

presume that either she has not read the Office of Research Integrity's and the University of Pittsburgh's investigation reports or she has an interest in ignoring them.

Silver must not have read the investigation reports or our well-documented replies<sup>8,9</sup> to the essay he cites. We refute his charges as follows.

1. *Silver*: We are "scientific pawns" of the lead industry.

*Response*: Neither of us is or ever was employed by the industry. We are not pawns of any interest.

2. *Silver*: Industry used us to "cripple or possibly destroy Needleman's future scientific activities."

*Response*: If Needleman's activities are crippled it is because of his deliberate misrepresentations and what the University of Pittsburgh Hearing Board called "substandard science."

3. *Silver*: We were represented by "lead industry attorneys."

*Response*: We retained our attorney solely because Scarr's daughter worked at our attorney's firm. Silver repeated Needleman's lie.

4. *Silver*: He used demeaning quotation marks about the term "scientific witnesses."

*Response*: We've qualified as scientific witnesses on numerous occasions; we're both recognized experts on methodology and child development. Ernhart has conducted major studies on lead and child development.

5. *Silver*: We made "false accusations of scientific misconduct."

*Response*: This is defamatory and false. The University of Pittsburgh Hearing Board debated whether deliberate misrepresentation constituted scientific fraud. It did not exonerate Needleman. In civil law, "deliberate misrepresentation" is the criterion for fraud.

6. *Silver*: Silver recommended punishment by professional organizations for our "attempt artfully to pull commercial chestnuts out of the fire by impugning the integrity of colleagues."

*Response*: Whistleblowers in misconduct cases are often harassed and maligned, as in this egregious example. Silver's misguided effort to undo Needleman's self-inflicted damage astonished us. Editors of professional journals have a duty to avoid becoming uninformed apologists, particularly when this defames others. The annotation and editor's note should be retracted. □

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## References

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2. Silver GA. Editor's note. *Am J Public Health*. 1995;85:167.
3. *Independent Peer Review of Selected Studies concerning Neurobehavioral Effects of Lead Exposures in Nominally Asymptomatic Children: Official Report of Findings and Recommendations of an Interdisciplinary Expert Review Committee*. Research Triangle Park, NC: US Environmental Protection Agency; 1983;38. EPA-600/8-83-028A.
4. Needleman HL, Gunnoe C, Leviton A, et al. Deficits in psychological and classroom performance in children with elevated dentine lead levels. *N Eng J Med*. 1979;300:689-695.
5. Ernhart CB, Landa B, Schell NB. Subclinical levels of lead and developmental deficit—a multivariate follow-up reassessment. *Pediatrics*. 1981;67:911-919.
6. Ernhart CB, Scarr S, Geneson DF. On being a whistleblower: the Needleman case. *Ethics Behav*. 1993;3:73-93.
7. Memorandum opinion and order, *United States v Sharon Steel*. Utah District Court (1991), No. 86-C-924, p. 7.
8. Ernhart CB. Deliberate misrepresentation. *Pediatrics*. 1993;91:171-173.
9. Scarr S. A whistleblower's perspective on the Needleman case. *Pediatrics*. 1993;91:173-174.

## 4. *Silver* Responds

I will reply to five of the six specific charges made by Scarr and Ernhart as follows:

1. I should have written "used as pawns by the lead industry" rather than "utilizing pawns of the lead industry."

3. Whatever the basis for the choice, the law firm that represented the lead industry represented Scarr and Ernhart.

4. The quotation marks around "scientific witnesses" were uncalled for and I withdraw them and the implied slur.

5. In fact, Needleman was never convicted of scientific misconduct.

6. This statement is an editorial opinion made as a general recommendation and does not apply to any particular person. □

George A. Silver  
Contributing Editor

## 5. *Silbergeld* Responds

It is somewhat disappointing to realize that my annotation has provoked expected responses from the expected parties: Drs Scarr and Ernhart, who brought charges of scientific misconduct against Dr Needleman; Jerome Smith, representing the lead industry trade association; and Dr Edgar Schoen, who has written widely to challenge the lead screening recommendations of the Centers for Disease Control and Prevention (CDC) and the American Academy of Pediatrics. While taking issue with some details of my annotation, they fail to acknowledge the weight of scientific research in this and other countries, in addition to the particular examinations of Needleman's work by the US Environmental Protection Agency (EPA), CDC, WHO, and other groups. All find that lead exposure, at low doses, seriously and persistently damages the neurological development of children. A recent review of epidemiology<sup>1</sup> cites Needleman's work as exemplary in the field of environmental epidemiology.

While Scarr and Ernhart may now downplay their roles in the Needleman case, it was their charges to the National Institutes of Health (NIH) Office of Scientific Integrity that set in motion the investigations by NIH and the University of Pittsburgh. We agree that the Office of Scientific Integrity's current procedures are unacceptable. I remain convinced that Needleman's fight for open hearings was an important victory for everyone, including whistleblowers. That Needleman is a man of integrity is my judgment, but it is one shared by the Charles E. Dana Foundation, which awarded Needleman one of its highest prizes; and the University of Pittsburgh, which awarded him the Chancellor's Medal for distinguished public service; and the Heinz Foundation, which recently gave him its H. John Heinz Award in Environment.

I am not surprised that Smith denies that the lead industry has hindered public understanding of lead toxicity or public health policy. But the lead industry's efforts to influence scientific debate on lead toxicity through the strategic funding of research on lead toxicity are well documented.<sup>2</sup> So too is the industry's involvement in promoting the approval of tetraethyl lead as a gasoline additive in the 1920s. There are several scholarly analyses of the role of the lead industry in overcoming early lead-related concerns of the Public Health Service and physi-