It has been established that in man, in the female of the species, in at least some of the somatic cell types, only one of the two ex-chromosomes is active, and the other is inactive. In some types of somatic cells the inactive ex-chromosome forms the so-called sex-chromatin. The mechanism by means of which one sex-chromatin can suppress its homologue is not known, nor is any mechanism known by which a .....chromosome is rendered inactive. I was however led to postulate that there is some mechanism a large part of the chromosome, half a chromosome or a whole chromosome, can be rendered inactive in order to explain the general phenomena of mammals in general and, in particular, the manifestation of aging on the survival curve of a human population. On the present occasion, I wish to raise the question whether the suppression of a chromosome or a long stretch along the chromosome by the homologous chromosome is limited to the ex-chromosome of the female or whether such a suppression occurs also with respect to the other chromosome pairs. I am led to this question through two independent considerations. The first of these is as follows:

We all know, from every day experience, that a boy or a girl frequently is a "spitting image" of the father or the mother, where there are many other cases when a child resembles only very little, if at all, one of the parents. Because of the great variety of how a man or a woman.... the bodily build of a man or a woman, and in particular the face of the man or the woman constitutes to what we shall refer to here as a "morphotype" of the individual, where the term morphotype designates that part of the phenotype of the individual that meets the eye. The great consideration is what people look like leads one to assume that the large number of different types of different genes are involved in determining the morphotype and I propose to refer here to this combination of genes as a morphotipic gene complex , and single genes ....Apparently the genes which determine pigmentation skin/eyes and which can be easily separated off from the morphotipic gene complex because they control the color of the skin, the eyes or the hair had better not be included in the morphotipic gene complex and it seems likely that what remains are the genes which are part of the morphotipic gene complex.

There is no reason to believe that the morphotype represents a linear expression of the individual genes which form the morphtipic gene complex, and we have no right to expect/find an easy way in which the inference of the individual genes on the morphotype could be disentabgled. Since every individual inherits two homologous sets of the morphotipic genes, it is necessary to look for some xplanation why it is puzzling how a substantial number of individuals could even be "spitting images" of the father or the mother. There are various ways in which one may attempt to explain the rather frequent occurrence of a striking resemblance with one of the parents. One might, for instance, postulate that all of the morphotipic genes are carried to two or three chromosomes and are concentrated on each of these three chromsomes within one particular stretch of the chromsome. One would then have further to say that in the course of the embryo development, there is one cell from which all the cells decend that control the morphotype and that in this ancestor cell, and within the two or three homologous chromosomes pairs which are of interest to us here, there operates the same kind of homologous suppression as ...separates in somatic cells a particular ...set of the female with regard to the embryo chromsomes. In this case, those individuals, where the relevant chromsomes which are inherited from the father ....the correpponding homologous chromsomes, it should be the "spitting image" of the father, or in the converse case, the child should be the "spitting image" of the mother.

One might ask at this point what would be the survival value of such homologous suppression. Evidently, such homologous suppression would have great survival value if the morphotype controls selection in the choice of a mate and if the morphotypeipic genes or a group of genes which are selected by them have survival value

The notion that homologous suppression operates in man with respect to chromosomes other than the ex-chromosome may find support in findings which relates to the aerotypes of the gamma gobulin produced in individuals who are affected with Lymphomus If we consider an individual who is hetrozigote with respect to two alees which represent two different aerotypes, one would expect the gamma-gobulin of such an

individual to be a mixture of the two aerotypes and this is what is found. However, if the individual is affected by lymphnomus, it may be assumed that all the lymphnomus cells represent a single chromosome derived from the first cell which changed over to malignancy. It is found that in individuals affected by lymphnoma, practically all the gamma-gobulin represents one of the two possible aerotypes and this is what one would expect if one assumes that in the parent cell from which the lymphnomous cells were derived, homologous suppression was in operation.