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LETTERS

DNA Evidence

The legal system has been somewhat paralyzed by the appearance of a raging controversy over the statistical aspect of forensic DNA typing (1). The letter of D. L. Hartl and R. C. Lewontin (23 Apr., p. 473) continues the debate by creating the impression that a frequency estimate that might be off by a factor of 10 or 100 in the 1:1,000,000 range would have a meaningful impact in a given case. DNA evidence is rarely the major component of the prosecution's evidence.

Hartl and Lewontin find support in an "informal" telephone survey by Charles Taylor. The survey was actually conducted for another case (2) that did not involve the Federal Bureau of Investigation. The DNA evidence was admitted in spite of the "informal" survey. The survey did not play a role in the decision in the case mentioned by Hartl and Lewontin (3). In subsequent cases, trial judges have not admitted the survey as evidence (4). The survey has proved to be such an insignificant source of information that defense attorneys have long since stopped using it.

Hartl and Lewontin claim support for their current position with the assertion that four superior courts "have ruled that convictions based on faulty statistics be set aside." Their reference 3 describes those cases as *Barney/Howard* and *Breadmore* and *Lanigan*. None of these convictions has been "set aside." Both Barney and Howard will continue to spend a substantial part of their natural lives in prison. Their convictions were affirmed because there was more than enough evidence in addition to the DNA estimates to support their guilt. As for Breadmore and Lanigan, the appellate review of their trial court admissibility hearings took place *before* the trials. Because they had not been convicted, their convictions could not have been "set aside," as Hartl and Lewontin assert. The cases were remanded for additional admissibility hearings. Lanigan's hearing was held, and the DNA evidence was again ruled admissible on 5 January 1993.

Hartl and Lewontin's misuse of legal history to bolster their scientific opinions will only guarantee more contentiousness and controversy.

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References

1. *People v. Barney/Howard* (1992) 8 Ca. App. 4th 798.
2. *People v. Menephee*, Los Angeles Co., No. LA 003 852, 8 July 1991.
3. *People v. Halik*, Los Angeles Co., No. VA 00843, 26 September 1991.
4. *State v. Johnson* (Hennepin Co., Minn., SIP No. 89072014), 22 July 1991.

Dioxin's Effects

I would like to amend a comment cited in Richard Stone's Research News article about dioxin (2 Apr., p. 31). When I said that the data "don't support the idea of a general threshold for dioxin's effects," I meant that in the context of Ah-receptor-mediated responses to dioxins, that is, induction of CYP1A1A cannot be shown to have a threshold. However, I and many other European toxicologists do not share Linda Birnbaum's view that the adverse effects of dioxins (for example, tumor induction) might not have a threshold.

The fact that I share Birnbaum's reluctance to speculate on future decisions by the regulators depends more on the uncertainty of the importance of new data coming up, indicating possible effects on, for example, the immune system at lower doses than hitherto demonstrated.

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Alvin and Deep Ocean Research

The article, "Deep-sea debate pits Alvin against Jason" by John Travis (News & Comment, 12 Mar., p. 1534) obfuscates an ongoing dialog about the future of deep submergence science by suggesting that the use of manned or unmanned vehicles in the abyss is an either/or situation. In more than 25 years of service to the oceanographic sciences, the manned submersible Alvin has provided investigators with a capability to carry out controlled, manipulative, and interactive tasks in the deep ocean. Alvin has been, and still is, critical to advances in biological, chemical, and geological oceanography. A recent call for letters of interest