# Cambridge 02138

Ed School initiatives, the Korean nuclear crisis, Stadiana

### **BIOTERRORISM THREATS**

NESTLED AS IT IS between the "invisible college" of Copernicus and the Harvard Medical School research-building articles, Dean Barry R. Bloom's "Bioterrorism and the University" (November-December 2003, page 48) valiantly poses the dilemma of post-9/11 security: In this Internet age, is research protected by compliance with Cold War era regulation or by routine protocol? I am a security professional. After two years of surveys, threat assessments, and reports, I could answer that one in a heartbeat: No. The U.S. research community itself must create and maintain the model for its own survival, not have a one-size-fits-all model imposed on it. Kazakhstan (where many Soviet bio weapons were built) is only a mouse click away. Our vulnerability to the weaponization of disease cannot be denied. The Harvard School of Public Health may be our last best hope against it. The community of those who cure is a profound defense against those who are hardening diseases to kill.

> Lawrence, Kan.

BLOOM'S CONCERNS about the potential chilling effect of national security measures on open biological research are valid to a point. But he may not appreciate what is needed in the way of research restriction or concomitant classified research.

He states that the Biological Weapons and Toxins Convention (BWC) "has worked remarkably for established nations and superpowers." I cannot imagine why he thinks so. It lacks verification or enforcement measures. It worked substantially against the United States. Many signatories violated it. The Soviet Union



produced—and placed in warheads metric tons of various agents. South Africa, Iraq, and other countries developed substantial biological weapons programs.

Harvard professor Matthew S. Meselson's efforts on behalf of the convention were misguided; he refused to acknowledge the Soviet program even after most experts recognized the 1976 anthrax outbreak in Sverdlovsk as a weapons accident. Because of the BWC and efforts of people like Meselson, we neglected important research at the U.S. Army Research Institute for Infectious Diseases and elsewhere. Our researchers worked mainly with natural forms of known agents rather than developing improved or modified agents in weaponized form and assessing the effectiveness of vaccines and medicines against those new agents.

As Bloom points out, no one can predict a research outcome or how it may be used or misused. No one can predict which foreign students may return to their countries and become involved in biological warfare or bioterrorism. I agree

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The "select-agents" legislation does seem reasonable. It applies to all researchers, is specific, and covers agents that have a direct and immediate potential for use as biological weapons. Additionally, experimental results that turn out to be applicable to biological warfare or terrorism (like the Australian experiment to which Bloom alludes) need to be communicated to appropriate government agencies (which it was). We should add serious inspection and enforcement mechanisms to the BWC or withdraw from it, and our classified defensive research needs to be greatly expanded.

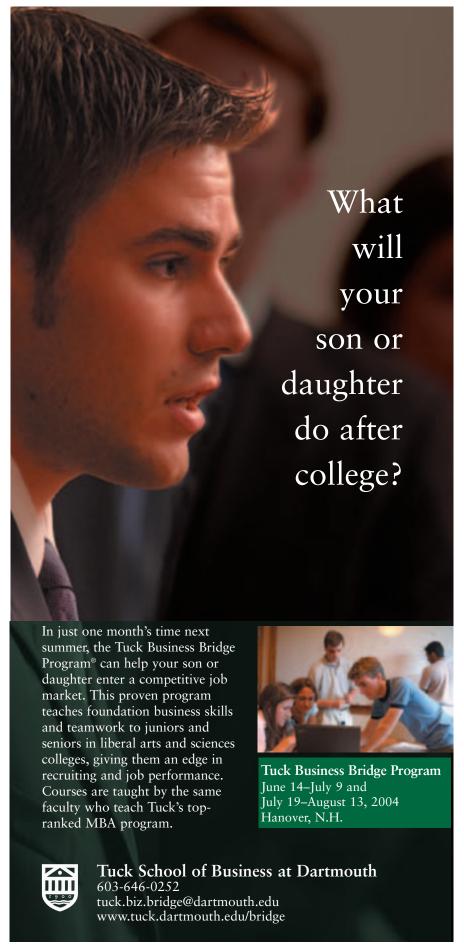
Peter Lowry '64, M.D. Consultant on biological warfare and adjunct faculty, Center for Biomedical Research and Training, Academy of Counter-Terrorist Education, Louisiana State University Baton Rouge

DEAN BLOOM eloquently described how the current political environment, backed with several government acts, could undermine the very core of university activities, i.e., "freedom and security that make possible the pursuit and transmission of knowledge." Being a foreigner who came to Harvard last August, I really appreciate his honest article, as it is of great help to me in understanding why bioterrorism is given high attention in the school and at Harvard at large.

However, Bloom did not raise or respond to the fundamental question. He wrote, "The threat of terrorism is real," but he should have asked, "Is the threat of 'bioterrorism' real?"

One may say yes, but many, particularly those outside the U.S.A., say no. We all remember the fuss that was made before the start of the U.S.-led war against Iraq last year. None of the widely anticipated threats from smallpox, anthrax, and other agents was proved correct. No evidence was found to support the threat of bioterrorism and no evidence of weapons of mass destruction.

Even for the threat of bioterrorism by foreigners in the U.S.A., our evidence is limited, if not nil. The article acknowledged, regarding the anthrax attacks in 2001, "one doesn't have to have been born



in a 'restricted country' to become a terrorist." It is true that clear evidence of terrorist activity had been present—unfortunately, warnings about it did not reach the right place in the right time—however there has been no explicit evidence that supports the threat of bioterrorism.

> AKIHIRO SEITA, M.D. Takemi Program in International Health Harvard School of Public Health Boston

### **ED SCHOOL INITIATIVES**

YOU REPORT ("Rethinking Education," November-December 2003, page 61) that the Graduate School of Education is "pursuing changes in its curriculum and internal organization, motivated by a fundamental need bluntly summarized by Dean Ellen Condliffe Lagemann: 'How do you make schools places where children learn? They aren't currently." The dean's breathtakingly lofty summary is supported neither by available research nor by a casual visit to your local public school. The comment is worse than academically irresponsible; it's idiotic.

Of the core course under devolopment —with a \$1-million grant from the Harvard president's office—you write that faculty members of GSE say they "are also learning new things about instruction: the course will rely not only on traditional lectures and readings..." New things? Public-school teachers have known for decades about more effective teaching techniques than lectures. What the late Madalyn Hunter taught our faculty during her residency in the early 1970s about how to structure lessons for high interest, clarity, organization, efficiency, retention, and assessment has informed my own practice ever since; she's only one among many masters whose work translates modern research into improved publicschool instruction. If you want to observe teachers mired in that medieval

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ritual, the class lecture, go to Harvard.

Says education professor Catherine Snow: "It's not like I've ever taught anyone to read." Admirable candor, professor. Tell you what: Why not just hand over that million bucks to my school? We could use it, and we'd know exactly how.

ROBERT (ZEKE) HECKER '69 Brattleboro Union High School Brattleboro, Vt.

IT SEEMS ALMOST meanspirited to pick on the three earnest and well-meaning faculty members of the Graduate School of Education you quote. For a moment I wondered if this was a parody of "eduspeak" intended for the New Yorker. All the familiar pretentious jargon was on display—"multiple perspectives"; "reify"; "parent-child interaction in language acquisition"; "innovation and outreach"; "case method"; "synergies"; "multidisciplinary"; "evidence-based practice"; and our old friend, "in terms of."

The dean and professors are evidently puzzled by the fact that schools of law, medicine, engineering, architecture (even theology and journalism) are considered professional schools and education somehow is not. The reason is fundamental there is no general "discipline" called education. Learning about the methods, history, sociology, and psychology of pedagogy as such is of interest to a very limited number of people. Teachers, almost all of whom teach subjects or skills (reading, writing, history, English, mathematics, biology, physics, etc.), have very little need for doctoral knowledge and research on pedagogy. They don't teach pedagogy.

The dean and her colleagues seem to suppose that at the Law School, for example, one learns about the "practice of law." That is not the case. There is a vast body of knowledge called law. That is what one studies. In the professions one learns the nuts and bolts and daily procedures of the trade on the job—mostly on the first job.

Good teaching is a gift, which may improve with experience, but I doubt that it can be taught in any formal sense. I believe we consumers, so to speak, would agree on a few fundamentals for teachers—know your subject, love your subject, and have the irrepressible urge to share your enthusiasm even with indifferent, skeptical, and somewhat indolent students. The ideal teacher inspires a love of learning. If this be so, what is the role

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of a graduate school of education? I suppose the bureaucrats who run educational institutions (I was one myself) need some training, though thinking clearly and writing lucidly and diplomatically are the main requirements. Many citizens cannot avoid thinking that schools of education, with their lock on teacher certification and their overemphasis on pedagogy, are part of the problem today, not the solution.

> Shane E. Riorden '46 Asheville, N.C.

## LOOSE NUKES IN KOREA

I COMMEND Ashton Carter for his informative "The Korean Nuclear Crisis" (September-October 2003, page 38). North Korea has now announced that it has a "nuclear deterrent." We should not be surprised. They have seen what happened to Iraq, which had no such deterrent.

To conduct successful diplomacy one has to be willing to see how things look from the other side. North Korea is a small Communist country faced by a large standing army of South Koreans and Americans along the DMZ, which could launch an attack at any moment. We could also drop atomic bombs on them. We have called them part of an "Axis of Evil." No wonder they are scared!

North Korea does not appear to have any ambitions to expand, nor attack its neighbors; it would be suicidal for it to do so. So where is the threat? There is no way we could justify attacking North Korea.

We have managed to find a way to get along with Communist China and Vietnam. North Korea has asked for a non-aggression treaty with us. I believe they asked for this as far back as 1994. Why not negotiate it with them now?

> KATE M. FIELD Cambridge

CARTER WRITES that "The U.S. cannot allow North Korea to move to serial production of nuclear weapons." It looks as if we already have allowed this, and it is not at all clear that the U.S. can disallow it in the future or elsewhere, short of a major invasion and war, possibly nuclear.

He writes that "It must be made clear to North Korea that reprocessing the fuel rods...poses an unacceptable risk to U.S. security and that we are prepared, as in 1994, to use force to stop it." One wonders if we were really prepared to do that in 1994, whether President Clinton actually

would have made that decision. Others may also disagree that nuclear-fuel reprocessing or even the possession of nuclear weapons by North Korea, by itself, poses an unacceptable risk to our security.

What I believe does pose an unacceptable risk to the U.S. and many other countries is the sale or supply of North Korean nuclear material or weapons to undeterrable nuclear terrorists. However, there are several important detectable and interruptable steps between having nuclear weapons, and arranging to export them to transnational terrorists or hostile states, actually exporting them, and the nuclear terrorists actually transporting, delivering, and detonating them in U.S. or allied cities. There are blockades, interdicts, shipment interceptions (such as President Kennedy threatened in the Cuban missile crisis), international sanctions, clandestine sabotage operations, and shipping-inspection regimes, any and all of which might be more politically, economically, and militarily realistic and effective than threatening the use of force to stop not the export but the very acquisition of nuclear weapons in a hostile state.

Furthermore, it is not clear that the U.S. hasn't already threatened the use of force to eliminate a North Korean nuclear capability, as Carter claims we did in 1994, and to no avail. Why would one think it would work any better now, when our available military forces are stretched thin in Iraq and Afghanistan?

While paying lip service to diplomacy and nonviolent persuasion "as an experiment that must be tried," Carter probably dooms it to failure by asserting that, "In any diplomatic discussion, the U.S. must ultimately obtain the complete and verifiable elimination of North Korea's nuclear program." Clearly that has failed so far, as has the threat of force, so shouldn't other approaches more focused on reducing the nuclear-export threat be tried?

When Carter says, "These facts describe America's—and the world's dominant security problem for the foreseeable future," he is only partly correct. First, he mixes undeniable facts with his own policy preferences, which are opinions. Second, I and some others would argue that the "loose-nukes" nuclear-terrorism threat potentially posed by North Korean intentional exports is not necessarily greater than from other would-be or current nuclear states with insufficiently secured stockpiles, and may well

## MASTERS OF WORD AND IMAGE

THE EDITORS are delighted to recognize four contributors (among them two faculty members) to Harvard Magazine during the past year, awarding each \$1,000 for their service to readers.

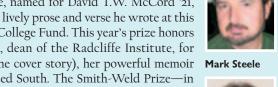
The McCord Writing Prize, named for David T.W. McCord '21, A.M. '22, L.H.D. '56, recalls the lively prose and verse he wrote at this magazine and at the Harvard College Fund. This year's prize honors historian Drew Gilpin Faust, dean of the Radcliffe Institute, for "Living History" (the May-June cover story), her powerful memoir Mark Steele of growing up in the segregated South. The Smith-Weld Prize—in the memories of A. Calvert Smith '14, formerly secretary to Harvard's governing boards and executive assistant to



**Drew Faust** 



**David Garvin** 



President James Bryant Conant; and Philip S. Weld '36, former president of the magazine—celebrates

sity. We salute Christensen professor of business administration David A. Garvin '74 for "Making the Stu Rosner Case" (September-October), a thorough exploration of case-method teaching in the professional schools.

thought-provoking journalism about the Univer-

Illustrator, sculptor, and contributing editor Mark Steele has handled assignments from the magazine's giant issue for Harvard's 350th anniversary in 1986 and our own centennial in 1998 to wry, colorful drawings accompanying news stories; his work appears again in this issue on page 61. In the past year, photographer Stu Rosner has portrayed subjects as diverse as student cellist Sarah Carter and the Medical School's new research building; his recent image of Bible scholar James L. Kugel appears on page 37.

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be exceeded by the threat of terrorist acquisition of some of the thousands of physically small nuclear weapons still insufficiently secured in Russia today.

Finally, Carter's long and distinguished service in his often-remarkably successful nuclear counter-proliferation efforts of the 1990s may lead him to a too-narrow focus on nuclear weapons alone "as the dominant security problem" of weapons of choice for catastrophic terrorists, to the neglect of the equal and possibly greater threat of even-harder-to-deter, deny, detect, prevent, or limit-the-damage-of biological weapons of mass destruction.

CLARK C. ABT Associate, Belfer Center for Science and International Affairs, Kennedy School of Government

In his 1998 review with former secretary of defense William Perry of the policy options for dealing with North Korea, Carter writes, they considered the possibility of "buying our objectives with economic assistance," but "...we concluded that the United States should not offer 'tangible "rewards" for appropriate security behavior; doing so would both transgress principles the United States values and open us up to further blackmail."

Carter did not mention that the Clinton administration committed in the Agreed Framework to making substantial payments to North Korea to obtain a pledge to freeze its nuclear activities. The payments were to be in the form of nuclear electric power plants and fuel oil. The United States promised to organize an international consortium to finance and supply two large modern light water reactors at an estimated cost of \$4 billion to \$5 billion and also agreed to deliver 500,000 metric tons of heavy oil per year

## **MEMORY LANE**

"YESTERDAY'S NEWS," a selection of historical items of interest from the pages of the Harvard Alumni Bulletin and Harvard Magazine, moves to a new home beginning with this issue (see page 61). Until now, it has appeared with "The Classes" (College and Graduate School of Arts and Sciences class notes), which are not distributed to all readers. Henceforth, it will appear in "John Harvard's Journal," available to the University readership at large.

for heating and electricity production until the reactor project was completed, at an estimated cost of about \$400 million to \$500 million. Critics expressed concern that economic assistance of this magnitude would help sustain a failing totalitarian regime that rarely met its commitments.

> Daniel H. Taft '57 Arlington, Va.

## NOT COMMERCIALLY FUNDED

THE ARTICLE concerning our research on the role of inflammation in causing heart attack and stroke and C-reactive protein (CRP) as a predictive marker ("Doctored Research?" November-December 2003, page 15) is grossly inaccurate and dangerously misleading.

Directly under the headlines "Flasks of Cash" and "Doctored Research?" the article dismisses our New England Journal of Medicine findings in two paragraphs, implying that we have falsified data and misled the public at the behest of pharmaceutical interests. The bulk of the article then discusses ethical questions involved in commercially funded research, a worthy subject of debate.

One big problem: our study was 100 percent funded by the National Institutes of Health and philanthropic foundations, not the drug companies. This is the wrong study to cite to make the point about commercialization, and something we would have gladly brought to your reporter's attention, had he bothered to call.

The study cited compared the predictive value of CRP to standard cholesterol screening among 27,939 initially healthy American women followed for eight years. What we found was that CRP was not only a better predictor of heart-attack risk than was cholesterol, but that CRP predicted risk even when cholesterol levels were low. As to patent disclosure and absolute-versus-relative-risk issues, all were discussed openly in our original work. With regard to risk, for example, we properly compared CRP results relative to the current gold standard of cholesterol, rather than examining CRP in a vacuum because, from a public-health perspective, half of all heart attacks and strokes in the United States occur among individuals with normal cholesterol levels.

Our work over the past decade concerning inflammation and CRP has been validated by scientists worldwide and

helped physicians better understand the root causes not only of heart attack, stroke, and peripheral arterial disease, but also of diabetes, the metabolic syndrome, and hypertension. New guidelines authored by the Centers for Disease Control and Prevention and by the American Heart Association now endorse the use of CRP as an inexpensive and simple method of improving cardiovascular-disease detection among the 30 million to 40 million Americans estimated to be at risk but who may be missed by traditional screening tools.

Cavalier questioning of research does damage not only to our reputations, but to the health awareness of your readers.

> PAUL M. RIDKER, M.D. '86, M.P.H. '92 Braunwald professor of medicine Harvard Medical School Boston

Editor's note: We regret that the article failed to make clear that Dr. Ridker's work was not commercially funded; his study is not representative of the trend toward corporately sponsored research that the preponderance of the article describes.

## **STADIANA**

As a proud onetime professor at Centre College, Kentucky, I could not help noticing a glaring omission in the "Stadium Stories" timeline ("First and 100," September-October 2003, page 42). Though chronologist John T. Bethell saw fit to include two signal events for 1921, somehow a landmark occasion in the history of football did not make the grade. This was Centre's 6-0 victory over Harvard, undefeated since 1018.

Readers of the otherwise informative article will have some idea of the magnitude of this occasion. The big Ivy League schools were the equivalent of today's NFL; Centre, at around 300 students, was the smallest college the Crimson ever played. Five years after the event, a convention of AP sports writers dubbed it the "Upset of the Century." Fifty years later, the New York Times still referred to it as such. Recently (October 2001) even

## **ERRATUM**

A REPORT in the November-December 2003 issue, "Changing Guard at Government" (page 67), muddled the middle initial of the dean of the Kennedy School, Joseph S. Nye Jr.

For further information, please contact: Anne D. McClintock Greta M. Morgan Jonathan P. Chines

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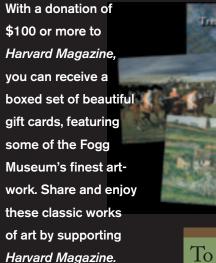
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Harvard's own football bulletin acknowledged that it "remains among the most storied capsizings in football history."

Centre also takes pride in alumnus John Harlan, who figured prominently in another famous 6-point loss: the 7-1 Supreme Court decision re Plessy v. Ferguson. Justice Harlan's lone and prophetic dissent to the "separate-but-equal" ruling became the basis for its unanimous reversal in Brown 58 years later. And Fair Harvard? Three of the majority *Plessy* justices attended college or law school there, including Chief Justice Melville W. Fuller and Associate Justice Henry Billings Brown, author of the infamous opinion.

> David Feurzeig '87 Bloomington, Ill.

This comment is intended to be kind, but firm.

In Craig Lambert's fascinating history of Harvard's Stadium, "First and 100," a distressingly common error occured. The stadium was constructed, he wrote, with 250,000 cubic feet of "Portland cement." Presumably Lambert meant a quarter of a million cubic feet of concrete containing Portland cement, perhaps in a proportion as high as 15 percent by volume, in which case the stadium required 37,500 cubic feet of Portland cement, a material ground so finely that its particles cannot be felt when rubbed between one's fingers (it is an "impalpable dust"). The project used 250,000 cubic feet of a sand and gravel mixture; the addition of the cement would not change the volume, but only fill the interstices. The old saw is almost true: "To make a cubic yard of concrete, combine one yard of gravel with one yard of sand, and add a sixth of a yard of Portland cement and mix with water." Most of the sand will fit in the interstices of the gravel.

Besides structures and highways, Portland cement concrete is used for airfields; therefore the editors are also cautioned to keep an eye out for "tarmac" unless the author means a tarred gravel pavement built on the general principles set down by the great Scottish civil engineer John McAdam. Aircraft runways are emphatically not "the macadam" and haven't been that except for a brief period beginning at the Battle of Britain when macadam began to replace the RAF's grass strips.

> M. R. Montgomery, A.M. '64, Nf '84 Lincoln, Mass.