The Genetics of Caste

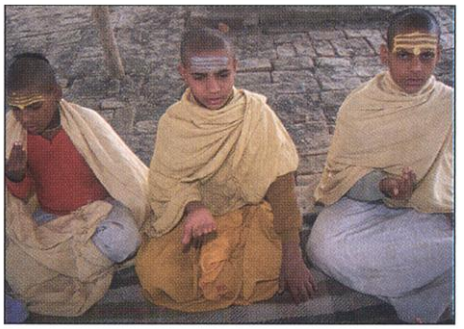
Anthropologists have long believed that the elites of India's ancient Hindu caste system are descendants of European invaders who arrived about 5000 years ago. Now, modern population genetics has confirmed that at least some Indians' genetic relatedness to Europeans rises with caste rank.

Although outlawed in 1960, the caste system continues to be "the main feature of Indian society," according to anthropologist Partha Majumder of the Indian Statistical Institute in Calcutta. Researchers from the United States, the U.K., and India capitalized on that phenomenon by comparing DNA from caste members in an area in southeast India with DNA from people around the world.

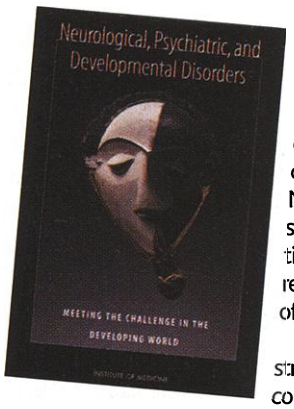
The researchers collected DNA from 265 males representing eight castes in Andhra Pradesh, then compared it to samples taken from 400 men from around India and from 350 Africans, Asians, and Europeans. In comparing the groups, they analyzed three types of DNA: mitochondrial DNA (mtDNA, inherited only from women), Y chromosomal DNA (passed on only through men), and 40 genetic loci in plain old nuclear DNA.

Overall, "the upper castes are significantly more similar to Europeans than are the lower castes," says lead author Michael Bamshad, a geneticist at the University of Utah, Salt Lake City. Among upper castes, those with the greatest genetic affinity with Europeans were the priestly Brahmins. The study also shows that it's much easier for women to move up in caste: The mtDNA in all castes was more similar to that of Asians, but Y chromosome markers showed, in contrast, that men in the upper castes were closest to Europeans.

Until now, says Bamshad, there have been few "objective data to support the idea of Indo-European mixing, much less mixing related to caste rank." Mark Weiss of the National Science Foundation, which funded the study, calls the findings a "beautiful example of the interplay between culture and genetics."



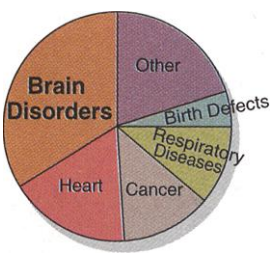
Future Brahmin priests chant on the banks of the Ganges.



Global Brain Disorders

International bodies are waking up to the crushing toll that mental and neurological disorders are taking in poor countries. Now's the time for the countries themselves to integrate treatment and prevention into their health systems, says a report* released last week by the Institute of Medicine (IOM).

Epilepsy, schizophrenia, depression, strokes, and various other brain disorders accounted for 15% of the total disease burden in 1998—yet less than 1% of global health funding is devoted to these problems, says Arthur Kleinman of Harvard Medical School in Boston, a member of an IOM committee co-chaired by Assen Jablensky of the University of Western Australia in Perth and Richard Johnson of Johns Hopkins University. Kleinman says that in developing countries, infectious diseases—especially AIDS and drug-resistant tuberculosis—get most of the attention. "Perhaps the most pernicious idea about neurological health in poor countries is that these problems should wait until infectious diseases are controlled," he says. "But these are among the most costly, troubling, destabilizing health problems in countries poor or rich." For example, said panel members, developmental problems affecting cognitive, sensory, or motor functions are more common in poor countries and leave people with lifetime disabilities. And poor countries host 85% of epilepsy sufferers.



Years of disability from noncommunicable diseases, 1998.

Neurological, Psychiatric, and Developmental Disorders: Meeting the Challenge in the Developing World.

Psychologists Cry Foul

Psychologists are in an uproar over an about-face by the editor of the *American Psychologist*, the flagship journal of the American Psychological Association (APA), who has balked at publishing an analysis of an earlier controversial study. Scott Lilienfeld of Emory University in Atlanta says APA brass appear to have caved to political pressures in retracting acceptance of his paper, which examines the politics surrounding a hotly debated study of the effects of child sexual abuse. Last week he resigned from the APA in protest.

In January, Lilienfeld was told the *American Psychologist* had accepted his paper, which deals with the controversy that followed the APA's 1999 publication of a study by Bruce Rind of Temple University in Philadelphia and others. Rind's meta-analysis of studies of child sex abuse concluded that the consequences of such abuse are not always dire—sparking intense criticism of both the research and the APA from some members of Congress. The association tried to distance itself from Rind's work and asked AAAS (publisher of *Science*) to review the study (*Science*, 23 July 1999, p. 521). The AAAS Committee on Scientific Freedom and Responsibility said it saw no reason to "second-guess" the APA peer-review process.

Last month, however, Lilienfeld says *American Psychologist* editor Richard McCarty expressed worry about the "tone" of his paper—which criticizes the APA for capitulating to critics in the Rind affair—and asked for a revision that would omit any mention of the Rind *et al.* paper. Lilienfeld, who says that would necessitate writing an entirely new paper, is appealing the decision through APA editorial channels. He also went public with his complaint on an e-mail list for psychologists, calling McCarty's actions an example of the APA "bending to political pressure" and "at the very least an egregious lapse in editorial practice."

Other psychologists agree. Richard McNally of Harvard University calls McCarty's action "indefensible ... absolutely puzzling." Larry Beutler of the University of California, Santa Barbara, speculates that APA officers are terrified that "restirring that Rind *et al.* pot" could lead to damaging congressional meddling with psychological research.

APA chief executive Raymond Fowler has defended McCarty's authority; McCarty says he cannot comment on any paper under review.

CREDITS: (TOP) PALLAVA BAGLA; (BOTTOM) IOM