

Letters to the Editor

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Abuse of Prisoners at Abu Ghraib

IN THEIR POLICY FORUM "WHY ORDINARY people torture enemy prisoners" (26 Nov. 2004, p. 1482), S. T. Fiske and colleagues suggest that almost anyone could have committed the Abu Ghraib atrocities (1). They go on to say, "lay-observers may believe that explaining evil amounts to excusing it and absolving people of responsibility for their actions. . . ." Any humane person should react to their "explanation" in exactly this way. I think they make the mistake of trying to divorce "science" from politics in an area where the two are inextricably mixed. There is no mention in their Policy Forum of the fact that the U.S. Department of Justice advised the White House that torture "may be justified" (2-4); that the "war on terrorism" renders obsolete Geneva's strict limitations on questioning of enemy prisoners and renders quaint some of its provisions (2-4); or that torture was endorsed at the very highest levels of the government and military (5). Is it really irrelevant that General Miller is quoted (6) as saying that prisoners are "like dogs and if you allow them to believe at any point that they are more than a dog then you've lost control of them"? Why was none of this mentioned?

Studying the effect of "one dissenting peer" may be relatively harmless academic amusement, but if you really want to stop this sort of thing what you need are leaders, both political and military, who have the moral fiber to make it absolutely clear that abuse and torture are intolerable in a civilized society. Sadly, the political and military leadership did exactly the opposite in this case. Fiske *et al.* should have said so.

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References and Notes

1. The conclusion is pretty dubious, as it appears to be heavily dependent on meta-analysis, the poor man's substitute for doing proper research.
2. D. Priest, R. J. Smith, *Washington Post*, 8 June 2004, p. A1 (www.washingtonpost.com/wp-dyn/articles/A23373-2004Jun7.html).
3. Full text of the Gonzales memo is available at <http://msnbc.msn.com/id/4999148/site/newsweek/>.

4. A compendium of relevant government documents: K. J. Greenberg, J. L. Dratel, *The Torture Papers: The Road to Abu Ghraib* (Cambridge Univ. Press, Cambridge, 2005).
5. R. J. Smith, J. White, *Washington Post*, 12 June 2004, p. A1 (www.washingtonpost.com/wp-dyn/articles/A35612-2004Jun11.html).
6. Brigadier General Janis Karpinski said that current Iraqi prisons chief Major General Geoffrey Miller—who was in charge at Guantanamo Bay—visited her in Baghdad and said, "At Guantanamo Bay we learned that the prisoners have to earn every single thing that they have." She said, "He said they are like dogs and if you allow them to believe at any point that they are more than a dog then you've lost control of them." "Iraq abused" ordered from the top," *BBC News*, <http://news.bbc.co.uk/1/hi/world/americas/3806713.stm>.

THE ATTEMPT BY SCIENTIFIC PSYCHOLOGY TO explain mayhem like Abu Ghraib ("Why ordinary people torture prisoners," S. T. Fiske *et al.*, Policy Forum, 26 Nov. 2004, p. 1482) emphasizes findings from academic studies on the power of social context. Just one example of where Fiske *et al.*'s account misunderstands what social psychology really has to say about Abu Ghraib comes from the authors' citation of Stanley Milgram's classic *Obedience to Authority* experiments (1).

Actually, Milgram was cautious about the possibility of extrapolating the "obedience paradigm" to real-life atrocities (2). He once wrote back to an enthusiastic young replicator of his results, "it is quite a jump... from an experiment of this sort to general conclusions about the Nazi epoch, and I, myself, feel that I have sometimes gone too far in generalising. Be cautious about generalising." (3).

Instead, Milgram suggested that the true explanation of evil like the Holocaust was linked to his experiments by their demonstration of "a propensity for people to accept definitions of action provided by legitimate authority. That is, although the subject performs the action, he allows authority to define its meaning." [(1), p. 145].

Authority figures of governments headed by George Bush and Tony Blair define what is happening, in Iraq and across the world, as a "war on terror" involving certain nations and peoples who pose an immediate threat to us because they are mad and/or evil and bent on our total annihilation. The public and the army may accept the official definition of our predicament unquestioningly, which in turn natu-

rally legitimizes extreme force to be used against our "enemy."

If U.S. psychologists and scientists are going to stray outside of the narrow confines of the laboratory and attempt to explain the appalling behavior of its citizens abroad, science is ill-served by accepting unflinchingly the definitions of "situation" and "enemy" provided by politicians.

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1. S. Milgram, *Obedience to Authority: An Experimental View* (Harper & Row, New York, 1974).
2. Letter to Miss Harriet Tobin, 9 April 1964, Stanley Milgram Papers, Yale University Library, Manuscripts and Archives.
3. T. Blass, *The Man Who Shocked the World: The Life and Legacy of Stanley Milgram* (Basic Books, New York, 2004).

THE POLICY FORUM "WHY ORDINARY PEOPLE torture prisoners" by S. T. Fiske *et al.* (26 Nov. 2004, p. 1482) has provoked a great deal of discussion among social psychologists.

Much of it has been concerned with the seemingly excessive number of half-baked social-psychological ideas that can be invoked, post hoc, to "explain" Abu Ghraib—or any other social phenomenon.

However, the skeptical reactions to the Policy Forum mirror it in failing to ask a more fundamental question, which concerns the politics of science: Why is it that American social scientists become galvanized to explain evil as something that can be committed by "anyone," given a particular "context," only when Americans commit the atrocities?

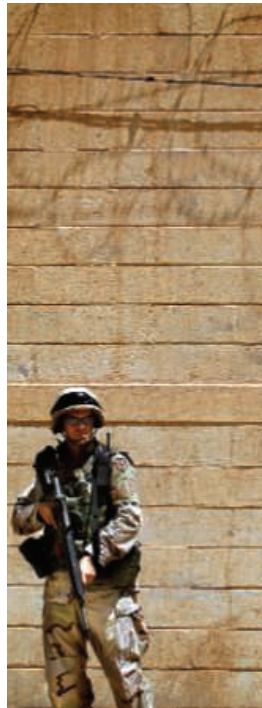
The point here is that the might (or spin) of American social science has seldom been invoked to semi-excuse (in the popular mind) others' atrocities. "They," these others, are simply genetically and

historically assumed to be evil or savage.

There is a shadow over Fiske *et al.*'s paper: The rest of the world may well think that American social science works for the U.S. State Department.

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IN THEIR POLICY FORUM “WHY ORDINARY people torture enemy prisoners” (26 Nov. 2004, p. 1482), S. T. Fiske *et al.* point out that abhorrent actions such as those that occurred at Abu Ghraib can be prevented by “even one dissenting peer.” This brings to mind a statement made by Elie Wiesel in his 1986 Nobel Peace Prize acceptance speech: “I swore never to be silent whenever and wherever human beings endure suffering and humiliation. We must take sides. Neutrality helps the oppressor, never the victim. Silence encourages the tormentor, never the tormented. Sometimes we must interfere. When human lives are in danger, when human dignity is in jeopardy, national borders and sensitivities become irrelevant.” Would that we all could remember this and act accordingly, when under the prevalent influence of conforming pressures.

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Response

OUR CRITICS RAISE TWO PRIMARY OBJECTIONS to our Policy Forum: the nature of the evidence and the scope of the conclusions.

Konečni expresses skepticism for which he presents no evidence: He implies that our summary of peer-reviewed, published meta-analyses by respected scholars represents a fringe perspective, claiming that our article “provoked a great deal of discussion among social psychologists”; in fact, there has been little discussion on any social psychology list-serve, e-mail, or newsletter to that effect as far as we know. Konečni suggests that the principles invoked in our article (aggression under stress, prejudice against outgroups, conformity to peers, obedience to authorities, and step-by-step social influence) are “half-baked”: These principles are supported not only by the meta-analyses across dozens of studies, but each also is widely accepted as a fundamental scientific principle.

Colquhoun objects that meta-analytic evidence is the “poor man’s substitute for doing proper research.” I would challenge him to do that research, because social scientists have not been permitted to examine the evidence and interview the perpetrators and victims. In the absence of new data, the cumulative evidence of research indeed helps to account for the events. Our purpose was not to conduct fresh research but to publicize a reliable database that might

have averted these events, had the right people cared to look. It might still help to avert future such actions by Americans and by others.

Persaud protests extrapolation from laboratory studies to real-life atrocities. But would he have us ignore the decades of replications across cultures and settings—both laboratory and field—that indicate the power of stress, prejudice, peers, authorities, and commitment?

Konečni demonizes our inferred politics and urges us to identify other torturers around the world. Colquhoun urges us to take stronger, more explicit political stands. In contrast, Persaud chastises us for “stray[ing] outside the narrow confines of the laboratory.”

We think that the implications of the evidence are self-evident, but our brief as scientists is to report the evidence. We believe that the evidence speaks for itself, and we think that science is more credible when it acts as an honest broker, presenting the available, reliable data but refraining from arguing for a particular political solution. We reiterate our already published stand: The evidence indicates that the individuals are responsible, yes, because sometimes (rarely) they can and do resist social

pressures. But also responsible are their peers and superiors up the chain of command, who determine the powerful social context that encourages atrocities.

These principles help explain an event of special significance to Americans because the perpetrators are Americans. Clearly, it applies beyond the American context, as recent events distressingly indicate. Indeed, we concur with Musch.

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Reinventing the Wheel in Ecology Research?

WE ARE PLEASED WITH M. SOLAN *ET AL.*'S findings that “species extinction is generally expected to reduce the depth of bioturbated sediments” (“Extinction and ecosystem function in the marine benthos,” Reports, 12 Nov. 2004, p. 1177) and support their conclusion that “Such changes might be expected to alter the fluxes of energy and matter that are vital to the global persistence of marine communities,” significantly altering ecosystem function.

At the University of Texas Marine Science Institute, we conducted a 5-year study of benthic community structure and function in South Texas Gulf of Mexico coastal waters. Our findings documented the effects of larger fauna (e.g., enteropneusts and ophiuroids) on benthic community structure, sediment metabolism, and nutrient regeneration (*I*). Changes in biodiversity, depth of the oxygenated sediments, and sediment nutrient release rates were influenced by the presence or absence of a “key” benthic macroinfaunal species (i.e., *Schizocardium* sp.). Our studies of two decades ago, from natural field observations aided by the extinction of a “key” bioturbator, support the conclusions of the Solan modeling strategy (2–6).

In his related Perspective “How extinction patterns affect ecosystems” (12 Nov. 2004, p. 1141), D. Raffaelli surmises that ecologists are challenged in advising policy-makers about the effects of benthic changes on ecosystems throughout a food web. Solan *et al.*'s statement of the need to “protect coastal environments from human activities that disrupt the ecological functions species perform” echoes what we (as well as many others) stated 20 years ago. Why do we keep repeating aspects of ecological research

instead of building on historical accounts? If we were better at telling the evolving story instead of simply repeating pronouncements over decades, we would not face such a “challenge” in convincing policy-makers to develop a more comprehensive, adaptive approach to marine ecosystem management.

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1. R. W. Flint, R. D. Kalke, *Mar. Ecol. Prog. Ser.* **31**, 23 (1986).
2. R. W. Flint, D. Kamykowski, *Estuar. Coastal Shelf Sci.* **18**, 221 (1984).
3. R. W. Flint, *Mar. Chem.* **16**, 351 (1985).
4. R. W. Flint *et al.*, *Estuaries* **9** (no. 4A), 284 (1986).
5. R. W. Flint, R. D. Kalke, *Contrib. Mar. Sci.* **28**, 33 (1985).
6. R. W. Flint, R. D. Kalke, *Estuar. Coastal Shelf Sci.* **22**, 657 (1986).

Response

FLINT AND KALKE SUGGEST THAT THE ISSUES that Solan *et al.* and Raffaelli discuss have been addressed before. Ecologists have historically focused on biodiversity as a response variable driven by, or correlated with, ecological processes. When studies have explored the effect of organisms on

» advances in:

Proteomics

Preparing Proteins: Advances in understanding the extent and function of proteins demand effective means of handling the resulting data. Several new technologies complement the tried and true methods facilitating that work. BY PETER HENDERS AND GARY HENDERS

In this issue:

- ▶ Protein isolation
- ▶ Affinity chromatography
- ▶ 2-D gel electrophoresis
- ▶ Mass spectrometry
- ▶ Database for proteomics
- ▶ Proteomics

The emergence of proteomics has opened the way to the most rapid and accurate way to identify the proteins in a sample. But for proteomics to be a powerful tool, it must be able to handle the vast amount of data it generates. Several new technologies complement the tried and true methods facilitating that work. BY PETER HENDERS AND GARY HENDERS

Emerging tools and technologies have become the backbone of proteomics research. One of the biggest challenges is the increased amount of data generated. "The amount of data generated by a single proteomics experiment is now in the range of 100,000 to 1,000,000 spots," says Peter Henders, a senior scientist at the University of York. "This is a massive amount of data to handle, and it's essential to have a way to manage it." Henders and his colleagues have developed a software package called Proteomics Explorer, which is designed to help researchers manage their data. "Proteomics Explorer is a powerful tool for managing proteomics data," says Henders. "It allows researchers to store, search, and analyze their data in a way that is both efficient and user-friendly." Proteomics Explorer is available for free download from the University of York website.

MASS SPECTROMETRY
Mass spectrometry is a powerful tool for identifying and quantifying proteins. It works by measuring the mass-to-charge ratio of ions. This information is then compared to a database of known proteins to identify the sample. Mass spectrometry is used in a wide range of applications, from basic research to clinical diagnostics.

2-D GEL ELECTROPHORESIS
2-D gel electrophoresis is a technique for separating proteins based on their isoelectric point and molecular weight. It is a powerful tool for identifying and quantifying proteins. 2-D gel electrophoresis is used in a wide range of applications, from basic research to clinical diagnostics.

AFFINITY CHROMATOGRAPHY
Affinity chromatography is a technique for separating proteins based on their specific interactions with a ligand. It is a powerful tool for purifying and identifying proteins. Affinity chromatography is used in a wide range of applications, from basic research to clinical diagnostics.

PROTEIN ISOLATION
Protein isolation is a critical step in proteomics. It involves separating the proteins of interest from the rest of the sample. There are several different methods for protein isolation, each with its own advantages and disadvantages. Protein isolation is used in a wide range of applications, from basic research to clinical diagnostics.

SCIENTIFIC LITERATURE—PROTEIN AND MASS SPECTROMETRY ADVERTISING SECTION

The following organizations have placed ads in the Special Advertising Section

Advances in:

Proteomics

Preparing Proteins

ADVERTISER	Page
Fuji Photo Film Co., Ltd.	1986
SANYO Sales & Marketing Corporation/ SANYO Electric Biomedical Co., Ltd. ...	1983
Synoptics, Ltd.	1980
Takara Bio, Inc.	1985

Turn to page 1981



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these processes, the focus has been on the roles played by individual species or, sometimes, the impact of whole species assemblages. The papers to which Flint and Kalke refer us can be firmly placed within this earlier tradition.

In the past decade, a new paradigm has become prominent—one that considers how biological diversity per se regulates, rather than responds to, ecosystem-level processes (1). The Solan *et al.* paper is set squarely within this new tradition (2), which represents a shift away from the concepts surrounding earlier biodiversity research of benthic and other ecosystems. We therefore disagree with the Flint and Kalke assertion that ecology just keeps spinning its wheels.

Flint and Kalke ask, “Why do we keep repeating aspects of ecological research instead of building on historical accounts?” The perception that historical accounts are not being built on is misplaced. For instance, Emerson and Huxham (3) demonstrate how published data similar to those of Flint and Kalke can be synthesized to provide valuable insights into the linkages between biodiversity and ecosystem functioning. Similarly, the BioMERGE initiative (4), which gave rise to the work of Solan *et al.*, uses preexisting data and concepts from multiple ecological disciplines to parameterize models of global change. Only by integrating invaluable historical accounts with novel data and synthesizing our knowledge into new frameworks can our research stimulate the natural sciences and provide compelling evidence-based arguments for policy-makers.

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1. M. Loreau *et al.*, *Science* **294**, 804 (2001).
2. S. Naeem, *Ecology*, **83**, 1537 (2002).
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4. S. Naeem, J. P. Wright, *Ecol. Lett.* **6**, 567 (2003).

A Central Repository for Published Plasmids

TO STUDY THE FUNCTION OF A SEGMENT OF DNA, researchers typically insert it into a DNA-based vector called a plasmid. Plasmids can then be used in a variety of experimental systems. Circulation of plasmids among the academic community is essential for scientific progress but is hindered because of inefficiencies in the current distribution process.

When a plasmid appears in an academic publication, it is considered to be public domain and should be made available to the scientific community upon request. Each laboratory presently stores its own published plasmids and is responsible for answering requests in a timely fashion. However, turnover of students and post-doctoral fellows and busy research schedules contribute to variable plasmid quality and delays in shipment.

Addgene, a nonprofit organization, is creating a central plasmid repository where scientists can search for and request plasmids online. A plasmid repository will provide standardized quality control and reliable deliveries and will serve as an archive to prevent plasmid and information loss over time.

Addgene accepts plasmids in either DNA or bacterial form and stores them as bacterial glycerol stocks both on-site and at a backup facility off-site. Vector maps and information regarding plasmid construction will be submitted by the originating laboratory and will be available on Addgene's Web site.

Addgene will distribute plasmids through direct online ordering. Addgene's Web site will also contain a searchable database of its stored plasmids, making it convenient to locate all available plasmids containing different versions of a particular gene, such as tagged versions, dominant active or negative mutants, or those expressed in unique vectors.

Addgene will not only collect plasmids from newly published papers, but will also retroactively collect plasmids from those investigators who would like to submit frequently requested plasmids. By doing so, Addgene will relieve investigators of the time and effort needed to answer requests, as well as provide a reliable archival service for plasmids and maps. All scientists who submit plasmids to Addgene will have access to the list of researchers who have requested their reagents.

Addgene is currently working with high-impact journals to collect plasmids at the time of publication. Addgene invites the scientific community to participate in this endeavor. Investigators and journals that would like to partner with Addgene to build this resource are welcome to submit plasmids or learn more about the initiative by visiting www.addgene.org.

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CORRECTIONS AND CLARIFICATIONS

Perspectives: "Malaria vaccines: back to the future?" by A. P. Waters *et al.* (28 Jan., p. 528). On page 529, in the seventh line of the second paragraph, the sentence should read "In previous work (10), Matuschewski *et al.* had used suppression subtractive cDNA hybridization to identify 29 genes."

Reports: "Spindle multipolarity is prevented by centrosomal clustering" by N. J. Quintyne *et al.* (7 Jan., p. 127). There was an error in Fig. 3. Panel B, a was mistakenly printed twice, with the second printing slightly overlapping panel B, d. The corrected figure is shown here.

Research Articles: "Dissection of the mammalian midbody proteome reveals conserved cytokinesis mechanisms" by A. R. Skop *et al.* (2 July 2004, p. 61). This paper reported the identification of glucose transporters GLUT1 and GLUT4 in the midbody. The correct protein names should be GLUT1 CBP and GLUT4 vesicle protein, respectively, as indicated in Table S1 (see Supporting Online Material available at www.sciencemag.org/cgi/data/1097931/DC1/2). Nevertheless, the suggestion that glucose transporters function during cytokinesis is supported by the presence of GLUT1 CBP and GLUT4 vesicle protein; the cytokinesis defects observed in *C. elegans* after RNAi of both homologs of these genes; and the localization of GLUT1, a glucose transporter that binds to GLUT1 CBP [R. C. Bunn, M. A. Jensen, B. C. Reed, *Mol. Biol. Cell* **10**, 819 (1999)], to mammalian midbodies using a GLUT1-specific antibody (Fig. 3). The authors thank N. Manel for pointing out the error in the original paper and apologize for any confusion that this mistake has caused.

