

PEER REVIEW

Letters from Readers

INTERSEXUAL RIGHTS

As an intersexual I found Anne Fausto-Sterling's article "The Five Sexes" [March/April] of intense personal interest. Her willingness to question medical dogma on intersexuality is unique and refreshing. I understand that she has not had the chance to meet with any "corrected" intersexuals; I think I can provide some perspective on the experience.

Surgical and hormonal treatment allows parents and physicians to imagine that they have eliminated the child's intersexuality. Unfortunately, the surgery is immensely destructive of sexual sensation as well as one's sense of bodily integrity. Because the cosmetic result may be good, parents and physicians complacently ignore the child's emotional pain in being forced into a socially acceptable gender. The child's body, once violated by the surgery, is again and again subjected to frequent genital examinations. Many "graduates" of medical intersex corrective programs are chronically depressed, wishing vainly for the return of body parts. Suicides are not uncommon. Some former intersexuals become transsexual, rejecting their imposed sex. Follow-up studies of adults to ascertain the long-term outcome of intervention are conspicuously absent.

I am forced to wonder whether our culture's concept of sexual normalcy, which defines the sex organs of as many as 4 percent of newborn infants as "defective," is not itself defective. Intersex specialists are busily snipping and trimming infant genitals to fit the procrustean bed that is our cultural definition of gender. But Ms. Fausto-Sterling has been wrongly informed that few intersexuals escape medical intervention. The ones I have located have told me they feel lucky to have escaped with their bodies intact. How did their parents shepherd them through the mine field of puberty? Generally, in the culturally sanctioned way: with embarrassed silence.

Medical dogma on sex assignment of intersexuals centers on the "adequacy" of the penis. Because a large penis cannot be constructed from a small one, female assignment is preferred. Because a large clitoris is considered "disfiguring," extensive surgery is employed to remove, trim or relocate it. Whereas a male with an "inadequate" penis (small, but with normal erotic sensation) is considered tragic, the same person transformed into a female with reduced or absent genital sensation and an artificial vagina is considered normal. The capacity to inflict such monstrous "treatment" on children, who can-



not consent, is ultimately a clear expression of the hatred and fear of sexuality that predominate in our culture.

I must take issue, though, with the terms *true hermaphrodite*, *female pseudohermaphrodite* and *male pseudohermaphrodite*. They are a heritage of Victorian medicine—and without prognosticative value. They reflect the Victorian belief that human sexual nature rests entirely in the gonads, a concept of gonadal determinism belied by the relative success of intersex medicine in sex reassignment.

I encourage intersexuals and people close to them to write to us at the Intersex Society of North America, Post Office Box 31791, San Francisco, California 94131, where we are assembling a support group and documenting our lives.

CHERYL CHASE

San Francisco, California

¶The logic of Ms. Fausto-Sterling's arguments is specious, even deranged. She reports that some people suffering from congenital genital abnormalities have led happy lives. But to assume that such cases justify withholding corrective surgery because they are exemplars of some imagined extra sexes is truly bizarre. By the same argument, we should withhold corrective surgery from people who suffer congenital spinal deformities, heart conditions or even harelips; their claims to special status (and thus preservation) are just as solid as the ones of people with genital deformities.

R. P. BIRD

Wichita, Kansas

¶Ms. Fausto-Sterling contends that the medical community has been unreflective about surgery as a solution to intersexuality. My own research on the management of intersexuality supports her observation that physicians formulate their enterprise of converting ambiguous genitals into "female" or "male" genitals as an effort to "free [intersexed] people from perceived psychological pain," when in fact it is an effort to free the culture from having to deal with the implications of gender ambiguity. Evidence (as

yet unpublished) from adults whose intersexual states were corrected in childhood suggests they are not as grateful to their physicians or as satisfied with the genital reconstruction as the physicians would have us believe. It appears, then, that the current management of intersexuality is bad not only for reconstructing gender in theory but also for anyone who has a more practical interest in the issue.

In Ms. Fausto-Sterling's utopia the scientific community would refrain from surgically correcting intersexuality, thereby giving rise to a world in which gender oppositions would "be dissolved as sources of division." I share her desire to see gender dissolve, and I am sympathetic to her argument that one answer lies in halting unnecessary genital surgeries and in validating alternative genitals and thus alternative sexes. I think, however, that her proposal still gives "natural" genitals (albeit in more than two forms) a primary status and ignores the fact that in the everyday world gender attributions are made without access to genital inspection.

Instead, what has primacy in everyday life is the gender that is *performed*, regardless of the configuration of the flesh under the clothes. One cannot expect that surgeons will lay down their knives in the service of the gender revolution. But there are people who might function as transformers of gender categories. The "transgender" community, described by the anthropologist Anne Bolin, is made up of people who are challenging the obligatory two-gender system by blending public features of maleness and femaleness, or by accepting bits and pieces of the surgical options without "going all the way," or by doing both. People who are transgender disrupt gender in two ways: They refuse to provide the cues that would permit them to be regarded as either male or female. And they treat biological signs of gender (including genitals) as bodily ornaments—neither more nor less elective than a face-lift.

Ms. Fausto-Sterling suggests gender disruption can begin with the genitals and work outward to the social categories. Given the need for revolutionary disruptions to be public events, the transgender movement suggests a more powerful alternative.

SUZANNE J. KESSLER

State University of New York
Purchase, New York

¶Ms. Fausto-Sterling's article left me with two questions about true hermaphrodites: What is the chromosomal make up of their cells? And if a true hermaphrodite could donate both the sperm and the egg for an

embryo, would the offspring be a true clone, which in turn would be able to regenerate in the same fashion?

JOSEPH L. LAKSHMANAN
Washington, D.C.

¶To the best of my knowledge there is no publication attributable to me in which I suggest, as Ms. Fausto-Sterling puts it, "intersexuals may constitute as many as 4 percent of births." Moreover, it is epidemiologically reckless to conjecture that on the campus of Brown University there are 240 students with a birth defect of the sex organs that would justify their being diagnosed as intersexuals, that is, hermaphrodites.

JOHN MONEY

Johns Hopkins University
Baltimore, Maryland

Anne Fausto-Sterling replies: The letters responding to my article include some small factual corrections (for which I will check my sources further); one question about chromosomes (answer: true hermaphrodites are often chromosomal mosaics with both XX and XY tissue—I don't think clones are possible); some critical engagement from people generally sympathetic to my point of view; and some choleric responses that lure the reader with words such as *reckless*, *specious* and *deranged*. I will respond briefly to the latter two categories.

Since the article was published, I have had the pleasure of corresponding directly with Cheryl Chase, whose views and insights into the issues have raised my consciousness and focused my attention more clearly on such clinical aspects of early surgery as loss of sexual function, genital scarring and negative psychological side effects. I can only concur with her comments about clitoral surgery; I would add that such surgery is sometimes done even on unambiguously female infants simply because the neonatologist thinks the baby girl's clitoris is "too long." Ms. Chase's point about terminology is also well-taken, though I chose to use the medically accepted words to facilitate communication with the medical community.

I refer the outraged Mr. Bird to Ms. Chase's letter. Far from raising a silly issue, I am, with considerable justification, suggesting that certain entrenched medical practices be reconsidered, both for the benefit of the patient and for the welfare of our culture as a whole.

Suzanne Kessler's work on the management of intersexuality has also informed my own. I find her points about not giving primacy to genitalia worthy of further thought. As for the number five, I emphasize that I chose it for its rhetorical value and not because I think a discrete number can accurately be imposed on a set of physical and physiological at-

tributes that actually form a continuum.

One feature of the academic community is the inability of many of its members to deal with the ironic. John Money's failure to see my quip about intersexuals on the Brown University campus as anything other than "reckless" places him among the irony-blind. If the figure 4 percent is incorrectly attributed to him, I can only apologize, and I will be sure not to make such an attribution in the future. Nevertheless, I did not pick the number out of thin air. I took it from a paper by Julia Epstein titled "Either/Or—Neither/Both: Sexual Ambiguity and the Ideology of Gender," published in *Genders* (1990), Volume 7, pages 100–142. Her footnote 6 on page 131 reads as follows: "Robert Edgerton cites a statistic of 2 to 3 percent in . . . *American Anthropologist* 66 (1964): 1289. Dr. Iraj Rezvani of St. Christopher's Hospital for Children in Philadelphia believes this estimate to be too high, while John Money asserts that the incidence of gender disorders approaches 4 percent."

I had hoped my tentative language about that number would emphasize that there are really no accurate figures about the total frequency (from all causes) of intersexuality—and that compiling any may be impossible. My point, however, is that intersexuals are not as rare as people may think *and* that the principles of treatment, established especially by Mr. Money and his many coworkers, are part of a system of defining and reinforcing our cultural ideas about what counts as normal in the world of sex and gender. It is both those cultural norms and their enforcement that I challenge.

SCROLL MATTERS

I enjoyed reading "Scribal Warfare" by Wendy Marston with David Soloff [Quanta, March/April]. It takes no small amount of courage to wade into a field that has become as volatile as has the research on the Dead Sea Scrolls. A few items in the report, however, were wrong or misleading.

Among the factual errors is the claim that the group appointed to publish the fragmentary texts from the fourth cave was "made up primarily of French Jesuits." Actually the group included no French Jesuits and, incidentally, could be called "Hussein's designates" only in an indirect sense. The group's members were originally selected by various institutions that supported archaeological schools in Jerusalem. Also, it was the Biblical Archaeology Society, not the Huntington Library, that published "facsimile photographic plates of all the scrolls."

Of more importance is a string of comments relating to the scrolls conference held in December by the New York Academy of Sciences and the Oriental Institute of the University of Chicago and to

the controversy over the book by Michael O. Wise and Robert H. Eisenman, *The Dead Sea Scrolls Uncovered*. Ms. Marston and Mr. Soloff report that although the dispute concerned a "lack of documentation" in the book, "Eisenman maintains that the real thrust of the criticism was against his interpretation." It is not clear whether Ms. Marston and Mr. Soloff accept Eisenman's reading of the situation, but the other side should have been presented more fully. Eisenman's claim involves a hidden motive: the opponents, who exacted no concessions from him at the meeting, were really after him. Indeed, after the facts were demonstrated, Wise read a statement in which he confessed to unacknowledged use of the work of other scholars. How could that be construed as a way of opposing Eisenman's interpretations? On the surface it looks as if Wise's failure to admit his debt to others was the object of the criticism. As for motives, I have a hard enough time understanding my own, much less the ones of others.

Furthermore, the group that objected to the absence of proper documentation in the book reasserted what major learned societies had already declared: anyone who wishes to do so may publish the texts. One can only hope the publications will be done more carefully than in *The Dead Sea Scrolls Uncovered* and that the canons of the discipline will be followed regarding the use of the work of other scholars. Eisenman is, of course, free to present his own interpretations. How could anyone deny him that, even though, to date, he has convinced no scholar that he (Eisenman) is right? (He has been more successful with the media.) Ms. Marston and Mr. Soloff are correct in saying that the Essene hypothesis has been rejected by some (Eisenman, for one). They fail to note, however, that it remains the most widely accepted theory precisely because it is based on strong arguments, contrary to their comment that it "had little evidence to recommend it in the first place."

JAMES C. VANDERKAM

University of Notre Dame
Notre Dame, Indiana

¶The overriding purpose of the scrolls conference was to bring scholars together, in the wake of the freeing of the scrolls in 1991, to discuss new ideas and methods of investigation growing out of that important development. My fellow conference chairs and I excluded no individuals because of the popularity or unpopularity of their ideas, in the hope that even scholars who radically opposed one another's views would find common ground for discussion and for the mapping of future strategies in scrolls research. I believe the conference succeeded very well indeed in its goal. Papers on archaeology and ra-

(Continued on Page 46)

PEER REVIEW

Continued from Page 4

dicarbon dating intermingled with papers on the texts themselves, giving a unique character to the conference and helping ensure its scientific objectivity. The main result is embodied in the thirty papers delivered during the sessions, to be published this year, together with the full debate on each paper, in the *Annals of the New York Academy of Sciences*. (In the meantime a report on the various papers has been issued by the Oriental Institute, copies of which are available to the public from the Scrolls Research Project at the Institute, 1155 East 58th Street, Chicago, Illinois 60637.)

Most reports on the conference have tended to emphasize only the regrettably acrimonious debate that took place on the afternoon of the first day and which was not a part of the formal scientific program. Unfortunately, that debate did not broach several fundamental topics on manuscript scholarship that I had hoped would be discussed; it focused instead, in an unduly personal way, on the ethics of publication of Wise and Eisenman's book, which included previously unpublished scroll texts. The discussion was obviously unjust to Wise and Eisenman, who had every right to expect a debate on the basic ethi-

cal principles underlying publication of the scrolls. I hope a forum will soon be found in which to conduct such a debate, for one is still needed, urgently needed, in fact, inasmuch as the editor-in-chief of the Jerusalem scrolls publication project now states, in contradiction to news reports of November 1991, that he and his colleagues want other scholars to *refrain* from publishing scroll texts independently.

The most important immediate result of the conference was to make the public aware of the growing controversy over the identification of the manuscripts and the Khirbet Qumran site. That has had a direct impact on the current exhibition of the scrolls at the Library of Congress: the exhibition planners have attempted to present both the texts and the neighboring archaeological site in a way free of bias toward any one view of Qumran origins. One trusts that, despite statements in the press to the contrary, the New York Public Library will do likewise, as it plans its own exhibition for the fall of this year. For the library to do otherwise would be to take sides in a scholarly debate and would be contrary to the tradition of fairness that characterizes American public institutions of learning and culture.

In helping to bring those and related questions into the open through its steadfast and determined sponsorship of the

conference, the New York Academy of Sciences has again not only demonstrated its own sterling integrity but also rendered an important public service. For that it deserves our sincerest thanks and congratulations, as does the Oriental Institute for its much appreciated cosponsorship of the event.

NORMAN GOLB

University of Chicago

Wendy Marston and David Soloff reply: Mr. VanderKam's letter addresses a number of points that need clarification. The Huntington Library allowed universal access to its microfilms of the complete scrolls on September 22, 1991, two weeks after publication of the concordance from the Hebrew Union College. A short time later the Biblical Archaeology Society published facsimile photographic plates from an unrevealed source. Months after that the Israeli Antiquities Authority allowed universal access to the scrolls.

As for Mr. VanderKam's question of whether we accept Robert Eisenman's allegations of hidden motives on the part of the scholars who at the January conference charged Michael Wise with neglectful documentation, we chose to let Eisenman express his own opinion, which he made quite clear during various interviews. The theory of Essenic authorship,

AI

The Tumultuous History of the Search for Artificial Intelligence
DANIEL CREVIER

"A superb history of the growth of AI. Reading it was like going back to see it all with other eyes. And the technical explanations are masterful."—Marvin Minsky, M.I.T. \$27.50

CANCER

What Cutting-Edge Science Can Tell You and Your Doctor about the Causes of Cancer and the Impact on Diagnosis and Treatment
ROBERT M. McALLISTER, M.D., SYLVIA TEICH HOROWITZ, & RAYMOND V. GILDEN

"Nowhere have I seen such a thoroughly integrated presentation of basic and clinical information.... Fascinating."—Murray B. Gardner, M.D., Director of the Center for AIDS Research, University of California at Davis \$22.00



BasicBooks

A Division of HarperCollins Publishers
Also available from HarperCollins Canada
Toll free 800-331-3761

BASIC SCIENCE

THE CHILDREN'S MACHINE

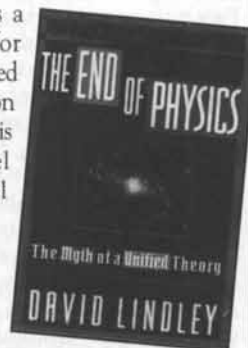
Rethinking School in the Age of the Computer
SEYMOUR PAPERT

"He's a visionary, but he's also playful and knows how to get to kids. His plans for the future of education are exciting and right on target; they make me wish I were a kid again!"—Nancy Hechinger, Founding Partner, The Edison Project \$22.50

THE END OF PHYSICS

The Myth of a Unified Theory
DAVID LINDLEY

"This book is a 'must read' for anyone interested in the evolution of physics in this century."—Mel Schwartz, Nobel Laureate \$25.00



NATURE'S MIND

The Biological Roots of Thinking, Emotions, Sexuality, Language and Intelligence

MICHAEL GAZZANIGA

"Absorbing....fascinating....Gazzaniga might do for the mind what Hawking has done for cosmology."—Stuart Sutherland, *New York Times Book Review* \$25.00

NOW IN PAPERBACK

BRIGHT AIR, BRILLIANT FIRE

On the Matter of the Mind
GERALD EDELMAN, M.D.
\$15.00

THE PILL, PYGMY CHIMPS, AND DEGAS' HORSE

CARL DJERASSI
\$14.00

VIRUS HUNTING

AIDS, Cancer & the Human Retrovirus: A Story of Scientific Discovery
ROBERT GALLO, M.D.
\$15.00

touted as fact by a group that strictly controlled access to the material, has informed most of the research into the origin of the scrolls. Any challenge to it, especially one as melodramatic as Eisenman's, is bound to run into hostility and resistance. The complexity involved in explaining scroll scholarship to the uninitiated is compounded by the intense power struggles over publication and the opportunity to tap in to the mass market. The article describes for the lay reader the current upheaval in scroll scholarship resulting from universal access; it does not attempt to sell one theory or another.

THE COLOR PURPLE

Sidney Perkowitz's excellent review of the history and uses of ultraviolet radiation ["Mood Indigo," March/April] was marred by a paragraph in which he describes a "worrisome dark strand." After addressing the important clinical uses of ultraviolet light for mycosis fungoides (the treatment known as photophoresis) and for psoriasis (the treatment PUVA), he adds, "PUVA . . . may activate full-blown AIDS in patients infected with HIV." That statement is much too strong.

The work Mr. Perkowitz refers to is by Janusz Z. Beer and his coworkers at the Food and Drug Administration's Center for Devices and Radiological Health, who have studied the effects of PUVA in vitro on the HIV promoter. In those studies large overdoses of the drug psoralen—the P in PUVA—and UVA were needed to induce HIV-promoter activity. In the same studies, however, normal physiological doses of psoralen and UVA did not induce any activity in the HIV promoter. Thus, although the data leave open the possibility that similar events may take place in vivo, the data do not support that conclusion. Furthermore, in vitro studies of cells differ from in vivo studies in another way. Under in vitro conditions the cells are in a foreign environment and may not respond as they do in vivo. Repair processes therefore might not function with their usual fidelity in vitro, and so they could lead to effects that are not observed in vivo.

FRANCIS P. GASPARRO

*Yale University Photobiology Laboratory
New Haven, Connecticut*

Sidney Perkowitz replies: I thank Mr. Gasparro for his careful reading of my article. He is incorrect in assuming that my comments about PUVA therapy and HIV draw only on Beer's in vitro work. Animal studies by John Morrey of Utah State University indicate that PUVA therapy, and UVB radiation alone, induce HIV gene activation in mice. Other workers report similar results. Morrey properly cautions that his transgenic mice do not completely reflect what takes place in human HIV infections, but he still finds the results "wor-

risome." Those nuances unfortunately became lost when the article was shortened in editing at *The Sciences*.

WAR AND PEACE

George Basalla ["On the Make," March/April] faults Robert Weber's classification of the ways pairs of artifacts can be joined to make new artifacts. None of Weber's four classifications, Mr. Basalla claims, can explain an object such as Cornplanter's pipe tomahawk as anything other than an unrelated assemblage. But surely the "smoak" tomahawk is a classic example of Weber's first category, the joining of inverses: The pipe (whose functionality is at least partly symbolic in the first place) makes peace at one end; the tomahawk makes war at the other. Like the eraser that undoes the work of the pencil, the pipe, after the carnage, undoes the work of the tomahawk.

DOROTHY CAPLOW

*Florence R. Kluckhohn Center
Seattle, Washington*

THE SCIENCES welcomes correspondence from readers. Letters should be typed and include a daytime telephone number and complete address. Brief letters are most likely to be published, and all letters are subject to editing. The volume of mail received precludes the acknowledgment of unpublished letters.

Want to brush up on a foreign language?



With Audio-Forum's intermediate and advanced materials, it's easy to maintain and sharpen your foreign-language skills.

Besides intermediate and advanced audio-cassette courses — most developed for the U.S. State Department — we offer foreign-language mystery dramas, dialogs recorded in Paris, games, music, and many other helpful materials. And if you want to learn a new language, we have beginning courses for adults and for children.

We offer introductory and advanced materials in most of the world's languages: French, German, Spanish, Italian, Japanese, Mandarin, Greek, Russian, Arabic, Korean, and others. 230 courses in 79 languages. Our 21st year.

For FREE 52-page catalog call 1-800-662-5180 or write to:

AUDIO-FORUM®

Room K705, 96 Broad Street,
Guilford, CT 06437 (203) 453-9794

STEPHEN H. KELLERT

in the wake of chaos

Clear, concise,
and accessible to the nonspecialist, *In the Wake of Chaos* explains the profound challenge of chaos theory to the traditional concepts of science: law, predictability, understanding, and control. "A wonderfully clear and sane analysis of a tricky subject, and a powerful antidote to the contemporary vogue for chaos in popular science and critical theory. . . . Clears away the fog admirably."
—Stephen Toulmin

Unpredictable Order
in Dynamical Systems

At bookstores now
**the
university
of chicago
press**



\$19.95 192 pages
Science and Its Conceptual
Foundation series