ters, the only difference between B1912 and the control litters was in the red discoloration of the B1912 weanlings. There were no significant weight differences between the groups during gestation. The respective litter sizes were 5 and 5 for control vs. 7, 6, and 5 for B1912 mothers.

In the third trial, thirteen pairs of mice were mated. Administration of B1912, 0.05% in the diet, was commenced for each pair on the day that the females' weight was observed to be obviously elevated above her previous normal daily weight fluctuation. The drug was then continued until parturition. Using this guideline, three pairs of mice received B1912 for 4 days and seven pairs of mice received B1912 from 5 to 9 days. Three pairs received no drug because a weight elevation was never observed. Of these three, one pair produced seven normal weanlings and the remaining two pair did not give obvious birth. No abortion was evident and autopsy, after sacrifice, of the non-delivering females showed no evidence of pregnancy. The 10 B1912 mothers produced a total of 60 red but healthy offspring with litter sizes ranging from 2 to 8.

In the course of these three trials, eighteen pregnant mice were fed 0.05% B1912 in their diet for a minimum time of at least 4 days up to a maximum time that covered the entire gestation period. All B1912 treated females had normal births. A total of 119 offspring was delivered. All were stained red but were otherwise normal. The B1912 discoloration of mother and weanling disappeared in 6 to 8 weeks after the drug was discontinued, and all offspring matured normally. Accordingly, B1912 nucleotoxicity, demonstrated by drug induced abortion, as reported by Morrison and Marley, was not observed.

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Abortifacient Activity of B1912

To the Editor:

A brief comment on the failure of Reich and de la Cruz to demonstrate B1912 abortifacient activity in mice is as follows. Differences are apparent between the Baltimore and Cebu experiments involving methodology, experimental design, and mouse strain reproductive capacity. While complete details of the Baltimore experiments will be published elsewhere, the following differences are cited.

Dietary dose calculations used by Morrison and Marley refer to B1912 at 0.05% (w/w) of moisture-free mouse diet (Ralston Purina Company, powdered chow #5001) in which the B1912 was blended in a micronized powder form to accelerate absorption.

The Baltimore experiments indicate that a critical time point during embryogenesis was present in order to demonstrate abortifacient activity. The results of Reich and de la Cruz show that they have either missed this time point (Experiment 2) or have pre-induced metabolism to confer protection against the embryotoxic metabolites of B1912 (Experiment 1). We agree with the lack of B1912 effects when added during the weight-gain period (Experiment 3).

However, perhaps the most significant difference is found in comparing the reproductive capacity of the two inbred mouse strains used, i.e., the CD-1 versus the NAMRU strain. The CD-1 litter sizes were routinely between 10 to 12 whereas the NAMRU strain litter sizes were 20 to 80% less in number. Since reproductive loading produces marked degrees of metabolic and hormonal change in mice, it would appear that the Baltimore versus Cebu experiments do not have reproductive rate comparability. Thus it would not be surprising to find an all-or-none difference in the embryotoxic effects of B1912 metabolites.

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Transfer Factor Exerts Nonspecific Effects?

To the Editor:

The results of transfer factor (TF) therapy in 16 leprosy patients by different investigators have been summarized in an editorial by Hastings ([3]). Out of these 16 patients, only 4 cases receiving a very large dose of TF showed enhanced rates of bacterial clearance. In the same article, the author had said "unquestionably TF exerts nonspecific effects but a number of observations strongly suggest that the material also has antigen specific effects."

Recently, Epstein and Byers in a paper entitled "Transfer of contact sensitivity to beryllium using dialyzable leukocyte extracts (transfer factor)" have shown that subjects who had been subclinically primed and received transfer factor, showed transient patch test reactivity to the challenge of beryllium ([2]). On the other hand, subjects who received transfer factor, but were not primed, showed no such conversion. Thus their experiment showed that antecedent subclinical immunity is required before transfer factor can effect a conversion of cellular immunity. However, the authors mentioned that is was not known if an antigen-specific transfer factor was absolutely required for the transfer of beryllium sensitivity.

For the last several years we have been engaged in the potentiation of cell-mediated immunity of lepromatous leprosy patients by several immunologic reagents ([5,6,7]). We have treated 4 lepromatous patients with intravenous infusions of crude undialyzed (sic.) TF obtained from healthy but lepromin and tuberculin positive donors. These donors were never exposed to DNCB and were unresponsive to the challenge of 50 μg of the hapten. Before receiving TF, the patients were sensitized with 2,000 μg DNCB and were subsequently challenged with 50 and 100 μg of the hapten. It was found that only one out of the four patients was unresponsive to this challenge before immunotherapy. However, this patient showed DNCB conversion after TF therapy without further resensitization with the hapten. Thus our study showed that antigen specific transfer factor was not required for the successful transfer of contact sensitivity in humans and nonspecific transfer factor might work equally well. A similar view was expressed by Bloom ([1]), who suggested that transfer factor might act nonspecifically as an adjuvant, enhancing the reactivity of a subthreshold number of competent lymphocytes. Our recent study on the passive transfer of immunity into active lepromatous patients by human fetal thymic grafts lends further support to the above notion ([5]). Seven active lepromatous patients received human fetal thymic grafts obtained from 16–19 week old fetuses. Before receiving thymic grafts, these patients were unresponsive to the challenge of DNCB. Of this group, 5 showed conversion after thymus inplantation. Indeed, fetal thymic cells were never exposed to DNCB, and thus these cells must have been uncommitted. They might have stimulated the impaired immune system of the lepromatous patients by an allogeneic effect nonspecifi-