(2, p. 404). In a lesser exposed group, the "mortality findings were only suggestive of a possible involvement of the hematopoietic system" (2, p. 404). On the other hand, breast cancer was decreased in the two highest zones of concentration, and "endometrial cancer showed a remarkable decrease" (2, p. 404). I am afraid that at most what we have here is a case of Bailar's syndrome.

Kogevinas *et al.* state (3, p. 549) that "[i]n women with probable exposures to TCDD, a statistically significant excess in occurrence of all cancers was observed . . . based on nine cases. . . ." Two of the nine cases had a [l]atency and length of exposure until diagnosis of cancer" of less than 1 year (3, p. 550). Three others had a latency of 1 to 4 years. These are extraordinary short latency periods. Further, three cases were melanomas from New Zealand; Kogevinas *et al.* (3, p. 552) note parenthetically that, for melanomas, "[t]he main identified risk-factor . . . is ultraviolet radiation."

Manz *et al.* (4, p. 963) state that "[t]he increase in cancer risk . . . that we found . . . cannot be explained completely by confounding factors, and our results suggest that this increase is associated with exposure to TCDD." Aha! you say, but Manz *et al.* continue (4, p. 963), "[e]xposure to chemicals other than TCDD also occurred in different areas of the plant, and some of these are known or suspected carcinogens. Benzene was used extensively. . . ."

In the last sentence of their summary Zober *et al.* (5, p. 139) state that "[i]n general, our results do not appear to support a strong association between cancer mortality and TCDD, but they do suggest that some hazard may have been produced."

It is well over 40 years since occupational exposure to dioxin first began for workers, and by now better evidence certainly should have been apparent for a human carcinogenic effect. We shall have to wait, in vain I fear, for the definitive epidemiological study.

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Cell Transplantation and Research Design

As a neuroscientist studying the plasticity of aging dopamine neurons, I applaud the review committee of the National Institute of Neurological Disorders and Stroke for having the courage to finally fund an adequately controlled study [to be conducted by Curt Freed at the University of Colorado Health Sciences Center and others (*1*)] on the usefulness of fetal brain cell transplants in Parkinson's disease patients, as reported by Jon Cohen ("New fight over fetal tissue grafts," News & Comment, 4 Feb., p. 600). The field of brain cell transplantation, particularly in primate brain, is replete with studies that shed confusion rather than light on underlying mechanisms. Equally lacking is a credible body of data showing that transplants of any kind work in aged as opposed to young brains, even in rodents (*2*)—seemingly a prerequisite for transplantation into aged humans with Parkinson's disease.

The investigators who protest the funding of a single large fetal transplantation study at this time (Letters, 11 Feb., p. 737) appear to be howling mainly with self-interest. The last thing we need is yet more "smaller" studies with multiple approaches, inadequate controls, insufficient sample sizes, and unblinded short-term follow-ups. I wholeheartedly agree with Freed's experimental design, which uses double-blinding (neither the patients nor the investigators will know who is receiving the transplants) and sham operative procedures (a small burr hole will be drilled into patients' skulls, without the subsequent transplantation of cells) in an attempt to eliminate any "placebo effect." Not only is sham surgery (with informed consent) ethical, it is absolutely essential. I would consider it unethical to carry out investigations with invasive procedures whose results would be scientifically uninterpretable.

It is time for surgical procedures to be scrutinized by the same standards to which pharmaceutical agents are held, those of safety and efficacy. Freed may be taking an important first step in the best interest of patients with Parkinson's disease.

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References and Notes

1. The study is being done collaboratively with Stanley Fahn of New York's Columbia-Presbyterian Medical Center and David Eidelberg of Cornell University.
2. I. Date, S. Y. Selten, D. L. Felten, *Exp. Neurol.* **107**, 197 (1990).

(*Continued on page 1548*)