Letters

Oil Security and Hidden Costs

In discussing the potential impact of inexpensive oil, Mark Crawford (News & Comment, 2 Dec., p. 1242) raises some important issues, but touches too briefly on the critical issue of oil and security, and the hidden national costs of pursuing current oil security strategies.

The military cost of access to Gulf oil, unlike the current market price of oil, shows no signs of diminishing significantly. The incremental cost to the Navy of recent U.S. intervention in the Gulf averaged $365 million per year (*1*), but that is less than 1% of the annual cost of Persian Gulf readiness. The Rapid Deployment Force, created in 1980 with safeguarding the Gulf as its purpose, has grown to become U.S. Central Command (USCENTCOMM), the third largest military mission of the U.S. Armed Forces. USCENTCOMM's expenditures in fiscal year 1985—before the *Stark*—were approximately $47 billion (*2*). This represents a defense cost of Persian Gulf oil that exceeds the cost of *total* U.S. annual oil imports—$44 billion, as cited by Crawford.

But it is also not true, as Crawford implies, that domestic oil is an inherently secure source. The Trans-Alaska Pipeline (TAPS) transports 2.5 times as many barrels per day of oil for the United States as does the Persian Gulf. Hence, a single act of sabotage in Alaska could do more damage to the U.S. oil supply than a full cutoff of the Straits of Hormuz. Despite TAPS' obvious strategic significance and the fact that it has been attacked several times, the Army has declared it indefensible. Other domestic supply routes are vulnerable as well. During the Noriega-Panama crisis of 1988, only slightly less oil destined for the United States flowed through the Panamanian jungle in U.S. pipelines than through the Straits of Hormuz. The oil in Panama was U.S. domestic, en route from the West to the East coast of the United States.

Decreased reliance, not only on imported oil, but on oil itself, is the only long-term strategy that offers enhanced security to this country. However, neither coal nor nuclear power can significantly displace oil, most of which is used in vehicles. Efficiency standards offer the best long-term answer to our oil dependence. Crawford raises the current Administration's opposition to stricter mileage standards on automakers, but does not state the full impact of the rollback policy. The 1986 rollback in new light-vehicle mileage standards from 27.5 to 26 miles per gallon boosted our oil imports by about 295,300 barrels of oil per day—roughly equal to what drilling in the Arctic National Wilderness might yield, if successful.

It is instructive to note that the Navy's $1-million-per-day incremental cost in the Persian Gulf exceeded the 1987 U.S. budget for research and development on energy conservation ($200 million). The United States is far from realizing even the savings made possible by already existing oil efficiency technologies. Rocky Mountain Institute analysis indicates that 1 year's budget for USCENTCOMM, if applied to implementing *existing* efficiency measures, would potentially save about 12 times the volume of Gulf imports at an average cost of less than $10 per barrel. A sustained U.S. effort to reduce its total oil dependence, and thereby oil's strategic significance, would do far more to build real security than any number of aircraft carriers or costly domestic subsidies.

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REFERENCES AND NOTES

1. R. L. Sivard, *World Military and Social Expenditures 1987–88* (World Priorities, Washington, DC, 1988), p. 5.
2. Former Secretary of the Navy, John F. Lehman, Jr., places this figure at $40 billion. Earl Ravenel of the Cato Institute estimates the cost at $47 billion, World Policy Institute estimates at $50 billion, and the Center for a New Foreign Policy estimates $54 billion.

Rehabilitation of B. M. Gessen

David Dickson's thorough coverage of the ongoing reforms of Soviet science continues with his "Shakeup at Soviet Academy" (News & Comment, 11 Nov., p. 862). However, it was B. M. Gessen, not N. I. Bukharin, who delivered a paper in 1931 on the social and economic roots of Newton's *Principia*, thereby stimulating the development of "externalist" approaches to the history of science. Gessen, a theoretical physicist who was shot in 1937 for "idealism" and for being "an enemy of the people," has also gone through a recent rehabilitation in the U.S.S.R. The worldwide interest in Gessen's works is indicated by the fact that the MIT Press will soon publish his writings on dialectical materialism, relativity theory, and quantum mechanics in translation.

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Response: Josephson is correct that it was Boris Gessen (usually spelled in the West as Hessen) who gave the paper on Newton to the 1931 history of science conference in London. However, Bukharin was the leader of the Soviet delegation to the conference and made what many historians of science consider the most important contribution, an overview of then-current views in the Soviet Union of the philosophical basis of scientific developments.—DAVID DICKSON

Plasmoid Velocity

In his Research News article of 9 December (p. 1382), Richard A. Kerr nicely summarizes our paper (*1*) concerning an alternative suggestion about the fate of barium ions released in the earth's magnetotail by the Active Magnetospheric Particle Tracer Explorers (AMPTE) spacecraft on 13 May 1985. However, the ground-based imaging data show that the Ba^+ cloud moved away from the earth in a coherent plasma structure ("plasmoid") at a speed of some 200 kilometers per second, *not* at 200 kilometers per hour as reported by Kerr. This higher speed makes the small-scale plasmoid's velocity (700,000 kilometers per hour antisunward) comparable with that of the large-scale, natural plasmoids found during earlier probes of the earth's distant magnetotail (Research News, 14 Dec. 1984, p. 1298) and emphasizes the dramatic acceleration to which these ions have been subjected.

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REFERENCES

1. D. N. Baker, T. A. Fritz, P. A. Bernhardt, in preparation.

MacArthur's "Resignation"

Let us not rewrite history. Contrary to Daniel E. Koshland, Jr.'s statement in his editorial "Science advice to the President" (16 Dec., p. 1489), General MacArthur did not resign after a disagreement with President Truman. Depending on which newspaper headline one prefers, MacArthur, to Truman's credit, was either sacked, canned, or fired!

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