rate it would be very difficult to be sure that this were due to mutation and not some other cause.

We have to accept for the present the fact that any feasible system of monitoring the human population could detect only a very gross effect. But, of course, that is what is the most to be feared. So there may be merit in setting up a system that would detect at the earliest possible date a really large increase in the mutation rate—say an increase of several fold—if this is occurring. Could such a system be made workable, and not prohibitively expensive? We don't have the answers now, but we would like to suggest a few possibilities which might merit further consideration. The problem is larger than just pesticides, and would have to be considered in a wider context of detecting any unsuspected environmental mutagen of high potency.

A direct search for an increased rate of occurrence of malformations and diseases of genetic origin would necessarily involve a delay of at least 9 months, for any mutation that occurs in the parent will be seen only after the child is born. In the future, intrauterine tests may become feasible; at present the techniques are not adapted to the wide-scale application that would be necessary is a general rise in mutation rate were to be detected. It might be possible to select certain traits that would be the most efficient indicators of an increased mutation rate. Such indicator traits would have to be:

a. Dominant, so the trait shows up in the next generation after the mutation occurs;

b. Present at the time of birth, or shortly after, so that there is no long delay in the discovery;

c. Conspicuous, so that they would be unambiguously and easily detected by those attending the birth;

d. Of a unique appearance not mimicked by other traits not of mutational origin;

e. Of such a nature that it is easy to distinguish new mutants from those cases where the parent had the trait and transmitted it to the child. This latter point could be ensured by having the trait of such a nature as to lead to sterility so that every case is a new mutation.

The number of traits that meet these exacting criteria are very limited; we know of none that does absolutely. But there are probably several that come somewhere near. We are not qualified to suggest a specific set, but we think the possibility ought to be investigated further. As an alternative to choosing traits that are so conspicuous and characteristic that they would always be recognized, one might have those attending the birth simply report all instances where the child is abnormal and then have a staff of specialists in congenital anomalies visit each case. The proportion of births with obvious