phenotype. Addition of complementary genes via the Baldwin Effect to reinforce the changes conveying selective advantages would stabilize the admittedly variable id/id phenotype in whatever form most "fitted" in the new niche.

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6. Non-Mendelian inheritance at the P locus.

In attempting to produce maize hybrids specifically tailored to the needs of human-consumption as milled products of corn, cob color is a criterion of desirability. In all of our standard lines, if the line has a red cob, we convert the line to white cob. On the other hand, if the line is originally white-cobbed, we convert it to red. Neither conversion is easy to make, and in neither case does the inheritance of cob color behave as a simply inherited trait. However, the latter conversion of a white condition to a red state is the more instructive. Several such lines, instead of giving a simple 1:1 segregation in the advanced backcross generations, have something like a 2:1:1 wherein about ½ of the progeny are white cobbed, as expected, but the other half segregate for deeper and lighter colors of red in about equal numbers. This seems to vary widely from line to line, though we have never used sufficient progeny sizes within a line to adduce comprehensive data. However, if one backcrosses the progeny from a lightly colored cob, all may be found to have white cobs. In such a case, one would have to assume that the red cob was present as a maternal effect, rather than from an autogenous gene, since the trait was thus not passed on in heredity. In other cases, even though one selects a progeny from a deeper red cob to further backcross, all the progeny may have white, or only very pale, cobs.

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7. Apparent parahereditary transmission of infectious viruses in maize.

In conducting the first winter breeding nurseries in Hawaii, outbreaks of Hawaiian Corn Mosaic (described by Brewbaker, Crop Sci. 5:412-415, 1965) were sometimes suffered because of infestations of