

Letters

Cleanup of the Savannah River Plant

Because I have been directly involved for the past decade in the aggressive program for high-level waste immobilization at the Savannah River Plant, I was astounded to read Eliot Marshall's statement (News & Comment, 8 Aug., p. 613) that Congress compelled the Department of Energy to take action in 1983. The House virtually killed the program in 1982, and it was through the efforts of Senator Strom Thurmond (R-SC) during the "lame-duck session" that initial construction money was reauthorized. The House finally concurred in early 1983, and the program for waste glassification has been funded ever since.

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Response: As Hennelly points out, it was not DOE but members of Congress who opposed the waste glassification plant, regarding it as an unnecessary expense in the military budget. In this vein, Representative Butler Derrick (D-SC) also deserves mention. He persuaded the House Rules Committee to block action on the entire DOE defense bill in 1979 until other congressmen agreed to support preliminary work on a waste plant at Savannah River.

—ELIOT MARSHALL

Treatment of Depression

The article "Depression research advances, treatment lags" by Constance Holden (Research News, 15 Aug., p. 723) is an excellent review of the current status of research in depression and the problems with diagnosis and treatment. However, two areas require comment.

In the discussion of pharmacotherapy for depression, the statement is made that "monoamine oxidase inhibitors have few side effects but involve dietary restrictions." This is misleading, as anyone who has used these drugs clinically can testify. Monoamine oxidase inhibitors are powerful drugs that can produce severe adverse effects. In addition to the dietary restrictions they necessitate, they can interact disastrously with many other drugs ranging from over-the-counter cold medications to a wide variety of prescription drugs.

Second, the statement is made that "most depressed who seek help are treated by

general practitioners for secondary symptoms." General practitioners are a relatively small group of physicians who comprise a subset of primary care physicians that includes general internists, family physicians, obstetricians-gynecologists, and pediatricians. The current literature supports the assertion that 80% of patients with depression consult primary care physicians initially.

On balance, the article is well written and correctly points out the problems in integrating current research and knowledge with effective diagnosis and therapy of depression.

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Mazel Tov!

Uwe Reinhardt's Navajo salute "Mazel tov!" to Arnold Relman (News & Comment, 5 Sept., p. 1032) will be criticized by ardent Navajo linguists. The original Yiddish salute from whence it was derived means "congratulations" and not "good luck."

Leo Rosten (*1*) gives a most appropriate example of proper usage of the salute: "don't 'mazel tov'! a man going into the hospital; say 'mazel tov'! when he comes out!"

I personally hope we can say mazel tov! to Relman.

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REFERENCES

1. L. Rosten, *The Joys of Yiddish* (McGraw-Hill, New York, 1968), p. 224.

Cretaceous Extinctions and Wildfires

Wendy S. Wolbach, Roy S. Lewis, and Edward Anders (Reports, 11 Oct. 1985, p. 167) have added interesting new data to the subject of Cretaceous extinctions: a layer of soot (21 milligrams per square centimeter) in the Cretaceous-Tertiary (K-T) boundary sediments. However, their suggestion that wildfires were the origin of this layer, while offering a novel but improbable (*1*) method of ignition, does not take into account the all-important dynamics of wildfire propagation. It is well known (*2*) that the spread of wildfire is usually terminated shortly after ignition (hours to days) by one or another

unfavorable circumstance such as a large change of wind direction or a substantial rain. Wildfire spread is often slowed or stopped at the edges of rivers or lakes and, of course, at the edge of the forest. But above all, wildfire moves slowly (1.5 to 5 kilometers per hour) because of the low combustibility of green trees. The mode of ignition, in comparison to these factors, would seem to be of minor importance.

If several percent of the earth's biomass is assumed to have burned within one or a few years, it is necessary to propose a new factor in wildfire propagation, and just such a factor is at hand: the death of many of the earth's forests. If the worldwide dust cloud from an asteroid impact crater was sufficiently dense to depress nighttime temperatures by 10° to 20°C, there would have been extensive killing (but not necessarily extermination) of the tropical rain forests, and possibly also of other forests. Within months the dead vegetation would have been in a highly dessicated and flammable state. Among such tinder, lightning strokes would have been unusually efficient agents of ignition. Wildfires would have been more numerous, of larger extent, and faster burning than in green vegetation. Lightning would have started fires on every treed continent in both hemispheres, ensuring worldwide distribution of smoke sources.

This qualitative discussion leaves open the question of whether a dust cloud of impact origin could have been or was dense enough by itself to stop photosynthesis. Until that matter is settled it will be premature to say whether the newly discovered soot layer is a consequence of the great extinction, or one of its causes.

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REFERENCES AND NOTES

1. If one assumes with Wolbach *et al.* that the fireball could have started fires at a range of 1000 kilometers in suitable vegetation, it can be estimated that only about one in six impacts in the oceans would have been favorably located for ignition of a major wildfire.
2. C. Chandler, *Fire in Forestry* (Wiley, New York, 1983), vol. 1.

Wolbach *et al.* found anomalous abundances of graphitic carbon at three marine Cretaceous-Tertiary (K-T) boundary sites. Fluffy spheroidal clusters of carbon were described as being the product of combustion, and the interpretation was that the proposed "end of Cretaceous" impact event (*1*) triggered burning of vegetation or fossil fuels on a global scale. This report followed an earlier discovery of fire-consumed organic matter just above the K-T boundary at a nonmarine site in North America (*2*).