

Toward Truly Outlawing Torture

The torture of human beings is a scandalous heritage handed down to present-day civilization from prehistoric times of savage ignorance. Even today, a number of states practice torture that is legal according to their laws. The Soviet Union is one of the signatory states of the United Nations Convention on Protection of all people from torture. However, the Soviet Corrective Labor Code contains recommendations for punishing prisoners in concentration camps and prisons, which in their application are subjectively experienced as torture. These recommendations include (i) the penal isolation cell, (ii) the prison detention cell, and (iii) a reduced food ration under a severe prison regime. I myself was repeatedly subjected to all of these forms of punishment while detained in Soviet prisons and camps, and as a physician I can testify that penal isolation and prison detention cells are experienced by a human being as torture because of hunger, cold, and sleep deprivation. Moreover, in Soviet detention practice other forms of torture are being widely applied, including torture by handcuffs, torture by preventing a prisoner from relieving himself, and torture by drugs affecting a person's psyche (in psychiatric hospitals).

In other countries, such as Chile, repeated terrorization by sham execution or being forced to watch the torture of loved ones are forms of torture that do not involve physical punishment. In South Africa, children as young as 9 or 10 years old are placed in isolation cells.

Two aspects of torture must be defined: torture as an action perpetrated by the torturer; and torture as a condition suffered by the victim. Any action which deliberately causes physical or mental suffering to a human being, with the aim of compelling him or her to a certain behavior, or of punishing him or her is torture as an action. A feeling of physical pain or mental suffering inflicted by one human being on another, with the aim of constraining or punishing the victim, is torture as a condition.

However, let us examine the definition of torture serving as the basis of the "Declaration against Torture" of 9 December 1975, passed by the U.N. General Assembly (1). At a glance, it is clear that the definition of torture contained in Article 1 is completely untenable. Torture is defined only in terms of the action of the perpetrator. Instead of a qualitative designation of the terms "pain or suffering," they are given the purely quantitative description of "severe," upon which a

qualitative definition cannot be grounded. What does "severe pain" mean for different people? And how should the degree of "heaviness" be gauged? A certain pain or suffering may be felt as light, yet experienced as a torture if endured for a long time. A severe pain, on the other hand, may almost at once cause a person to lose consciousness even before having been felt or registered as torment. Still, the torturer needs his victim to be conscious in order to concede to the threat of violence. This is why torturers apply severe pain repeatedly. The fear of undergoing pain, even before the physical torment has begun, or begun again, constitutes a psychological torture. Psychological torture involves the protracted impact of negative experiences on a person. All the above-mentioned practices and experiences are by no means covered by the simple description of severe pain.

The authors of the Declaration, by defining torture only in terms of actions carried out or instigated by officials, have omitted one important aim of torture—securing a certain behavior from the victim. This is the goal of the torture of political prisoners in the Soviet Union and elsewhere.

A reservation in Article 1 of the "Declaration against Torture" merits special attention. According to the passage, the definition of torture does not apply to "a pain or suffering resulting merely from lawful imprisonment . . . to a degree compatible with the Standard Minimum Rules for the Treatment of Prisoners" (to which several countries, including the U.S.S.R., are not signatory). Paragraph 1 of Article 32 of the Standard Minimum Rules (2) stipulates that "punishment by way of reducing nutrition may be applied." Paragraph 2 of the same Article states that "the same applies to other modes of punishment susceptible to causing the physical or psychological detriment of the person punished." These statements represent an explicit approval of the application of torture to any prisoner in a U.N. member state. That Paragraph 3 states "a doctor must see prisoners exposed to such punishments daily" does not account for the possibility that the doctors may be used only to keep the victim alive for further torture.

By intentionally including a proviso allowing the torture of prisoners, the authors of the document have been guided by "the aim of the present Declaration." An objective analysis shows that the basic aim was not to change existing prison conditions in a spirit of contemporary notions of humanness, but rather to pass an international proviso that would normally legalize those conditions in their present state. If democratic countries accept Article 32 of the

Minimum Rules, what treatment of prisoners may be expected of totalitarian governments that consider even the Minimum Rules to be unacceptable?

The weakness of the U.N. documents is undoubtedly to be explained by the participation of government representatives in U.N. activities. These officials try to produce international documents that will help further the interests of their powers. An objective solution to the question of humanness is possible only if man is viewed above all as an individual, not merely as a subject of a given state. It is most likely that such a view will be embraced by nongovernment organizations.

Despite the fact that both the Declaration and the Minimum Rules were endorsed by the United Nations, the authorization of torture of prisoners stipulated in these documents should be seen as a disgrace to present-day civilization. We cannot limit the concept of torture merely to needles stuck under fingernails or the extraction of sound teeth without anaesthesia.

We must speak out against torture and against laws which allow the warder to torture without pangs of conscience and which deprive the victim of the right of compassion. I suggest the topic of torture be taken up for discussion by people from a wide variety of disciplines including medicine, philosophy, ethics, and the like. The press all over the world should report the discussion. By common effort, a definition of torture needs to be agreed upon that is in keeping with today's level of civilization and that yields a solid foundation on which to base a strategy to fight this heinous practice.

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Disparate Costs of Risk Avoidance

It has been estimated that on average one death from cervical cancer can be prevented by spending \$25,000 for education and screening (1) and that accidental deaths can be prevented at an average cost of \$40,000 by installing smoke detectors (2). Many other examples could be given of ways in

which premature death can be prevented at modest cost.

In "nontraditional" areas of premature death prevention, notably some associated with modern technology, far greater costs are incurred for each premature death prevented. The estimates range up to hundreds of millions of dollars per death from exposure to chemical carcinogens (2). When expressed in this way, the cost of reductions in radiation exposure being imposed to prevent cancer may reach hundreds of billions of dollars per premature death averted. Two current examples serve as illustrations.

At Three Mile Island, 2.3 million gallons of waste water slightly contaminated with radioactivity has accumulated in the course of cleanup activities. The water contains tritium and traces of other radionuclides in amounts that could be discharged to the Susquehanna River without exceeding the limits prescribed by federal regulations. However, this has not been done because of opposition by nearby communities. The National Council on Radiation Protection and Measurements evaluated (3) the effects of discharging the water into the river and found that the dose to the maximally exposed individual would be 2 microrads, which is equivalent to that received in about 4 minutes from natural sources of radiation such as cosmic rays and radionuclides in the earth's crust. The collective dose (the mean dose times the number of persons) was calculated to be about 1 person-rem (prem). However, because of community opposition to this method of disposal, the utility proposed instead that the water be evaporated, at an additional cost of about \$5 million. Exposure of the public would not be lower than if the water were to be discharged to the river, but it might be perceived to be more acceptable. If one assumes that the risk of radiation-induced cancer is, at a maximum, about 2 per 10,000 prem, it can be calculated that the cost of averting a fatal cancer by the method of discharge to the river is about \$25 billion.

A similar calculation can be done for changes being proposed in the design of low-level radioactive waste disposal facilities. The Environmental Impact Statement filed by the Nuclear Regulatory Commission (NRC) estimated that the dose to people living in the vicinity of disposal sites constructed and operated according to the regulations of that agency would be about 0.003 millirem per year (4). If we assume that 100 persons will be so exposed, this translates into a 50-year collective dose of 0.015 prem. In response to public pressure, some states have specified that more protection be provided than is required by the NRC. The additional protection involves

expenditures of more than \$100 million over the life of the facility (5), which is equivalent to many trillions of dollars per premature death averted!

No doubt there are people who find it repugnant that actions taken to prevent premature death should be based on the cost of doing so. But there is no alternative in a society in which there are limited resources and so much to do. Hiring an additional school nurse, construction of a new firehouse, or implementation of an educational program to encourage immunization of children all require that funds be made available in competition with other needs. The enormously disparate costs of reducing risks that originate in different ways should be better understood by the public, the media, and our government officials.

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Malaria Vaccine Trials

We disagree with some statements in the insert "Vaccine trials disappoint" (News & Comment, 29 July, p. 522), particularly the view expressed in the title.

In the recent trials, one out of three volunteers immunized with a synthetic peptide vaccine, consisting of 12 amino acids [(NANP)₃] combined with tetanus toxoid, were protected against infection by the most dangerous malaria parasite, *Plasmodium falciparum*. In two out of three volunteers, there was a delay in the appearance of parasites in the blood, which indicates inactivation of a large proportion of the sporozoites inoculated by the mosquitoes during the challenge (1). This was one of the first synthetic vaccines against an infectious agent tried in humans. In several of the volunteers, the titers of serum antibodies had not diminished 1 year later. Equally important, the vaccine was safe, and there was a correlation between the titers of serum antibodies to the NANP peptide and to sporozoites.

In a separate trial, a recombinant vaccine containing multiple NANP repeats also pro-

tected one out of three volunteers (2). These results are encouraging when one considers that five infected mosquitoes were used for the challenge. Except in highly endemic areas, the proportion of infected mosquitoes is less than 1% and, in many areas, it is less than 0.01%.

This is not to say that there are no more problems to be solved. It will be necessary to include T cell epitopes in the vaccine and to use better adjuvants, also a priority for most other subunit vaccines now being developed. Reports that the immune response to weak antigens is enhanced by incorporating a lymphokine in the adjuvant (3) are also encouraging. Blood-stage vaccines are also being developed, and one was recently shown to be partially effective (4). A combined sporozoite-blood-stage vaccine should have greater potency.

Another implication to which we take exception is that a sporozoite vaccine would have to be "100% effective" since "a single sporozoite . . . can cause a full-blown infection." To our knowledge, it has not been shown that the severity of the malaria infection in humans is independent of the parasite inoculum; there is, in fact, epidemiological evidence to the contrary. More important, it has been established in a rodent model that vaccination with attenuated sporozoites generates cytotoxic T cells that play an important role in protection (5), most likely by releasing gamma interferon. This lymphokine inhibits the development of the liver stages at exceedingly small doses (6). Therefore, if a few invading parasites escape the effect of antibodies, they can still, in principle, be destroyed during the next stage of development by effector mechanisms stimulated by a sporozoite vaccine.

The Agency for International Development malaria program, as a whole, has contributed greatly to ongoing studies aimed at developing a vaccine for the most important infectious disease of the developing world. Without the financial support of AID, these studies could not have been performed in academic institutions. The merits of individual projects in the AID network and other malaria programs should be evaluated by peer review and not by unsubstantiated commentaries in scientific journals.

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