

ly underestimated US fatalities and injuries before a battle, whether these leaders erred by about 1000% in the cases of Iwo Jima and Okinawa, and thus whether Truman, having had experience as an army captain in World War I, had learned to discount prebattle estimates. Unfortunately, Lees seeks to resolve these questions without evidence. To learn more about these issues, he should read the published White House minutes for 18 June 1945, where General George C. Marshall, army chief of staff, and others discussed in front of Truman the planned Kyushu invasion. Lees should also ponder the fact that the 12 300 Americans killed in the spring of 1945 Ryukus campaign (mostly at Okinawa) were under 5% of the total US forces engaged in that campaign. In late May, for example, the US had 168 000 soldiers, 59 000 marines and 22 000 sailors in that campaign. Does Lees really believe that US military leaders, pre-Okinawa, forecast only 1230 US dead, roughly 0.5%?

In 1945, US air force and navy leaders usually did prefer alternatives—conventional bombing for the air force, and blockade for the navy—to the two planned invasions (Kyushu in November 1945, and Honshu in March 1946). But in the crucial summer of 1945, these men seem never to have argued their case before the President, and thus General Marshall, a man whom Truman revered and trusted, triumphed in devising the American strategy for conducting the war: invasion.

In line with navy proposals in spring and summer 1945, Ralph Bennett usefully reminds readers of the great injury that the sea mines did to the Japanese economy and war machine. The mining campaign was part of the navy's strategy for helping to win the Pacific War without an invasion. A few weeks after V-J Day, an air force officer briefly summarized the contribution of the Twentieth Air Force to "the most intensive mining campaign in the history of warfare": Over 1400 B-29s delivered more than 12 000 mines in enemy waters. "The home islands of the enemy were virtually completely severed from her sources of vital food and raw materials on the Asiatic continent."

Interestingly, General Curtis LeMay, commander of the B-29s in the Pacific, had chafed at the orders to drop mines. He periodically protested to Washington. He wanted, especially after the firebombing of Tokyo in March 1945, to concentrate on the heavy bombing of Japan's

cities. That was the dominant air force strategy, phrased bluntly by General Henry ("Hap") Arnold, commanding general of the air force, when he privately wrote that American bombers should destroy Japan's cities. That purpose, widely endorsed by American citizens, easily led to the rationale for using atomic bombs on noncombatants. Postwar contentions that the A-bombs saved "a half-million" or more American lives have blocked many from pondering the alternatives.

BARTON J. BERNSTEIN
Stanford University
Stanford, California

8/90

Was Uhlenbeck History 'Cannibalized'?

In the December 1989 issue (page 34) Abraham Pais writes that two relatives of George Uhlenbeck, Dutch army officers during the Atjeh wars in northern Sumatra around the turn of the century, "threw themselves on their sabres to avoid capture by cannibals." I am not aware of any credible evidence to suggest that the Atjeh freedom fighters engaged in cannibalism.

SIDNEY VAN DEN BERGH
Herzberg Institute of Astrophysics
Victoria, British Columbia,
Canada

12/89

PAIS REPLIES: Originally I had written "brutal tribes" instead of "cannibals." That is also the term used in my book *Inward Bound*. I should have caught the editor's change.

ABRAHAM PAIS
Rockefeller University
New York, New York

4/90

APS Input Needed on Nuclear Output

A recent issue of *Greenpeace* magazine states that the Nuclear Regulatory Commission intends to reclassify certain low-level radioactive wastes as being below regulatory concern and therefore disposable in ordinary landfills. *Greenpeace* urges opposition to this.

It seems to me that here is an issue where physicists not only can but should provide guidance to the public. Perhaps a committee of experts, not in any way connected with the NRC or the nuclear industry, could be formed to look into the matter? The problem of radioactive wastes is so important, especially for the future, that the APS might well have a standing committee advising the gov-

ernment about policy in this field.

IVAN LADANY
Harborton, Virginia

3/90

THE PRESIDENT OF APS REPLIES: We thank Ivan Ladany for his suggestion, which will be considered by existing committees of the society.

EUGEN MERZBACHER
University of North Carolina
Chapel Hill, North Carolina

5/90

Correction

September, page 20—The decay chain from uranium-238 to U^{234} was misstated: U^{238} emits an alpha particle and then undergoes several beta decays to become U^{234} . ■

STATEMENT OF OWNERSHIP, MANAGEMENT AND CIRCULATION

(Act of 12 August 1970; Section 3685, Title 39, USC)

1. Title of publication: PHYSICS TODAY
- 1A. Publication no.: 0031-9228
2. Date of Filing: 1 October 1990
3. Frequency of issue: Monthly (12)
- 3A. Annual subscription price: \$85.00

4. Location of known office of publication: 500 Sunnyside Blvd., Woodbury, NY 11797.

5. Location of the headquarters or general business office of the publisher: 335 East 45th St., New York, NY 10017.

6. Names and address of publisher, editor and managing editor:

Publisher: American Institute of Physics, 335 East 45th St., New York, NY 10017.

Editor: Gloria B. Lubkin, American Institute of Physics, 335 East 45th St., New York, NY 10017.

Managing editor: Paul Hersch, American Institute of Physics, 335 East 45th St., New York, NY 10017.

7. Owner (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual, must be given): American Institute of Physics, 335 East 45th St., New York, NY 10017.

8. Known bondholders, mortgagees and other security holders owning or holding one percent or more of total amount of bonds, mortgages or other securities: Guardian Life Insurance Company of America (mortgagee), 201 Park Ave. South, New York, NY 10003.

9. Extent and nature of circulation:

A. Total number of copies printed (net press run)

Average* 117 619 August** 121 513

B. Paid circulation

1. Sales through dealers and carriers, street vendors and counter sales

Average* none August** none

2. Mail subscriptions

Average* 111 370 August** 115 068

C. Total paid circulation

Average* 111 370 August** 115 068

- D. Free distribution by mail, carrier or other means, samples, complimentary and other free copies

Average* 2 011 August** 1 903

E. Total distribution (sum of C and D)

Average* 113 381 August** 116 971

F. Copies not distributed

1. Office use, left over, unaccounted, spoiled after printing

Average* 4 238 August** 4 542

2. Returns from news agents

Average* none August** none

- G. Total (Sum of E, F1 and 2—should equal press run shown in A)

Average* 117 619 August** 121 513

* Average number of copies of each issue during preceding 12 months.

** Actual number of copies of single issue published nearest to filing date.

I certify that the statements made by me above are correct and complete.

Arthur T. Bent, Treasurer