Diagram referenced as "Schematized behaviour of two diploids heterozygous the regulator for both structural genes"

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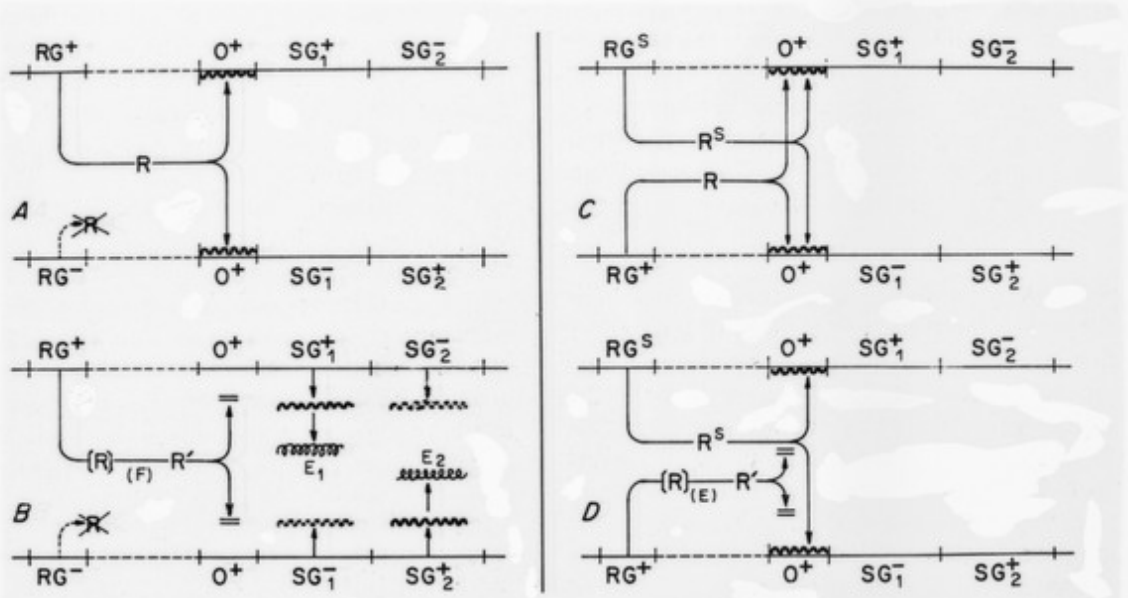
genotes, or of doubly lysogenic cells [redacted] is distinct from the "constitutive" mutation is dominant over the wild type (Jacob and Campbell, 1959).

Thus, while the constitutive [redacted] nally pears as a *recessive* "gain of function," the uninducible mutation results in a *dominant* "loss of function." These relationships are immediately accounted for by the assumption that the wild type regulator gene controls the synthesis and structure of a cytoplasmic *repressor* able to inhibit the transcription of one or several structural genes, and to interact with a specific inducer, the interaction resulting in inactivation of the repressor. The constitutive mutation then corresponds to a ge- [redacted] pe.

Thus, the study of biochemical phenotypes in the haploid and the diploid conditions reveals, besides "classical" structural genes, the existence of functionally specialized determinants which appear to be concerned exclusively with the formation of specific cytoplasmic repressors.

More direct evidence of the existence of *rej* as cytoplasmic components has been obtained tain systems (see Pardee *et al.*, 1959; Jacob, [redacted]



Schematized behavior of two diploids heterozygous for the regulator and for both structural genes.

D. *Induced.* Only the normal repressor reacts with the inducer while the altered (R^s) repressor does not and s transcription in both chromosomes. No enzyme is made.

[redacted]