

## LETTERS

edited by Jennifer Sills

## Climate Discussion Echoes Tobacco Debate

IN 1962, LUTHER TERRY, THE SURGEON GENERAL OF THE PUBLIC HEALTH SERVICE, ESTABLISHED the Surgeon General's Advisory Committee on Smoking and Health. On 11 January 1964, he released the committee's report, "Smoking and Health: Report of the Advisory Committee to the Surgeon General of the United States" (1), which reviewed the existing science and concluded that lung cancer and chronic bronchitis are causally linked to cigarette smoking.

This landmark report marked a critical pivot in our national response to tobacco products, leading to packet warning labels, restrictions on cigarette advertising, and anti-tobacco campaigns. But it by no means ended the debate about what we now know to be horrifically negative public health impacts of tobacco use. Instead, it galvanized the tobacco companies, through their industry-funded Tobacco Institute, to publish a large number of "white papers" to rebut scientific reports critical of tobacco (2). The demise of the Tobacco

Institute came in 1998, as part of the Tobacco Master Settlement Agreement, where 46 state attorneys general obtained \$206 billion dollars over 25 years from the tobacco industry for its culpability in creating a public health crisis (3).

This bit of history has important parallels to our national discussion of climate change. On 18 March, AAAS released a report produced by a panel of 13 prominent experts chaired by the Nobel prize-winning scientist Mario Molina, titled "What We Know: The Reality, Risks and Response to Climate Change" (<http://whatwewknow.aaas.org/get-the-facts>). As was the case when Luther Terry issued his tobacco report in 1964, no new science is being offered in the climate report. Instead, it presents a brief review of the key relevant scientific conclusions. Just as the 1964 report included discussion of the possibility that tobacco caused cardiovascular disease, the "What We Know" paper speaks to the possibility of abrupt climate change risks. Another important parallel is that the 1964 report was issued under the imprimatur of a highly trusted and authoritative source. AAAS, as the largest general membership society of scientists in the world, holds a similar position of trust.

Yet another important parallel between the AAAS "What We Know" report and the 1964

Surgeon General's report is the political and social context into which it is launched. As historians Naomi Oreskes and Eric Conway depict in their book *Merchants of Doubt* (4), the tobacco issue created an industry playbook for running misinformation campaigns to mislead the public and deny well-established scientific conclusions. As the authors document, the industry misinformation campaign on climate change is in high gear and achieving results: Many Americans

think that climate experts still have much disagreement about whether human-caused climate change is happening (5).

Today it's inconceivable that an American decision-maker would risk the public opprobrium that would result from expressing skepticism that tobacco causes cancer. We believe that it is an obligation of all scientists to hasten the day when the same is true for climate change, where the stakes are even higher.

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3. Master Settlement Agreement (National Association of Attorneys General, 1998).
4. N. Oreskes, E. M. Conway, *Merchants of Doubt* (Bloomsbury Press, New York, 2010).
5. A. Leiserowitz *et al.*, "Climate change in the American mind: Americans' global warming beliefs" (Yale Project on Climate Change Communication and the George Mason University Center for Climate Change Communication, 2013); <http://environment.yale.edu/climate-communication/files/Climate-Beliefs-April-2013.pdf>.

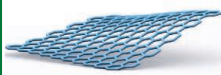
## Integrating Psychological Treatment Approaches

M. BALTER'S NEWS FOCUS STORY "TALKING back to madness" (14 March, p. 1190) will hopefully help combat the myth that psychotherapy and "biological" treatments are somehow antithetical. They are not. Psychotherapy has biological effects on the brain that are often similar to those seen with medication (1), and medication has psychological as well as biological effects.



## Letters to the Editor

Letters (~300 words) discuss material published in *Science* in the past 3 months or matters of general interest. Letters are not acknowledged upon receipt. Whether published in full or in part, Letters are subject to editing for clarity and space. Letters submitted, published, or posted elsewhere, in print or online, will be disqualified. To submit a Letter, go to [www.submit2science.org](http://www.submit2science.org).



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Similarly, it is unhelpful to see social, psychological, and biological approaches to mental disorder as distinct. They are different languages used to describe a single phenomenon. If I am depressed, I can use the language of sociology, pointing to an impoverished upbringing and social exclusion; fix these politically, and my mood may improve. Alternatively, I can use the language of psychology, highlighting childhood conflict and poor self-esteem; address these with a therapist, and my depression may resolve. I could also use the language of biology and comment on my serotonin or norepinephrine levels, and, although our knowledge of the brain remains limited, antidepressant medication may prove effective.

The News Focus story states that “advocates of psychological approaches are engaging with patients’ symptoms” and that this is “a radical departure.” This may indeed be “radical,” but it certainly is not new. In 1810, Dr. William Hallaran, an asylum doctor in Ireland (2), “made it a special point on my review days, to converse...with each patient, on the subject which appeared to be most welcome to his humor. By a regular attention to the duties of this parade, I am generally received with...politeness and decorum...and the advantages flowing from it are almost incredible” [(3), p. 47]. The more things change, the more they stay the same.

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3. W. S. Hallaran, *An Enquiry into the Causes Producing the Extraordinary Addition to the Number of Insane* (Edwards and Savage, Cork, Ireland, 1810).

## Uganda Homosexuality Report in Context

THE NEWS & ANALYSIS STORY “SCIENCE MIS-used to justify Ugandan antigay law” (M. Balter, 28 February, p. 956) discusses the claims of Uganda’s president that a scientific

report convinced him that homosexuality is behavioral, not genetic. Citing these findings, he then signed an Anti-Homosexuality Bill, a huge setback in human rights for gays and lesbians.

I was an author of the report in question (1). We provided an unbiased review of the scientific literature. It does not say that homosexuality is a social abnormality, as some media and political forces claimed. To the contrary, it clearly stipulates that homosexuality is not a disease and that the World Health Organization and American Psychological Association have removed it from their list of psychiatric illnesses.

Some say we could have chosen to boycott participation altogether. I believe

that if scientists had refused to carry out this research because we feared (rightfully) that our work would be misrepresented, we would have failed to do our duty as experts, which is to inform the public. Although the results were discouraging, it is worth recognizing that a developing country has relied on its scientists to inform policy. That alone is a step in the right direction.

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1. Uganda Ministry of Health, “Scientific evidence on homosexuality” (23 February 2014); <http://news.sciencemag.org/sites/default/files/FINAL%20MOH%20STATEMENT%20ON%20HOMOSEXUALITY%2024TH%20FEBRUARY%202014.doc>.

### CORRECTIONS AND CLARIFICATIONS

**Reports:** “Nanoscale atoms in solid-state chemistry” by X. Roy *et al.* (12 July 2013, p. 157, published online 6 June 2013). In several places on p. 159, the Greek symbols  $\chi$  and  $\mu$  were mistakenly replaced by the letters c and m. The HTML and PDF versions online have been corrected.

## LIFE IN SCIENCE

### Weeds Making Waves

*Phragmites australis* is an aggressive, invasive weed that cannot be purged. It grows 6 meters tall and pushes out many wetland species. We have tried to cut it, poison it, burn it, bury it, till it, and drown it, and yet its tufted heads still sway in the wind. Many a scientist has tried to figure out how to deal with this invasive species, and each has met with frustration.

Middle-school teacher John Reynolds tried a different strategy: Instead of eradicating the invasive weed, he used it to build a boat. For three months, John harvested the two-story-tall reedy weeds and lashed them together according to his own design.

When he finished, I received an e-mail. “We’ll launch this afternoon if you’re ready.” In February? In Massachusetts? My blood chilled instantly. But I had to see if it floated.

I donned my waders to protect myself against the 37° Atlantic water. John and some of his students were in wetsuits ready to jump in. The boat was twice as long as the truck bed and had a curved bow like a Polynesian reed boat. I thought both the boat and my friend’s willingness to jump in the water were crazy.

But it floated. Even when three people piled on it. It was still floating 2 hours later when the sun inched down the horizon. A seaworthy boat made out of weeds.

**EDITOR’S NOTE**  
This is an occasional feature highlighting some of the day-to-day humorous realities that face our readers. Can you top this? Submit your best stories at [www.submit2science.org](http://www.submit2science.org).

Science relies on ingenuity. While converting a two-story weed into boats may not be the most effective management strategy for *Phragmites*, it’s certainly an idea that’s worth floating.

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