the second integer. The upper left cell represents the situation in which both persons trade good advice. If so, person 1 gets "3" and so does person 2. Note that both players are tempted to defect if the other cooperates. If so, the player who unilaterally defects receives payoffs represented by +5, and the other experiences negative payoffs of -5. If everyone defects, or suspects others will defect, nobody contributes good advice, and we have the situation represented in the lower right cell. Thus the community experiences "demand" for a norm, in which members promise to cooperate and to

sanction defectors. A norm of cooperation creates a Nash equilibrium of recurring cooperation because people expect that defection will be sanctioned.

Now consider the next situation, equivalent in the multi-person situation to an online community that exchanges social or informational support (the "Volunteer Dilemma" [Diekmann 1985]). No single member's contribution of support is enough to sustain the community, but not contributing does not do actual harm. Each member has an incentive to let others give support, and simply to lurk, but if everyone did so, no one would benefit from membership. This situation, also, creates demand for a norm of cooperation and sanctions for deviation.

Chicken Game

	Person 2 Contributes	Person 2 Does Not Contribute
Person 1 Cooperates	3,3	3,5
Person 1 Defects	5,3	0,0

Theoretically, for norms to resolve cooperation dilemmas, a number of assumptions must be met. First, members of the community must know about and accept the norm. How these community beliefs arise is not part of game theory, but they are a necessary assumption and design challenge. Second, deviations from the norm must be observable and identifiable so that sanctions can be applied. In online communities, especially where aliases and exit are possible, this requirement may not be met. Thus identifying deviants becomes a design challenge as well. Third, members of the community must be willing to apply sanctions. Sanctioning should be costless (although research indicates that sanctioning can have psychological benefits ["revenge"] that offsets sanctioning costs). Fourth, the community must have an expectation of repeated interactions, so that the threat of sanctions discourages defection. Axelrod's (1984) groundbreaking research on repeated games demonstrated that a "tit for tat" strategy was useful to create long run cooperation (although not in all games).

From game theory, one might make the following predictions:

1. Cooperative norms are more likely (or will be more powerful in controlling cooperative behavior) if members of the community expect future interaction. This effect is also called "the shadow of the future."

2. Cooperative norms are more likely (or will be more powerful in controlling cooperative behavior) with lower costs of cooperation. However, the costs of cooperation are always balanced against the costs of conflict (see 3).

4. Cooperative norms are more likely (or will be more powerful in controlling cooperative behavior) with higher costs of conflict. The costs of conflict may include the costs of sanctioning deviation from norms.

3.3. Theories from sociology

3.3.1. Social network theory

Social networks are clusters of ties among people and groups. Many online communities are made up of weak ties in which people are related because of their common interest in a topic or activity (e.g., Usenet hobby groups), past organizational membership (military.com), or because of their common need (e.g., illness support groups). Online communities can form a network of community relationships because people have multiple memberships and belong to more than one community.

The methods and concepts of social network theory have revolutionized the study of norms. Because norms are a form of negotiated meaning, norms diffuse and spread through interaction within and across social networks. People observe their friends and coworkers adopting a behavior, and it spreads through the network. Online, a norm can spread astonishingly quickly because of people's propensity to send email, photos, and links to their friends, their friends of friends, and their friends of friends of friends, multiplying the impact of social influence.

Networks are a vehicle for monitoring compliance to norms and for spreading sanctions. For example, if the two persons in the prisoner's dilemma each have friends who have similar interests and expectations, these friends constitute redundant sources of surveillance and sanctioning for defection. The value of cooperation that must exist to support a norm is likely to be lower when people have multiple relationships in social networks. Deviants who might not care about their bad reputation in a single community might take pause if they know that their reputation will diffuse to other communities online.

Large and small networks seem to behave somewhat differently. Small networks, such as a comparatively isolated and closed family group, will be very effective in sustaining and enforcing norms within the group. The more isolated the group is, the more it will be likely to punish deviants in the group and reject norms of other groups. Norms are much easier to enforce in small tight-knit communities because members have closer ties, expect to interact with others more, and care more about others' sanctions. Members of small close knit communities may join together and use ostracism to punish deviants. Ostracism is a highly effective psychological form of sanctioning (Ostrom 1990; Kipling xxxx). Ostracism also

carries low costs for sanctioners because each person needs only to ignore the deviant, thus causing "incremental" sanctioning (Coleman 1990).

Large networks, like the comparative strangers in many health, hobby or social online communities, are more likely to diffuse new norms. People may span large networks through a few of the relationships they have and through their identification with topics or organizations. Large networks are likely to be more heterogeneous, and have more members who do not expect future interaction or care about others' sanctions or sanctioning others. Large networks are more likely to support a "live and let live" philosophy.

3.3.2. Social structure and institutional theories

Communities do not exist apart from the social structures and organizations in which they are embedded. For example, some online communities are commercial services. Others are formal organizations with departments, managers, and rules. No single theory integrates all that is known about how social structure and institutions influence norms, but some important concepts have grown out of the research in organizations and institutional social arrangements.

An important concept for understanding norms is that of transaction costs (Williamson). The idea here is that, in any market, information about buyers and sellers is scarce and transactions are costly. The costs of information and transactions lead to concerns about reputation, trust, social values, and norms. For instance, in an online community where it is possible to get away with cheating, people in a community need to verify others' motives and honesty, and the quality of information they get. The existence of a "do not lie" norm reduces the transaction costs of information exchange in the community.

In institutional theory, norms are a form of social technology that arises within an institutional and economic environment. Thus, depending on conditions in the environment, different norms will emerge. For instance, in cycling today, the public norm is to abstain from doping, but a different norm seems to exist among top cyclists, that is, to dope if you can get away with it. Due to the sparsity of tests and the number of high profile cyclists who have been caught or suspected, doping must be fairly widespread in this group. The norm may persist in part because of the incentive structure created by cycling associations and the marketing of competitive cycling as entertainment. Winning is the first priority; being caught for using illegal hormones or chemicals only matters if you are a winner. Here it seems true that not only do norms affect behavior, but they also affect economic outcomes and social order more generally.

Deliberate governance through formal structure, roles, and rules can be considered a necessary supplement to informal governance through norms. People create structure, roles, and rules when informal normative interaction and

sanctioning does not achieve sufficient social order. For instance, the community typically creates an authority structure determining who controls access to key resources and functions. The authority structure is a way of reducing transaction costs that are too high if community members need to compete for these resources or if information scarcity means that some can take advantage of others, appropriating their ideas, for instance. The community also creates a communication structure (who can communicate with whom), an incentive and cost structure (rewards, payrolls, taxes), and a set of rules.

Many rules of online communities are meant to apply to every member of the community. In some cases rules arise when someone, perhaps a high standing member, "patronizes" or promotes the rule; in other cases, the rule is imported from other communities, or the idea of the rule spreads through the social network. A key problem of rules is enforcement. Rules are not necessarily a norm. Members may not even know a rule exists or they may not have internalized the rule. As in life offline, simply making rules will not sustain social order in online communities. They must be internalized as norms, and/or enforced through some human or technological agent of the community.

4. Design Solution Options

4.1. Making norms salient

The research and theory suggests that we can make norms stronger and more powerful within online communities by making good behavior noticible and salient to others. Spears and Lea (1992) and Walther (1994, 1998) have argued that group communication online, rather than attracting misbehavior, can actually promote normatively positive behavior among group members, especially over time. They say salient group norms can be enhanced online because the group image is uncontaminated by the physical presence of individuals who deviate in harmful ways from the group (Spears et al., 1990) and because visual anonymity and physical isolation encourage self-disclosure and liking based on mutual interests (McKenna & Bargh, 2001).

Cialdini's work suggests that an occasional norm violator can make norms more salient and force the community to confront the behavior it will consider appropriate and inappropriate. This suggests that communities not seek to bar inappropriate behavior altogether but to hinder it enough to make the norm obvious. Community discussions of norms and rules, and how to turn rules into norms, also can make norms salient and help enforce them.

Social news aggregation sites such as Reddit (www.reddit.com) face a special challenge in making norms salient since the entire content of these sites revolve around voting and commenting on web links. Although Reddit has an area where

certain explicit norms are instantiated (known collectively as “rediquette”; http://reddit.com/help/reddiquette?), this area has low salience for most users. The Reddit community’s solution is to post dummy “articles” in the main news area whose titles describe the norms. Those article/norms that have widespread support and relevance in the community are voted up, often reaching the front page and thus becoming highly salient. An example of this is a post advocating the norm of using comments for conducting polls instead of articles:

> From reddiquette: "Please don't conduct polls using posts. If you feel you must use Reddit to conduct a poll do it using a comment. Create a self referencing post and then add a comment for readers to mod up or down based on their answer to your poll question. Also, be sure to indicate in the title of your post that the polls is being conducted using comments. Including something like "(use comments to vote)" in the title would probably be sufficient."

This injunctive norm was developed in response to a slew of polls taking over the front page of Reddit, as each poll “vote” had the side effect of increasing the poll’s popularity and visibility. The new norm “article” garnered widespread support and high salience (it was upvoted more than one thousand times), at one point reaching the #1 article spot.

The website “Cops Writing Cops” (www.copswritingcops.com) is an example of a site that makes norms salient through online sanctioning for an offline community. The site includes personal stories of law enforcement officers who have received traffic tickets from other officers and includes the names and descriptions of the ticketing officers. By making violators of the norm “cops don’t give other cops tickets” more salient through a persistent online sanctioning system, the community aims to make the norm stronger.

This is also an interesting example of how norms for communities can clash with those of the wider population. When this site was popularized on social news aggregators, a number of people (not from the law enforcement field) harshly criticized it for promoting a norm that is in violation of the law -- especially troubling to them since it is a norm for those whose job is to uphold the law.

4.2. Increasing sociability

People love to talk, and talking increases the likelihood that people will form relationships online and behave in compliance with norms. Recent studies of negotiation behavior show that negotiators using online communication feel less restrained about expressing normatively inappropriate behavior, and make more threats and issue more ultimatums than do face-to-face negotiators (Morris et al., 2002). Strangers negotiating online are more likely to negatively confront one

another and trade rude, impulsive behavior, such as flaming. In part this happens because online communicators pay more attention to content and less attention to etiquette and in part because people perceive a squeaky wheel strategy will be most effective. Morris and his colleagues blame the problems in electronic negotiations on a lack of "schmoozing" (Morris et al., 2002). They argue that schmoozing plays an important role in building rapport in the negotiating relationship, and that the rapport developed between negotiators in turn sets the stage for the kind of cooperation and trust that facilitates agreements that are beneficial to both parties.

According to focus theory, once a lack of schmoozing becomes common, it can become normative as well, and schmoozing may be considered a waste of the group's time. A norm that exchanges are supposed to be purely informational can create a serious tradeoff because schmoozing helps create trusting relationships, which in turn supports promises and cooperation as well as network effects. [stuff on Bob's welcoming of new users?]

Wysocki argues that the almost exclusive focus in alt.hackers on the exchange of technical information is both a source of its success and its failure in community building. Alt.hackers is treated by members, not as a group per se, but as a technical information resource, a know-how exchange. Newcomers learn to restrict their posts to the required subject, and they are flamed or lectured when they do not.

> The most obvious way that alt.hackers fails [in community building] is that it is extremely limited in [sociability]. . .Seldom do users attempt to work a string topic into social conversation. Except for the occasional exchange of flames, or more rarely, pleasantries, little approaches dialogue. That is not to say that responses are not usually polite. Just that there is little attempt to turn alt.hackers into a convivial newsgroup. New posters are not made to feel welcome or unwelcome, for example.(Wysocki).

Wikipedia is an example of a community similar to alt.hackers in that it focuses exclusively on a specific task; in its case, of building an online encyclopedia. It is also similar in that discussion of non-task related information is discouraged. For example, although there is a user page and a discussion page for each registered user, guidelines on the use of these pages suggest avoiding non-Wikipedia related discussion or personal information (http://en.wikipedia.org/wiki/Wikipedia:User_page).

Despite this, Wikipedia has a number of ways in which it promotes sociability. Experienced users participate in a "welcoming committee" (http://en.wikipedia.org/wiki/Wikipedia:Welcoming_committee) who greet new users and help them feel comfortable participating. There is a "new user log" (http://en.wikipedia.org/wiki/Wikipedia:New_user_log) at which incoming users are encouraged to describe their interests and areas of knowledge which are

relevant to Wikipedia. There is even an "adoption" program, in which experienced editors mentor newer users (http://en.wikipedia.org/wiki/WP:ADOPT). Furthermore, repeated interactions between users in coordinating and editing articles can lead to trust and personal bonds, often expressed through gifts and rewards such as "barnstars."

Some communities use social networking to maintain trust and support normative behavior. The Indian networking site Babajob.com connects employers with impoverished Indians who lack the social networks to obtain needed jobs. Instead of an impersonal job matching service, job seekers advertise skills and employers advertise jobs through their social connections. For example if Rajeev and Sanjay are friends, and Sanjay needs a chauffeur, he can view Rajeev's chauffeur and see which of the chauffeur's friend are looking for similar work (NYTimes, 10/30/07, C4). Because these actors have social connections and reputations to preserve, they are more likely to look out for each other, and to avoid exploiting others or not following up on promises.

4.3. Encouraging community identity

Community design features that cause members to feel attached to the community as a whole (or to some subgroup within the community) should help promote the development of community-level norms, and of norm compliance more generally.

When members are part of a cohesive online community, anonymity and lack of physical contact can make community norms salient and increase conformity to norms over time (Postmes et al., 2000; Spears, Lea, & Lee, 1990; Spears & Lea, 1992). In the negotiation studies, negotiators who used email and who did not perceive the other party as belonging to the same in-group were economically the worst off of anyone– they argued more, left more money on the table than other negotiators, and were more likely to arrive at an impasse. But making the mutual in-group status of the negotiation opponent clear usually erased these problems. In one study, the likelihood of impasse was reduced to nearly zero when online negotiators perceived that their counterpart was a member of their in-group (Moore et al., 1999).

4.3.1. Barriers to entry

Alt.hackers requires members to perform a skilled task for entry into the group, a method that not only reduces transaction costs, but also separates the "ingroup" from the "outgroup." Other communities require members to have certificates of external legitimacy (medical community example from Paul).

Many exclusive bittorrent tracker sites (groups which provide private bittorrent seeds) limit membership by requiring existing members to vouch for new members. Malicious behavior on the part of new members (such as downloading much more than they upload) can result in sanctions both to the new member and

to their sponsor. Other related barriers to entry include requiring new members to be invited by existing members, and limiting the invites each existing member gets. Invites to Google's exclusive Gmail Beta were so highly coveted that some users put them up for bid on eBay (http://www.news.com/2100-1023_3-5203162.html).

Barriers can also be used to screen the quality of potential members. A number of Flickr photo groups have requirements that users' photos have awards or have been marked as favorites by some number of other users. Offline companies have started to use this technique to recruit new employees as well; for example, Google has posted recruitment billboards whose web address is hidden in the solution to a complex mathematical question[1].

4.3.2. Subgroups

Although Wikipedia is often considered a "bazaar"-style model in which individuals contribute based on their own interests without central supervision (Benkler, 2002; Raymond, 2000) there are also strong elements of group culture. Within Wikipedia there are many subgroups, including WikiProjects which aim to bring together users interested in a particular topic such as medicine or military history. Notably, the guidelines around WikiProjects stress their use as a social tool for promoting group cohesion in addition to their coordinative role:

"A WikiProject is fundamentally a *social* construct; its success depends on its ability to function as a cohesive group of editors working towards a common goal... To be effective, a WikiProject must foster not only interest in the topic of the project, but also an esprit de corps among its members. Only where group cohesion can be maintained—where, in other words, project members are willing to share in the less exciting work—can a WikiProject muster the energy and direction to produce excellent articles systematically rather than incidentally."[2]

WikiProject sub-communities each have their own guidelines and norms that members subscribe to, as well as independent coordination and reward systems that apply to members of the community. For example, the military history WikiProject has its own norms guiding article creation and even special awards for highly contributing members.[3]

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[1] http://www.news.com/Google-recruits-eggheads-with-mystery-billboard/2100-1023_3-5263941.html

[2] http://en.wikipedia.org/wiki/Wikipedia:WikiProject_Council/Guide

[3] http://en.wikipedia.org/wiki/Wikipedia:WikiProject_Military_history

4.4. Rule making

Many subscribers to Everquest consider the game environment a community to which they belong (Yee, 2001). Almost half play with people they know, such as a member of the family or a romantic partner. Yet, as in alt.hackers, EverQuest has hundreds of subscribers who do not engage in pleasant social interaction. A destructive subculture plagues these environments. Mutiple player gaming environments have experienced harmful events including hacker attacks, destruction of property, flame wars, and spirals of retaliation and cross-retaliation (e.g., Kolbert, 2001). In Yee's 2001 survey, 20% of the respondents answered "yes" to the question, "Would you hack the game if you could?" Young males, who are also over-represented in other harm doing activities online and off, were more likely than others to say they would hack the game. EverQuest felt it was unable to rely completely on norms, and that the behavior of a stubborn minority could ruin its environment, so the company instituted rules about virtual violence. Perhaps as a result, it has attracted more subscribers than games that allow more unchecked harm doing. But there is a tradeoff: just 12.5% of Yee's respondents felt that the so-called "Play-Nice Rules" helped the environment.

4.4.1. When norms become rules

Norms have a number of advantages over rules: they allow more flexibility in responding to subtle differences in context; change more easily as the goals and membership of the group change; and require less overhead to record and maintain. They also reduce the need for enforcement which is necessary for a rule-based system to survive (Axelrod, 1984). However, there are times when it is necessary to institutionalize norms and instantiate them in enforceable rules.

One cause is growth in membership of the group. When there is a large influx newcomers and strangers who do not know the group norms, it can be necessary to have specific rules to guide their behavior. For example, many message boards have FAQs stating board-specific rules that users are required to read before posting to the board, and can result in strong sanctions if they do not. In Wikipedia, new users are greeted with a welcome message that includes pointers to rules for participation, and notices are left on their user discussion pages when they fail to follow these conventions.

Growth may also precipitate issues with existing members, whose motivation and participation may decrease as a result of crowding and weaker ties (see, e.g., Baum & Paulus, 1987). This can lead to social loafing and free riding, which explicit rules may be needed to combat. Free riding is a prevalent problem in peer-to-peer file sharing networks, with many users downloading more content than they upload (Adar & Huberman, 2000). Private file sharing groups often effect explicit rules that members must upload a fixed proportion of what they download to remain in the group. Some public file sharing clients incorporate a

flexible version of this rule in which clients who send more data receive more data (Cohen, 2003).

Another reason for enforced rules is a high cost of breaking those rules. For example, Wikipedia aims to have flexible norms which members can discuss and interpret rather than fixed rules; indeed, Wikipedia's first "rule" considered was "Ignore all rules" (http://en.wikipedia.org/wiki/Wikipedia:Ignore_all_rules). However, in cases such as preserving image copyrights -- where breaking the rule will have high costs to the community as a whole -- a number of enforcements have developed including passive ones (such as requiring users to explicitly state the copyright status of an image before uploading it) and active ones (such as community-approved bots that patrol for potential copyright infringements).

Some anonymous corporate message boards can experience high costs from deviance as well. Employees like these boards and use them as an electronic suggestion box. Yet at times, destructive posts on these boards leak to the press. One message from the Internet board at Startec Global Communications, said, "[name]. It's time to go. You have been transferred from dept. to dept. Why? You continue to screw up and [name] will not lay you off. You have become a worthless, ineffective Manager without a cause. Everyone laughs behind your back. No one has any respect for you. Do yourself a favor and leave." (NYTimes, 2001). Sproull and Kiesler (1991) discussed flaming of this nature over a decade ago, when many companies had no written policies governing online interaction. Since then, most companies have a written policy and some have fired employees for their inappropriate postings.

4.4.2. How norms become rules

Norms can be created and solidified into rules through a number of mechanisms. Rules can be explicitly mandated by a group leader or an external authority, voluntarily agreed on through negotiations by group members, implicitly set through precedent and the dissemination of reinforced behavior, or prompted as a response to critical events in a group's history (Feldman, 1984; Opp, 1982).

Wikipedia's evolution includes examples of each of these mechanisms. Rules imposed from external authorities include those related to copyright and other legal issues. Internal authorities such as Jimmy Wales, the leader and "constitutional monarch"[4] of Wikipedia, have solidified a number of norms into enforced rules such as the including the "3 revert rule" which prevents a user from reverting another's contributions more than 3 times in a 24 hour period. Other rules in Wikipedia are voluntarily agreed on by members of the group, with pages dedicated to discussing, refining, and determining support for these rules, such as

[4] Wales, J. (2005). Re: Re: A neo-nazi wikipedia. wikien-l. Retrieved on August 27, 2005 from < http://marc.theaimsgroup.com/?i=4310D2CB.1060401@wikia.com >.

the "Rules to Consider" page.[5] However, many rules came about through precedent and reinforced behavior rather than explicit discussion. For example, a complex set of rules have evolved around how to deal with conflicts between two or more concepts with the same name (e.g., the term "jaguar" has a disambiguation page with more than twenty different meanings, though the main Wikipedia page is about the animal) that is largely based around cited precedents. Indeed, one Wikipedian has been quoted as saying that "The degree of success that one meets in dealing with conflicts... often depends on the efficiency with which one can quote policy and precedent", attesting to the importance of rules and prior behavior (Kittur et al., 2007). Finally, some rules have been generated in response to critical events in Wikipedia's history. The "Siegenthaler controversy"[6] (in which an anonymous user posted a libelous story about the former Kennedy administration official John Siegenthaler, Sr.) resulted in a number of new rules such as the requirement for a user to have an account in order to create a new page.

4.5. Rewards

The way that a community extrinsically or intrinsically rewards its members is an important factor in its success. Intrinsic rewards include community citizenship, reciprocity, moral obligation, and pro-social behavior (see Tedjamulia et al., 2005). However, communities often include extrinsic rewards in order to promote certain types of positive behaviors and to increase participation in a more reliable manner than relying on intrinsic motivation. Although providing extrinsic motivation can lead to a decrease in intrinsic motivation (e.g., Deci & Ryan, 1980), many communities have incorporated extrinsic rewards without hurting member participation. For example, Roberts et al. (2006) found no evidence of decreased intrinsic motivation in the presence of extrinsic motivations in open-source software development. Tedjamulia et al. (2005) suggest that one difference between successful and unsuccessful extrinsic rewards is whether they are controlling (e.g., providing money for contributions) versus informative (e.g., offering a prize to top users to recognize their contributions). However, even informative rewards have been shown to lead to decreases in participation; (Marc Smith cite) found that highly active usenet members decreased their participation after receiving an "MVP" award. Thus the question of how extrinsic rewards can be successfully incorporated into an OC remains an open research question.

Communities that have maintained successful participation through the inclusion of extrinsic rewards include Slashdot, Digg, reddit, epinions, and Wikipedia. Slashdot.com includes a sophisticated moderation and meta-moderation system in which users accumulate karma points. Both Digg.com and reddit.com include similar but less sophisticated systems. However, these systems are not without controversy: recently Digg removed its "leaderboard" in which the top 100

[5] http://en.wikipedia.org/w/index.php?title=RulesToConsider&oldid=277053
[6] http://en.wikipedia.org/wiki/John_Seigenthaler_Sr._Wikipedia_biography_controversy

contributors were explicitly listed. Immediately thereafter third-party leaderboards serving the same function emerged, demonstrating the importance of this reward mechanism to the community. Rewards can be more than just reputation-based: Epinions.com has a profit sharing system with its contributors which rewards them financially based on the popularity of their reviews.

However, there are also many cases in which extrinsic rewards have not led to positive behaviors but instead manipulation of the system in order to maximize reward. In these situations norms and sanctions can serve to prevent breakdown in the system. For example, in Wikipedia a user was caught introducing errors into articles with one account and fixing them with another in order to boost her edit count. Strong sanctioning combined with explicit norms against "editcountitis"[7] serve to deter such behavior. Another important factor is the ability to detect such manipulation: the transparency of the editing history and I.P. addresses of users enables serious manipulation to be made salient to the community.

5. Issues and Tradeoffs

Every design for norms has tradeoffs, and the tradeoffs will depend on which kind of community one is designing. The designer could create a chart listing different design options and the pros and cons of each, so as to balance these. For instance, a behind-the-scenes person who monitors each post can hide deviations and sanctions from the community but at the cost of this person's time and effort. Task groups might do well with some designs and not others. We examine some of the tradeoffs below.

5. 1. Large vs. small communities, old vs. new?

Many communities start with general rules and then narrow to be more specific and to allow less flexiblity as they get complaints, conflict, etc. Rules follow disputes. [Analogy to a legal system? "Cases" and past precedents set rules for the future? Is it possible for a new community to get a leg up by adopting the hard-learned rules from another community or are they too specific?]

5. 2. Bond vs. identity communities

Norms, by definition, are a group phenomenon. Thus they should arise most easily in communities that have a common group or community identity rather than in bond commmunities (see Ren et al, in press). Design decisions to enhance identity, however, can entail some tradeoffs, as told in the recent experience of researchers at IBM, who experimented with online games to build team identity in Second Life. The researchers decided to give participants games to play in Second

[7] http://en.wikipedia.org/wiki/Wikipedia:Editcountitis

Life. The games were meant to foster identification with the group, trust, and collaboration, so each team that entered the SL world was given a t-shirt of the same color and a clubhouse. Also, the teams were encouraged to compare their game scores with other teams to foster in-group identity. However, team players soon got more focused on winning against the other teams than on collaboration with one another. They were motivated, and identified with their team, but their need to win interfered with their collaborativeness. So, the designers shifted one of the game's central activity to construction and changed the game so that to succeed, players would have to make things easy for thir teammates rather than difficult for their competitors. This small change in game design and scoring made a big difference. Players started giving one another feedback, and heeding others' support. In-group preferences remained but the more negative tradoffs of competition were mitigated by the design change.

5. 3. Inefficient or generally harmful norms

Harm doing online is especially worrisome when it is anchored in community norms and culture. The fact that the community ignores or condones harmful behavior increases its apparent validity. "Everyone does it." One of the earliest experiments on this basic social process (Bandura, Underwood, and Fromson, 1975) demonstrated that people do more serious harm when its severity is determined jointly by a group rather than individually. The group may expect members to act harmfully out of loyalty to the group, an effective social pressure when people strongly identify with the group. Group identification also results in a "them versus us" attitude that encourages stereotyping and hostility toward other groups. Charismatic leadership favoring punishment of out-groups and a compliant membership increases the propensity for members to do harm.

Harmful group norms and cultural practices can be very difficult to eradicate when they become intertwined with the values of the group and group identity. One psychological theory of this process is called the theory of moral disengagement (Bandura, 1999). In moral disengagement, people develop a distorted set of internal moral controls and thinking about harm doing.

One form of cognitive distortion is to redefine harmful conduct as not harmful. For example, companies that do telemarketing and send spam email argue that they perform an information service and do little harm because people are free to ignore the information. A 1% payoff does not suggest to these companies that they are bothering 99% of the people. Euphemisms and self-justifications help reduce the impression of harm. Groups that sell child pornography and engage in inappropriate sexual communication with children online characterize their behavior in ways that deny injury to children. For example, they say they are only expressing their views and that they are acting more responsibly in dealing with their feelings by engaging with children through the Internet than by going out and trying to abuse "real" children (Durkin and Bryant, 1999).

Indirect consequences may increase the likelihood of these underestimations of harm (Hamilton & Sanders, 1999). Because the ultimate victims of online exploitation and the pain victims suffer are invisible, the harm doer can deny harm was done. For example, an online group exchanges copyrighted material without the permission of the owners of that material. Those whose property is taken lose income and control of their property, but participants in the illicit market never observe these losses or experience their consequences. They can portray their victims as rich companies that don't need their inconsequential royalties. The group's moral disengagement from its harm doing is helped along by the fact that members of the group do not know their victims personally.

Another form of cognitive distortion is to explain away the harm or blame it on someone else. People who conform to a group's harm doing practices often rationalize their behavior as just following accepted practice or a superior's demands, or rectifying a wrong. One hacker who was caught after he sent a destructive computer worm through the Internet argued in his defense that he was developing his programming skills. Hackers like the two Filipino students who sent a computer worm through the Internet, causing billions of dollars of damage, say they are "testing" the system, teaching system administrators to take more care with security, and "whistle blowing" (Jordon & Taylor, 1998).

There is a blurring of the line between good and bad hacking that confuses analysis of harm doing. Good hackers see themselves as experts in programming who have no malicious intent (Raymond, 2001). People who break security systems are "crackers" who are lazy and irresponsible, and who use basic tricks that are easily learned. Some hackers liken themselves to Japanese samurai, who are free agents, honorable and loyal to their war lord employers. However, the need to uphold honor is a common rationalization of harm doing (e.g., Cohen & Nisbett, 1994).

A third form of distortion is to blame the victim. Online posts in extremist groups imply that victims "deserve what they get." The group may come to believe that even though others are harmed by its actions, its own members are more deserving than their victims are, or that they are just responding to others' harm. A woman who started a Napster-like online service for copyrighted needlepoint patterns blamed commercial providers: "There aren't very many stores that carry needlepoint patterns anymore," Davis said. 'What they have is usually tacky. Who wants to [cross-stitch] a woman with a pineapple on her head and then frame it? I don't want that hanging on my walls.' " (Los Angeles Times, 8/1/00)

B. Cohen. Incentives build robustness in BitTorrent. In Proceedings of the First Workshop on the Economics of Peer-to-Peer Systems, Berkeley, CA, June 2003.