

been that of Russia, and it is considered to a degree resolved. Of course, the world community remains deeply concerned about the Iraqi program. Moreover, although the BWC does not enjoy universal membership, neither does any other treaty. The fact that some countries have not signed the BWC does not mean that its constraints cannot possibly have merged with customary international law.

Furthermore, I did not "conclude," as Rath suggests, that possession of biological weapons is a war crime. My editorial was simply intended to raise the issue as a possibility and to raise the question of whether the world community has the means at hand to further strengthen the BWC, an objective that all should support. Of course, I understand that there can be a difference of view as to whether such means actually exist, and on this point Rath and I simply disagree.

Finally, although there have not been review meetings of the Parties to the Geneva Protocol (the agreement does not provide for this), I have attended review meetings of other arms control agreements, and I do not recall any state ever being asked to withdraw its second-use reservation with respect to the Geneva Protocol. But, in effect, this was accomplished by the Chemical Weapons Convention and the BWC, which ban the possession and use of chemical and biological weapons.

With respect to the comments submitted by Kasten, I congratulate him on his scholarship and I appreciate his most interesting and informative comments. Although I am generally aware of references to the events set forth in his letter, I have not myself seen conclusive proof that they in fact occurred. Be that as it may, in saying that biological weapons have not been used in war in modern times, I was referring to use on the battlefield, not the use of such agents in war-related terrorist actions.

THOMAS GRAHAM JR.\*

Lawyers Alliance for World Security, 1901 Pennsylvania Avenue, NW, Washington, DC 20006, USA.

\*Ambassador Graham served as special representative of the president of the United States for arms control, nonproliferation, and disarmament from 1994 to 1997.

## Another Unmet Public Health Need

**INJURIES SHOULD BE ADDED TO THE LIST OF "Unmet needs in public health"** (C. Ash and B. Jasny, Introduction: Issues in Public Health, 15 March, p. 2035). Throughout the world, injuries claim more years of productive life than any disease group. The Centers for Disease Control have identified unintentional injuries as the leading cause of years of potential life lost in the United States; violence (suicide/homicide) places third (1). In most countries, injuries are the leading cause of death

for young adults and for children after the first year or two of life. Yet because infectious diseases claim the lives of so many infants, the prominence of injury deaths once children have survived the threats of contagious and waterborne diseases is often unrecognized.

Traffic injuries—to motorcyclists, bicyclists, pedestrians, and vehicle occupants—take the heaviest toll; they are projected to be the third leading cause of disability-adjusted life years worldwide by 2020 (2). Because the problem is often defined as "driver behavior" or as the responsibility of nonhealth agencies, traffic injuries lack the attention they merit (3).

"Hard" science enables us to design more protective vehicles and better roads, while "soft" science enables us to secure implementation of helmet laws and speed limits. We hope that *Science* will help to educate the broad scientific community about this huge unmet need in public health. The burden on the public—not whether something is contagious—should be the major criterion for prioritizing public health problems.

SUSAN P. BAKER<sup>1</sup> AND TIMOTHY D. BAKER<sup>2</sup>

<sup>1</sup>Center for Injury Research and Policy, Department of Health Policy and Management, Johns Hopkins School of Public Health, 624 North Broadway, Baltimore, MD 21205, USA. E-mail: Sbakker@jhsph.edu.

<sup>2</sup>Department of International Health, Johns Hopkins School of Public Health, 615 North Wolfe Street, Baltimore, MD 21205, USA. E-mail: tbaker@jhsph.edu

### References

1. Centers for Disease Control and Prevention, *Morb. Mort. Wkly. Rep.* **42** (no. 13), 252 (1993).
2. C. J. L. Murray, A. D. Lopez, *Lancet* **349**, 1502 (1997).
3. P. Barss, G. S. Smith, S. P. Baker, D. Mohan, *Injury Prevention: An International Perspective* (Oxford Univ. Press, New York, 1998).

## Looking at a Renegade's Predecessors

**THE DEVELOPMENT OF BASIC IDEAS IN SCIENCE**, in simplified accounts at least, often appears as a struggle between clearly defined alternatives; scrutiny of historic sources usually gives a different impression. This applies to Michael Hagmann's recent homage to Günter Wächtershäuser's contribution to the origin-of-life debate ("Between a rock and a hard place," *News Focus*, 15 March, p. 2006), which has a complex history and a complex logical structure. The classical "primordial broth theory" was not dreamt up by a single hero, Ernst Haeckel, nor is Wächtershäuser, his admirable achievements notwithstanding, unique in claiming that surface chemistry holds the key to the "mother of all problems." His thought is embedded in the historic development of the idea—just turn back the pages of this journal to 1908 (1).

WINFRIED S. PETERS

Kinematic Cell Research Group, Biocenter of the

Goethe-University, Marie-Curie-Strasse 9, D-60439 Frankfurt am Main, Germany. E-mail: w.s.peters@zoology.uni-frankfurt.de

### Reference

1. T. C. Chamberlin, R. T. Chamberlin, *Science* **28**, 897 (1908).

## WÄCHTERSHÄUSER'S WORK OVER THE PAST

20 years on surface chemistry and pyrite in the origins of life is interesting, as is Norman Pace's comment in the article that Wächtershäuser "added a breath of fresh air to the field." When Wächtershäuser was reading about the origins of life in 1972, what are the chances that he was also reading the work of William F. Neuman, who published a series of papers "On the possible role of crystals in the origins of life" during that period (1–5)? Although Wächtershäuser has shown no role for pyrite, Neuman, with whom I worked, showed experimentally that hydroxyapatite (bone mineral) could concentrate biological molecules and drive dehydration and phosphorylation reactions.

FRED BURTON

90 Lakeview Drive, Stansbury, UT 84074, USA. E-mail: fburton@trilobyte.net

### References

1. F. G. Burton, M. W. Neuman, W. F. Neuman, *Curr. Mod. Biol.* **3**, 20 (1969).
2. M. W. Neuman, W. F. Neuman, F. G. Burton, *Curr. Mod. Biol.* **3**, 69 (1969).
3. M. W. Neuman, W. F. Neuman, K. Lane, *Curr. Mod. Biol.* **3**, 253 (1970).
4. ———, *Curr. Mod. Biol.* **3**, 277 (1970).
5. F. G. Burton, W. F. Neuman, *Curr. Mod. Biol.* **4**, 47 (1971).

## CORRECTIONS AND CLARIFICATIONS

**BOOK REVIEW:** "Time, space, and us" by W. G. Unruh (1 March, p. 1649). The figure on page 1649 was incorrectly attributed. The credit should have read "Edward Harrison/From *Cosmology: The Science of the Universe* (Cambridge University Press)."

**EDITORS' CHOICE:** "Floating through a cluster" (15 Feb., p. 1197). The mention of free-floaters in the M22 cluster was incorrect; it should instead have referred to the Orion cluster, as described by M. R. Zapatero Osorio *et al.*, *Science* **290**, 103 (2000).

## Letters to the Editor

Letters (~300 words) discuss material published in *Science* in the previous 6 months or issues of general interest. They can be submitted by e-mail (science\_letters@aaas.org), the Web (www.letter2science.org), or regular mail (1200 New York Ave., NW, Washington, DC 20005, USA). Letters are not acknowledged upon receipt, nor are authors generally consulted before publication. Whether published in full or in part, letters are subject to editing for clarity and space.