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The “Game” of Torture

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The authors explain the prevalence of torture by modeling its institutional structure as a game of incomplete information involving the state, the torturer, and the victim. Once the state endorses torture as a mechanism for extracting information, its will is carried out with positive probability. This is because (a) even a “soft” and “sensitive” state agent might torture the victim to test his or her ability to resist and (b) a weak victim might hold out momentarily to find out whether the torturer is sensitive or “sadistic.” When the state uses torture to intimidate political opposition, all types of torturers will behave sadistically. As a result, torture becomes more widespread and more cruel. The authors explain why a “culture” of individual resistance is the only effective solution to torture.

Emotions dominate the discussion of torture. The appalling practice of torture is contrary to the foundations of human dignity and naturally clouds judgment with anger. Finding solutions to seemingly intractable problems requires objective reasoning. This, unfortunately (if understandably), has been missing from the discourse on torture. When we achieve sufficient distance from the subject of torture, the reasons for which the practice has persisted for centuries reveal themselves. Torture can be a rational choice for both the endorsing state and the individual torturer. Even the most gentle torturer will choose to exert some amount of force to achieve a long- or short-term goal such as extracting valuable information from a political opponent or intimidating a subversive population. Only with this dispassionate comprehension can we begin to propose solutions to torture.

Remedies are increasingly necessary due to the seeming permanence of the institution of torture. Despite Hugo’s predictions 125 years ago that torture gradually would decline into oblivion with economic development and the spread of democratic ideals (quoted in Millett 1994, 16), a recent Amnesty International (1996) report concludes that 96 of the world’s governments, including those of the United States and France, either practice or tolerate torture. In this report, Amnesty International dismisses the notion that the persistence of the practice can be traced to sadistic torturers acting on

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behalf of an oppressive government. Indeed, an individual torturer can be sadistic. But common sense dictates that this scenario does not compose the majority of incidents of torture. As Amnesty International (1984, 13) notes elsewhere, most torturers act as their states' pawns. The state, not the individual, represents the most frequent source of torture. Individuals rarely are evil. Unfortunately, when pressured by the state to harm others, few possess the courage to challenge authority.

The state endorses torture for at least two reasons: as a mechanism for social control and as a method for extracting information.¹ Whereas the case of information extraction can occur even in democratic countries, the social control case occurs only under dictatorships and is, in fact, an important feature of such regimes. In his study of social control in the former Soviet Union, Shernock (1984) shows that torture was used by Stalin as a preventive measure for political dissent. Individuals perceived as potentially dangerous were arrested, tortured, or even killed before they committed any political crime against the Communist state. Shernock maintains,

Prevention broadly interpreted can assume two different forms: (1) social prophylaxis, or punitive measures against members of certain social groups or categories because of the presumed threatening tendencies of those groups or categories, and (2) punitive measures against individuals for the commission or the omission of certain "indicative" acts. (pp. 311-12)

The idea here is that a totalitarian state's utility can perhaps be based on the following: stability is maintained by the threat of force during times of relative calm, and submission is obtained by the promise of calm during times of force. According to Shernock, these motives drove Stalin's pursuit of terror tactics.

As a method for extracting information, torture currently is quite widely used. Advanced democracies have endorsed large-scale torture, as was the case in France during the 1960s against participants in the independence movements in Algeria and Chad. More recently, there has been the debate in the Israeli parliament about the use of "limited force" against Arab terrorists who have been arrested to extract information about new potential terrorist threats. Israeli officials state that "increased physical pressure" is necessary in a "ticking bomb situation," that is, when someone might have information about a bomb placed in a building full of people. Israel's ambassador to Geneva, Yosef Lamdan, has stated that the controversial methods were permitted by Israeli law and necessary to save lives in the face of terrorist attacks (Greenberg 1999).

This article aims to provide a theoretical model to analyze the rationale for the use of torture as a method for extracting information and as a method for social control. We show that torture cannot be explained merely as an inhumane act of treacherous individuals acting on behalf of a malicious state; rather, it can be seen as the outcome of a game of incomplete information involving the state, the torturer, and the victim. The model provides strategies for individual and collective resistance to torture.

For the purpose of this article, the choice of torture lies in the hands of the state. Although parents might physically punish their children, the analysis to follow does not address that issue. In addition, for the purpose of this article, the state does not con-

1. Rejali (1994) describes torture in Iran as a method for rehabilitating criminals.

sider torture merely to punish a victim. In our model, a state chooses to endorse torture to obtain information (regarding the victim's guilt or other details that the state needs) or to control and intimidate its population.

Beccaria's ([1777] 1963) is perhaps the first consequential work to describe the practice of torture. He argues against using torture on the basis that it favors the guilty victim over the innocent one as well as the strong victim over the weak one. Thus, Beccaria uses intuition to explain why torture is an irrational action for the state to choose. Unless states often act against their own interest, an unsatisfying conclusion, Beccaria's argument fails to explain how torture has persisted for the centuries since his analysis.

Milgram (1974) probes the psychology underlying torture. His classic experiments result in a framework consistent with our model. The state, torturer, and victim are replaced with the experimenter, teacher, and learner. In his experiments, a male participant (teacher) is told to shock another participant (learner) every time an incorrect answer is given on a word test. The teacher believes that he is participating in a study about learning. Both the experimenter and learner know the true nature of the experiment, that is, to observe how the teacher reacts to authority. Of course, no actual shocks are applied, although the teacher believes otherwise. As the shock level increases, the learner protests more vehemently. The experimenter attempts to exert authority to force the teacher to continue shocking the learner.

Milgram's (1974) work provides insight into how the torturer in our model might act under pressure from authority. Grasping the extent to which the state can cause its torturers to subordinate their consciences to the state's wishes is essential to understanding the state's ability to obtain useful information. Milgram comes to the disturbing conclusion that the influence of authority can supersede the concerns of conscience to an alarming degree. In Milgram's fourth experiment, the teacher was told to force the learner's hand onto a shock plate to administer the punishment after each incorrect response. Under these conditions, 23 of 40 teachers continued to force the learner to absorb shocks after the learner demanded to be released from the experiment. Continuing to obey the experimenter, 12 of the 40 teachers shocked the learner up to the maximum shock level.

The conditions would not be identical for torture. For example, obedience probably would be greater for torture than was the case in Milgram's (1974) fourth experiment. The torturer is most likely taught to hate the victim to create more of a sense that the victim deserves the pain. Greater rewards and higher punishments (e.g., in terms of job advancement) also exist for the torturer than for Milgram's teacher. Still, Milgram's many experiments help us to analyze the different types of torturers and the ability of the state to influence their actions.

In addition to the philosophical and psychological studies discussed heretofore, torture has been discussed extensively in the political context. For example, Crelinstein and Schmid (1995) classify different types of torturers based on accounts from people who participated in the practice. They find three basic types: the sadist, the zealot, and the professional. Sadists derive pleasure from causing their victims pain because of either personal disposition or some element of revenge. Zealots enthusiastically carry out orders, feeling little remorse for torturing but also no incentive toward instigating the

actions. Their goal is to obtain, at all costs, the information that the state seeks. Professionals prefer not to torture and do so only after careful deliberation. They believe in performing their jobs but will torture only when they believe that their actions are likely to produce information.²

Our analysis relies on a signaling game with three players: the state, the torturer, and the victim. We analyze how different types of torturers would act when confronted with the distinct types of victims.³ We first solve the game under the assumption that the state is motivated to extract information. We then move on to the case in which the state is motivated to intimidate and exercise social control.

The equilibrium analysis of this model shows that torture takes place with probability 1.00. Its intensity and scope are much higher under the social control case than under the information extraction case. Beccaria's ([1777] 1963) analysis that torture favors strength over weakness is proven correct, but his assertion that guilt dominates innocence is not necessarily true. Our analysis also determines the signals that will be sent and the amount of information that a victim will choose to reveal. When all parties act rationally to maximize their utilities, the state might be able to torture to gain useful information that exceeds any incurred cost. Perhaps the only real and complete solution, then, is to eventually achieve a situation in which most victims act in a strong manner, thereby altering the state's utility, so that torture no longer is a rational decision.

Our analysis starts by setting up the model and by defining the perfect Bayesian equilibria for that model. We then discuss our equilibrium solutions under the information extraction case and the social control or intimidation case.

THE MODEL

We present the following game of incomplete information that captures the essence of the torture institution. We first present the players (the state, the torturer, and the victim) along with their strategies and payoffs. We then define, solve for, and discuss the equilibrium outcomes.

PLAYERS AND THEIR STRATEGIES

The first relevant player of the game is the state. The state desires information that it believes the victim possesses. We define the information that the victim knows by I ,

2. Generally, other scholarly works about torture are legalistic or historical. For example, Peters (1985) presents a detailed history of the use of torture in Western society from the early ages to modern times. Langbein (1977) explains how changes in the Law of Proof in ancient Rome have led to the disappearance of torture. Neither of these works specifically addresses the issue of the prevalence of torture.

3. Brams and Jones (1998) present an interesting analysis of medieval witch trials as a game of complete information in which accusers could use torture or not. As in the present study, they analyze the strategic interaction among a victim (a witch), a torturer, and the witch's accusers. Also as in the present study, torture is taken to be used to obtain information from the victim. However, Brams and Jones do not explicitly model incomplete information with respect to the type of torturer and victim. They also do not investigate the use of torture as a method of social control.

where $I \in [0, \bar{I}]$ and \bar{I} is the full information that the state desires. We assume that the state has the means to verify the truthfulness of the information provided by the victim.

The second player is the torturer. Following Crelinstein and Schmid (1995), we divide torturers into three distinct types: the professional (P), the zealot (Z), and the sadist (S).⁴ We assume that the probability distribution over the types of torturers is $p(P)$, $p(Z)$, $p(S)$, where $p(i)$ is the probability of the torturer being of type i and

$$p(P) + p(Z) + p(S) = 1.$$

A strategy for all types of torturers is to choose a force level $F \in [0, \bar{F}]$, where \bar{F} is sufficiently large and represents the maximum amount of force that the state authorizes. We look at the case in which \bar{F} is known to both the torturer and the victim. We briefly discuss the case in which \bar{F} is known only to the torturer. For the victim, it can be either finite (i.e., $0 < \bar{F} < \infty$) or infinite (i.e., $\bar{F} = \infty$). We assume that \bar{F} is finite with probability $\frac{1}{2}$ and infinite with probability $\frac{1}{2}$. We also assume that the victim dies when $\bar{F} = \infty$. The amount of force will be associated with a pain level that the victim experiences. It also might depend on the amount of information revealed by the victim. We assume that for the sadist, F does not depend on I . However, for both the zealot and the professional, F is a function of I .

In addition, the victim can stop the torture through choosing $I = \bar{I}$. Logically, the state will not permit torture when it has nothing to gain from the practice. Even the sadist will be forced to stop imposing pain. State disapproval ends the game.

The third player is the victim. We have divided the victim into four types: a weak and guilty victim (WG), a strong and guilty victim (SG), a weak and innocent victim (WI), and a strong and innocent victim (SI). The guilty victim possesses information, whereas the innocent victim knows nothing that the state seeks. Similarly, the weak victim is likely to talk when confronted with the prospect of pain, whereas the strong victim is difficult to intimidate. We also assume that the probable distribution of the types of victims is given by $q(WG)$, $q(SG)$, $q(WI)$, and $q(SI)$, where $q(j)$ is the probability of the victim being of type j . Again, we have

$$q(WG) + q(SG) + q(WI) + q(SI) = 1.$$

The strategy for all types of victims is to choose whether to provide information to the state and how much to reveal. That is, they choose $I \in [0, \bar{I}]$.

4. Milgram's (1974) experiments provide us with an estimate of the likelihood of each type of torturer. In his experiment where the teacher can choose the shock level, only 2 of the 40 teachers went beyond the victim's expressed pain threshold, which translates to an estimate of 5% sadist for the torturer population. Milgram's "touch proximity" experiment should provide an accurate estimate of the distribution of the other types. In this experiment, the teacher must force the victim's hand onto a plate to apply the shock. In this variety of the experiment, 17 of the 40 teachers disobeyed the experimenter at or before the victim's expressed pain threshold. Thus, the professional proportion would be 41.5% of the torturer population. The zealot percentage would be the remainder of the torturers who are neither professional nor sadist (about 53.5% of the torturer population). It should be noted that this probably overestimates the percentage of torturers who will act professionally because the torturers in our model have a greater incentive to cause pain to the victims than do Milgram's participants. As a result, 41.5% is something akin to an upper boundary on the proportion of professional torturers.

PAYOFFS

The state's payoff increases with the extraction of information and decreases with the level of public or international outrage that might lead to measures such as economic sanctions. Because the weak and knowledgeable type is the only victim expected to reveal useful information, we represent the state's utility by $q(WG)I - c$, where c is the cost associated with the possibility of international or domestic pressure. As a result, the state will promote the use of torture on the condition that

$$q(WG)I \geq c.$$

This condition is less likely to be met in democracies. However, France, the United States, and Israel have endorsed or still endorse some form of torture.⁵

When the state decides that it is in its interest to engage in torture, it enlists officials to perform the activity. These torturers also have a payoff associated with their decision to carry out the state-assigned mission. The state provides an incentive for the official to torture in a combination of rewards for unearthing information and implicit threats for a refusal to torture.⁶

Each type of torturer experiences the same positive payoff from torturing with this self-promoting goal in mind. We indicate the utility that the torturer realizes from gaining information by I . The probability that the torture produces valuable information for the state and the torturer is $q(WG)$ given that the weak and guilty type is the only victim who will provide useful information to the torturer. The innocent type knows nothing of value, and the strong type will remain silent. The payoff functions will depend on the type of torturer when determining the cost that the torturer incurs for imposing pain.

Consider first the zealot. If he or she obtains all the information that is sought, then there no longer is an incentive to torture. At the same time, the zealot's detachment prevents him or her from gaining by stopping the torture. If there are problems obtaining the information, then the zealot will continue to torture, having separated himself or herself from the victim's feelings. We can represent the zealot's payoff simply as

$$q(WG)I.$$

Next, we examine the professional type of torturer. This type cannot achieve the detachment of the zealot and is disturbed by the nature of his or her profession. The professional weighs the pain that he or she causes the victim against the utility that the

5. On France, see Fanon (1959). The United States created the School of Americas in 1946 with the mission to provide counterinsurgency training to Latin American militaries in support of U.S. policy in the region. This training includes techniques of torture (see McClintock, 1985). For the case of Israel, we should mention the January 14, 1996, decision issued by the Israeli Supreme Court authorizing the General Security Service (*shin bet* or *shabak*) to use "increased physical pressure" on suspected members of Islamic Jihad accused of having information on terrorist activities against Israel. See Greenberg (1999).

6. According to Crelinstein and Schmid (1995, 55), all ex-torturers who have spoken out about their experiences have, at one time or another, feared being killed by their former colleagues. The difficulty of exit is related to the larger question of obeying and refusing orders.

professional obtains from torturing. Unless the professional realistically believes that the use of force can extract the desired information, he or she will choose not to torture, avoiding the cost associated with such actions. Every time the professional engages in torture, he or she experiences this cost. The overall payoff for the professional is

$$q(WG)I - aF(I),$$

where $a > 0$.

Finally, the sadist realizes a benefit from torture regardless of his or her success at fulfilling the state's objective of uncovering information. Instead of receiving a cost, this type always will increase his or her utility merely through the act. The overall payoff for the sadist can be expressed as

$$q(WG)I + F.$$

To complete our model, we now assign a general utility function for the victim based on the level of information that he or she is willing to reveal, I , and the victim's level of strength:

$$-a_i I - b_i F(I).$$

The constant a_i equals 0 for the innocent victim who possesses no information that the state seeks and 1 for the guilty victim who has $I > 0$. Furthermore, $0 = b_s < b_w$ given that the strong victim suffers a lesser cost for the same amount of force imposed.

TIME SEQUENCE

The game consists of four meaningful stages:

Stage 0: The state chooses either to endorse torture or not to endorse torture. If the state does endorse torture, then it selects a torturer to carry it out.

Stage 1: On the condition that the state endorses torture, the victim decides whether he or she is going to talk. The victim chooses $I_1 \in [0, \bar{I}]$.

Stage 2: The torturer decides whether he or she will torture the victim. The torturer chooses $F_2 \in [0, \bar{F}]$.

Stage 3: The victim again chooses either to talk or not talk: $I_3 \in [0, \bar{I}]$.

A strategy for the type j victim is to choose $I_1(j) \in [0, \bar{I}]$ and $I_3(j): [0, \bar{I}] * [0, \bar{F}] \rightarrow [0, \bar{F}]$.

A strategy for the type i torturer is to choose $F_2(i): [0, \bar{I}] \rightarrow [0, \bar{F}]$.

In addition, for each action I_1 taken at $t = 1$, the torturer forms a belief $\mu[j|I_1(j)]$ about the type of the victim, and for each action F_2 taken at $t = 2$, the victim forms a belief $\sigma[i|F_2(i)]$ about the type of torturer. We solve the game by using the concept of perfect Bayesian equilibrium.

Definition 1: A pure strategy perfect Bayesian equilibrium is a set of levels of information that the victim provides, $I_t^* \in [0, \bar{I}]$ at time $t = 1, 3$; a set of force levels that the torturer

chooses, $F_i^*(i) \in [0, \bar{F}]$ at time $t = 2, 4$; a set of beliefs, $\mu[j|I_1(j)]$, regarding the types of victims; and a set of beliefs, $\sigma[i|F_2(i)]$, regarding the types of torturers, such that (a) given $\mu[j|I_1(j)]$, $\sigma[i|F_2(i)]$, the strategies $F_i^*(i)$ and $I_i^*(i)$ are sequentially rational, and (b) the beliefs $\mu[j|I_1^*(j)]$, $\sigma[i|F_2^*(i)]$ are determined by Bayes's rule and by the players' equilibrium strategies.

Before we formally derive the equilibrium outcome of the game (see Appendix for formal proof), let us first present an intuitive discussion of this outcome. First, at stage 1, the weak and guilty type of victim will send a signal by talking, choosing $I_0 > 0$, and the strong and guilty type will choose $I_0 = 0$. On observing this signal, the torturer will infer the type of the victim and torture him or her until $F_i = \bar{F}$ or will torture with some lesser force at $t = 2$. Uncertainty over the type of victim leads all types of torturers to torture to determine the validity of the signal at $t = 1$. Uncertainty over the type of torturer leads the weak type of victim to talk. Remaining silent, the weak type would face the prospect of incurring a severe beating at $t = 2$ even if the torturer were a professional.

Proposition 1: The weak and guilty type chooses to talk "a little" at $t = 1$. If this strategy is followed by \bar{F} , then the victim infers that the torturer is either a zealot or a sadist. The victim then will choose $I = \bar{I}$ at time $t = 2$ to stop the pain. If the torturer chooses $F^* < \bar{F}$ at time $t = 2$, then the victim infers that the torturer is of the professional type. At time $t = 3$, the victim will choose to reveal the amount of information that will make the professional indifferent between torturing and not torturing.

The professional and the victim have common interests. Both want to avoid the occurrence of torture. The victim also hopes to avoid the cost associated with divulging information. As a result, if the victim knows his or her torturer to be a professional, then the guilty victim will either (a) disclose the minimum level of information that will prevent the torturer from torturing at the start of the game or (b) stay quiet throughout the game to indicate strength. For the innocent victim, he or she cannot disclose any information. Still, the strong and innocent victim is favored over the weak and innocent one because the professional torturer will stop torturing if he or she appreciates the victim's innocence or strength.

The victim is tortured with positive probability. Torture might have been avoided (a) if the victim had known what type of torturer that he or she was facing at $t = 1$ and (b) if the professional type and the weak guilty type had signed a contract under which the victim would have provided some information and thereby avoided being tortured.

But, is this contract a realistic possibility? The answer is no. In its very essence, the torturer-victim relationship lacks trust. The state usually indoctrinates torturers, teaching them to see their victims as something less than human. Victims, imprisoned against their will, have little motivation to rely on the honor of their tormentors. Therefore, initial collaboration between the torturer and victim probably is an infrequent phenomenon.

There are instances in which the torturer extracts information from the victim without the use of force. With rewards in the form of promotions or other distinctions,

torturers often compete among each other to produce the greatest amount of information. Fanon (1959) provides an excellent illustration of this idea. Quoting a French torturer, Fanon writes,

Each [torturer] thinks he's going to get the information at any minute and takes good care not to let the bird go to the next chap after he's softened him up nicely, when of course the other chap would get the honor and glory of it. Sometimes, we even offer the chap money, money out of our own pockets, to try to get him to talk. . . . It's a question of personal success. You see, you're competing with the others. (pp. 268-69)

Although an initial contract seems unfeasible, this type of competitive behavior is likely to occur. This aspect is absent in Milgram's (1974) analysis and constitutes another reason why the proportion of professional torturers is likely to be significantly lower than the already small fraction of disobedient participants in his experiments.

A potential weakness in any attempt to fit torture into a game theoretical structure is the possible omission of gray areas. Perhaps a given torturer is neither a professional nor a zealot. Instead, the torturer may be better described as a "prolot" or a "zeallessional." Such are the limits of classification. Likewise, there are limits to breaking down the interaction between torturer and victim into a set number of stages. One could argue that restricting the game to a certain number of stages fails to describe reality accurately. But, the time horizon does not really represent a problem to our analysis. In all cases, the victims prefer that the game end as quickly as possible. Similarly, the professional torturer and, more important, the state hope to avoid a prolonged encounter with the victim. The state desires all the information up to \bar{I} . But, when additional stages of torture seem unlikely to produce any additional information, the state no longer gains from the practice. The state will not permit its torturers to continue to impose force after \bar{I} has been unearthed. Consequently, the game is finite, and the restrictions of our chosen stages do not alter the equilibria.

Note that when there is incomplete information with respect to the maximum level of force authorized by the state (i.e., when \bar{F} is finite with probability $\frac{1}{2}$ and infinite with probability $\frac{1}{2}$), the weak victim will not hold out at $t = 1$. The weak victim will confess immediately, fearing to die at the hands of either the zealot or the sadistic type. The victim's expected payoff will be $-\infty$ if he or she does not confess and $-a\bar{I} > -\infty$ if he or she does confess. As a result, the victim will confess with probability 1. If the victim is strong, then he or she never will confess, and neither the professional nor the zealot type will choose to use torture.

To cite an example, Whittingham (1997) examines the case of a German prisoner of war (POW) whom Americans relied on to extract information from other POWs. Americans captured Werner Drechsler in June 1943 and sent him to the interrogation center in Fort Meade, Maryland. Soon thereafter, American intelligence sources learned of Drechsler's friendship with a Polish prisoner who had worked on that same U-boat. Aware of Drechsler's anti-Nazi leanings, the Americans decided to use him to extract information from the German prisoners passing through Fort Meade. Although Drechsler's method of obtaining information involved cunning rather than force, his selection does speak to the importance of the type of information getter the state

employs. Drechsler used no force, but his appearance as a German POW rather than an American agent allowed him to effectively gather information. In our model, the state preferred either zealot or sadist torturers because those types have utility functions that lead them to torture more freely to obtain information. This case underscores the limitations of that model. Without the use of force, Drechsler's apparent status as a German POW positioned him to gain valuable information. Moreover, his position as a fellow German gave Drechsler a better foundation to appreciate the validity of what his targets divulged.

After the Americans no longer needed Drechsler's services, the Department of the Army sent him to a POW camp in Arizona that "housed practically all of the German U-boat prisoners in the United States" (Whittingham 1997, 53). They did so despite specific naval intelligence warnings that Drechsler "should never be sent to a [POW] camp where other German naval [POWs] were held" (p. 46). Not surprisingly, seven prisoners conspired to kill Drechsler. They subsequently were tried by a court-martial and executed.⁷

The example confirms some of the key points that we made on the information extraction case. First, it shows that the state will tend to target the weak or potentially cooperative victim (in this case, the anti-Nazi POW Drechsler). It also shows that the state will go to any length to cover up the practice of torture and the violation of the POWs' rights; according to Whittingham (1997), the U.S. Army chose to offer Drechsler as a sacrifice and then to execute his killers to cover up the illegal treatment of the German POWs.⁸

THE SOCIAL CONTROL CASE

We now assume that the state endorses torture, not only because it wants valuable information but also because it wants to intimidate and control a whole population. We assume that the state gains not only from the victim's confession but also from the act of torture itself. In other words, the pain of the victim spills over to the entire population and is used by the state as a means to intimidate potential adversaries. To reflect this new element in the state's payoff, we assume that torture provides direct benefits to the state. We use $g(F)$ to define this direct benefit and assume that $g(\cdot)$ is increasing in F . This means that the more cruel the act of torture, the higher the level of intimidation and the higher the state's utility. Thus, the state's payoff is given by

$$q(WG)I + g(F) - c.$$

7. For additional examples on torture of POWs, see Reiter and Stam (1997).

8. The process that the American authorities used to force the POWs to confess also illustrates an aspect outside the bounds of our model. Through interrogating the suspects separately, the Americans altered the payoff structure that we have outlined. Because another suspect also might be confessing, each individual POW had less incentive to hold out during long interrogation sessions. The authority might be able to extract information with greater ease by creating a situation with multiple victims, in contrast to the single-victim model that is the focus of our analysis.

Because by assumption the torturer shares the state's objectives, the professional torturer's payoff is given by

$$q(WG)I + g(F) - aF(I).$$

The respective payoffs of the zealot and sadist are given by

$$q(WG)I + g(F)$$

and

$$q(WG)I + g(F) + F.$$

The payoffs show that under social control, the cost of torture for the state and for the professional torturer has to be very high for either player to choose not to use torture. The following proposition shows that under social control, the behavior of the players is qualitatively different from that outlined in proposition 1.

Proposition 2: If the purpose of torture is not only to extract information but also to intimidate an entire population, then all types of torturers behave sadistically. At all stages of the game, they all choose to apply the maximum level of force \bar{F} , whether the victim is weak or strong, guilty or innocent. As a result, the weak and guilty will confess at $t = 1$.

Thus, under social control, torture will be much more widespread, and there will be many more confessions by the victims, whether or not such confessions are useful. In addition, all torturers behave in essentially the same way; they all use brute force.

A good illustration of the use of torture as a mechanism of social control and information extraction is provided by Thurston (1996) in his study of the Soviet Union under Stalin. According to Thurston, torture under Stalin's regime included extremely bright lights, intense sound, psychological tricks, extinguishing cigarettes on the skin, and beating and kicking with boards studded with nails (p. 66). He explains that the decision to torture during this period was motivated by a combination of dehumanization of the victim to intimidate the population and the desperate need to gain information from individuals who were considered to be enemies of the state.⁹

COMBATING TORTURE

First, note that proposition 1 implies that torture is less likely to occur when most victims are strong.¹⁰ The analysis also implies that states in which torture is an accepted institution are more likely to succeed in obtaining a victim's confession than

9. Note that in our model, the state is not barbaric and gains nothing by killing the victim. We could consider the case of Germany under Hitler in which the state wants the strong victim killed to intimidate potential future victims or political opponents. In this case, if the victim wants to survive torture, then he or she might choose the strategy of partial confession. Thanks go to a referee who gave us an example of a Hungarian partisan and victim of the Gestapo who adopted such a strategy.

10. This point is borrowed from Wantchekon and Waldman (1997).

are those that view torture as an abhorrent and extreme practice. For example, a victim's confession will be more likely in India, where most people

believe in the existence of the system [of torture] and are practically acquainted with its effects and consequences, but not a single individual can be found bold or resentful enough to make it a matter of public complaint simply because the idea is prevalent among the people that such acts are tacitly tolerated by the government. (Ruthven 1978, 188)

Proposition 1 suggests that the most effective way in which to combat torture is to replace the institution of the weak victim with that of the strong victim. This is a massive undertaking indeed. However, if victim resistance becomes the standard, then the state has no incentive to torture. The following question then arises: how can one create a "culture of the strong victim" among potential victims of torture?

One could create such a culture by cultivating solidarity among those in prison or detention camps or by teaching potential victims what to expect from torturers and how to react. Serge (1970) provides a detailed code of conduct for potential victims of torture.¹¹ According to Serge, during an interrogation, the victim should (a) say nothing or give very terse answers, (b) stay calm and never look intimidated or surprised, and (c) never panic and never confess (pp. 69-70).

Another way in which to attack torture at its source is to increase its cost to the state. Increasing the cost facilitates creation of a culture of strong victims. International and domestic pressure on the state makes the use of torture more difficult. The evidence compiled by Amnesty International annual reports suggests that such pressure also is perceived by the victims as an invitation to resist.

In selecting potential torturers, the state desires blind faith much more than intelligence. The professional type might not torture, even when it would increase the state's utility. Therefore, the proportion of professional torturers is even lower than Milgram's (1974) results would indicate. The sadist might impose force even when it no longer is in the state's interest. So, rather than professionals or sadists, the state wants zealots. It can achieve this goal by screening potential torturers. Entrance examinations to the military and police, as well as interviews and psychological evaluations, can help to target the correct candidates. Confronted with a population of torturers unsympathetic to their plight, victims have an even more imposing obstacle to setting a standard of strength. If the professional becomes convinced that a victim is strong, then the professional will stop the torture before reaching \bar{F} . By contrast, the zealot has no incentive to stop before reaching \bar{F} .

Finally, note that under social control, individual resistance to torture is nearly futile. Whether the victim acts strong or weak does not matter. Nothing will stop the state from using torture. Only a major social and political change that helps to protect political rights and prevents the state from intimidating its citizens might help to limit the use of torture.

11. The document on which the book was based was written during the 1930s by a Belgian Communist leader and anti-Nazi resistant, Victor Serge. The code served as a bible for many victims of the Gestapo during World War II.

CONCLUDING REMARKS

In this study, we have used a dynamic game of two-sided incomplete information to show the rationale for the use of torture as a method for extracting information and as a method for social control. Under the information extraction case, the torturer, regardless of type, will use torture to test the degree of resistance of the victim. Even the weak victim will hold out at the early stages to figure out the type of torturer that he or she faces. Under the social control case, torture becomes more widespread and cruel. It does not discriminate between the strong and weak victims or between the guilty and innocent ones. All types of torturers behave as if they were sadists. Finally, we argue that although a culture of strong victims might help to combat torture, when it is used as a method to extract information, only a revolution will help to prevent its use by a despot as a method of intimidation and social control.

APPENDIX

Proof of Propositions

PROOF OF PROPOSITION 1

First, note that regardless of the type of victim faced, the sadist (S) and zealot types of torturer always will choose $F = \bar{F}$. Also, regardless of the type of torturer faced, the strong types (SI and SG) and the weak and innocent type (WI) will choose to hold out; that is, they will choose $I_i = 0$. As a result, the game is reduced to an interaction between the weak and guilty type of victim and the professional type of torturer. We denote $q(WG) = q$ and $p(P) = p$.

At stage 4, the level of information that maximizes the payoff of the professional is given by

$$I^* = \arg \max_I [qI - aF(I)].$$

This information level corresponds to a level of force that is equal to $F(I^*)$, where $F(I^*) \leq \bar{F}$. Thus, at stage 2,

$$\sigma(P|F^* < \bar{F}) = 1.$$

The weak and guilty type will choose

$$I^{**} = \arg \max [-I - F(I)],$$

and as a result,

$$\mu(WG|I^{**} > 0) = 1.$$

The probability that the weak and guilty type is tortured by the professional is $\Pr[I^{**} < I^*] > 0$. His or her overall probability of being tortured is

$$p(S) + p(Z) + p(P)\Pr[I^{**} < I^*].$$

PROOF OF PROPOSITION 2

Given that the payoffs of all types of torturers are increasing in the amount of force used, their dominant strategy is to set $F^* = \bar{F}$. Given that the torturers are playing such a strategy, the weak victim will choose $I^* = \bar{I}$ at $t = 1$.

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