

is titled "Too soon for the rehabilitation of Lamarck." While both editorials address the scientific aspects of the research, the urge to throw the research into the Lamarck-Darwin fray is clear. "It will be time enough to worry about the rehabilitation of Lamarck when and if the data now reported are independently confirmed," concludes the Feb. 19 editorial.

What risks being lost in all this is what the experiments seem to be illustrating. Says Temin: "They are a very interesting set of reports, indicating a possibly new phenomenon. The most exciting interpretation is that they may be an example of a different sort of genetic influence, but it is also possible that they may have just discovered something new about cellular immunology." While the experiments appear to be explainable in terms of an influence of RNA viruses on DNA content — a system that would push aside random mutations as the only natural means of altering DNA — they are not a direct test of that model, Temin cautions. "Right now we just have a phenomenon," he says, "and we need to confirm that the phenomenon exists." If it indeed exists, he continues, then it remains to be determined if it is a function of genetics or of immunology.

Other researchers are already trying similar experiments. According to Gorczynski, one group at the facility where Steele now works repeated the first experiments, but used different cells in the test for responsiveness to the foreign antigens and concluded that the results could not be reproduced. In another set of experiments, researchers at Portland State University Medical School are using a similar approach but looking directly at the animal's ability to make a specific antibody instead of the more indirect cellular response used by Gorczynski and Steele.

Among the questions raised by Gorczynski and Steele's work, says researcher Gerrie A. Leslie, who is conducting these experiments with Anwyll Cooper-Willis and Joan Olson, is exactly what is being transmitted to the offspring. It is possible, he says, that the antigen itself has found its way into the germ cells and has induced the tolerance response without actually altering the genome. Noting that the percentage of tolerant individuals decreases with each generation, Gorczynski agrees with this possibility and adds that it is also possible that the RNA virus has been incorporated into the germ cells but not into the genome or that the tolerant message requires more than one gene to become stably integrated. All of these possibilities require further experimentation, Leslie stresses, and he eschews the Lamarckian overtones that he fears may prevent scientists from addressing the central question of the research. "I'm not convinced that inheritance like this occurs," he says, "but we can't just ignore the experiments. We have to do something rather than stick our heads in the sand and deny that the results exist." □

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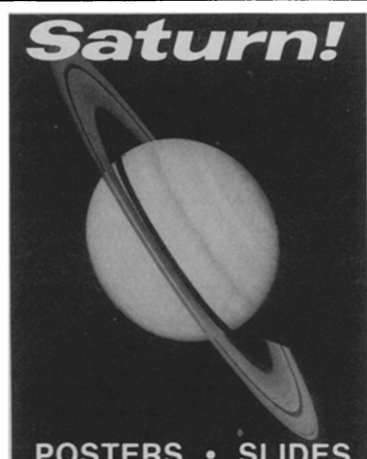
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