

# Genetic Architecture:

Author: Fernando Mancebo Rodriguez 2009

## Introduction

\* This theory on the Genetic Architecture comes only from the study and considerations of its author, who considers two main genetic bases for the formation of animal bodies, those which are:

1.- The cellular organelles and 2.- the chromosomes and genes.

1.- Cellular organelles are all the cytoplasm components (mainly), as can be: Golgi apparatus, ribosomes, lysosomes, mitochondria, reticulum, vesicles, etc. , all those developed through the time, and being stored and transmitted through generations in the female ovules.

2.- Chromosomes and genes consist on packs of inductors of reproduction of cells and cellular organelles till get the complete and correct construction of each new alive being, and so, being considered as the plans and projects of the genetic architecture.

In turn genes can be of two types mainly: D for the duplication of cells, and T for the cells transformations.

## Genetic Architecture

Genes of Duplication (quantity of cells) and genes of Transformation (quality of cells)

The D duplication genes duplicate cells

The transformation genes T excite cellular organelles to be transformed into specialist cells.

The "Garbage" Genes

The Pre-organic or Master Chromosome

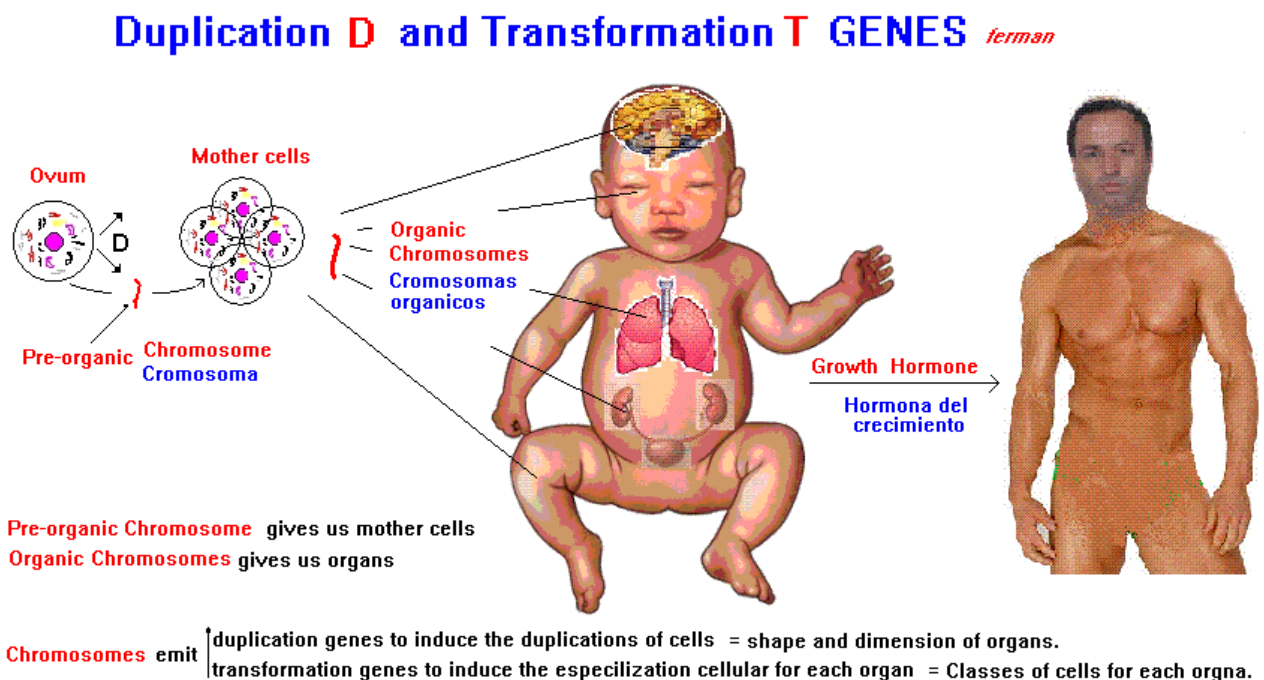


Fig. 1

Now it is being discovered and getting the conclusion that in the genetic code many genes that we denominate "garbage genes" exist, which apparently are secondary in the genetic structuring; and other genes that yes, they have important structural consistency.

It seems to be right with the concepts of my theories on the genetic structuring that I have proposed from 1995.

In this case, everything seems to agree with my points of view on this question regarding two types of genes on the structure of the genetic chain DNA.

These two types of genes are the Genes of Transformation T and the Genes of Duplication D.

## Preamble

But before, let me putting a preamble to understand better on what the genetic consists:

The genetic system (chromosomes and genes) consist mainly on pack-chains of inductors (genetic macromolecules that incite and order the duplication of the biological elements already existent in the mother cells) which go being released in the ADEQUATE PLACES and TIME to mount and build the organs and bodies of the living beings.

The ADEQUATE PLACES and TIME to be realized chromosomes (by the master chromosome) or genes (by any chromosome) to make their functions of duplication and excitement of cells and cellular organelles is defined by the successive ordination or sequence of the chains of genes that composes chromosomes.

This way a chromosome is composed by chains of genes, which begin to be realized (surely) by the central union of the chromosome arms and end up of being realized for the end of these arms, with which, the ordered liberation of genes go us building successive and orderly the position of organs firstly, and later on the development of these organs and the corporal being in whole.

To this method of genetic actuation we could call as method of Sequential Structuring.

So, chromosome or chains of genes means in practice ordination, emission, transformation and ordered construction of living beings.

It is similar to build a house: first we put the foundations; on these the main structure; and on this all the other element of the house, in the proper order.

This way to put a window it is necessary begins with the foundations of the house; structure, correspondent wall, and later on to put the window in the adequate place of the wall.

## Development

But to understand from the beginning the process that I proposed, we will make a simplified revision of the same one:

For the genetic structuring of any organ the procedure would be carried out starting from a mother cell (Before knowing this denomination, I named as common cells) on which the specific chromosome for this organ goes emitting orderly successive genes that go conformed, structuring and defining to this organ in question.

As we have said, these genes of organic structuring are of two types:

1.- The duplication genes (duplication inductors) that, as their name indicates, their mission it is the one of duplicating cells.

Say, a duplication gene is emitted on the part of the organ's specific chromosome and the cell is duplicated. Therefore, the number of cells and the total volume of the organ to build are already defined and directed by the number of genes of duplication of the managing chromosome of this organ.

This way, the number of genes of duplication gives us at the end the number of cells of the organ to build, and therefore, its volume and dimension.

Of course to these genes or duplication inductors are those that we now call "garbage genes", and as we can see they don't have anything to do with "garbage", but rather they are genes of construction and cellular distribution in each organ to build.

2.- The transformation genes, much more complex, are those in charge of acting on the organelles of the cells for going changing and approaching more and more to the structural characteristic that each organ require.

That is to say, when a transformation gene is emitted by the competent chromosome, the cell's organelles (that at first were common and general for all the organs) go improving and adapting in their vital function that they must carry out in the future.

Then already from any cell mother, with the continuous contribution of **duplication genes**, this cell goes getting the appropriate form, structure and size of the organs in question, (as the example of the drawing, the heart). And on the other hand, with the emission of **transformation genes**, the organelles of the cell go being transformed, specializing and prepared in their appropriate structure for their later and correct operation.

## Duplication and transformation GENES

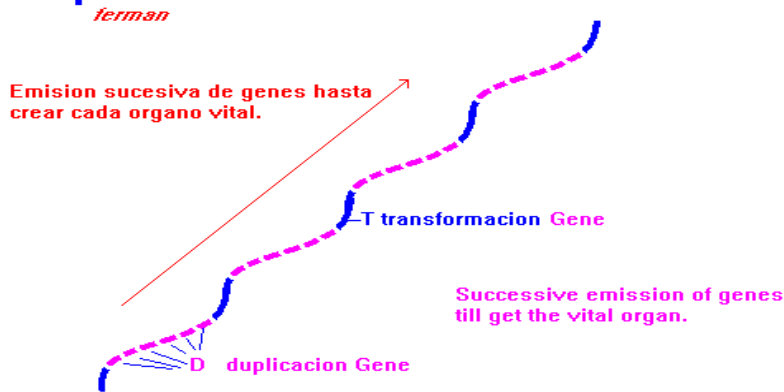


Fig. 2

Then we see that the genetic operation is simple and it follows some rules of successive preparation and structuring of the vital organs:

A. - When the ovule fecundation for the future being takes place, the Pre-organic Chromosome emits D genes to duplicates mother cells until getting the necessary number of them to begin the structuring of the vital organs for the new being.

B. - When enough mother cells have been created to begin the specialization and organic structuring, each specific chromosome for the construction of each organ goes emitting successive packages of duplication genes (I named them as duplication inductors), which go creating the appropriate number of cells for the organ.

C. - At the same time that the adequate number of cells is being created by action of the duplication genes, the specific chromosome emits transformation genes to specialize and to adapt these new cells to the future requirements for the function that the organ in question have to make.

D. - When all the genes of the organic chromosome have been emitted or "waste", the organ has finished its construction and it is prepared for its work.

Of course, later on the growth hormone enters in action\* to already get the total size of each one of the organs of the body.

\* In fact, on this growth hormone is on where the biggest interaction and re-adaptation between the external medium and the interior genetic biology takes place, with which, a constant biological development take place which can produce adaptation changes such as the alive being's stature, development of certain very used vital organs, etc.

## Duplication D and Transformation T GENES

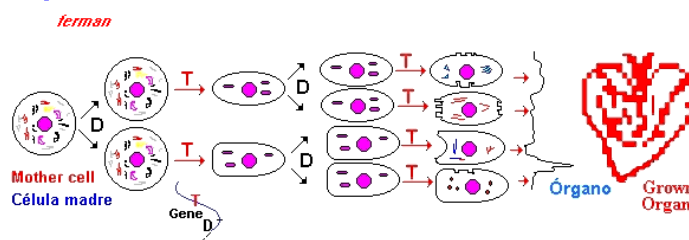


Fig. 3

Summarizing, the structuring of each organ is carried out by means of the emission for the chromosomes of genes that multiply (duplication genes) and specialize (transformation genes) to the mother cells to transform them into specialist cells for the function to carry out by the organ.

### Transformation genes:

The transformation genes what makes is to multiply, to specialize, etc. to the organelles of the mother cells that will be necessary for each particular organ that is building.

The other organelles of the common or mother cells, not necessary for this concrete organ, they will be forgotten and disabled of their functions.

## Common or Mother Cells

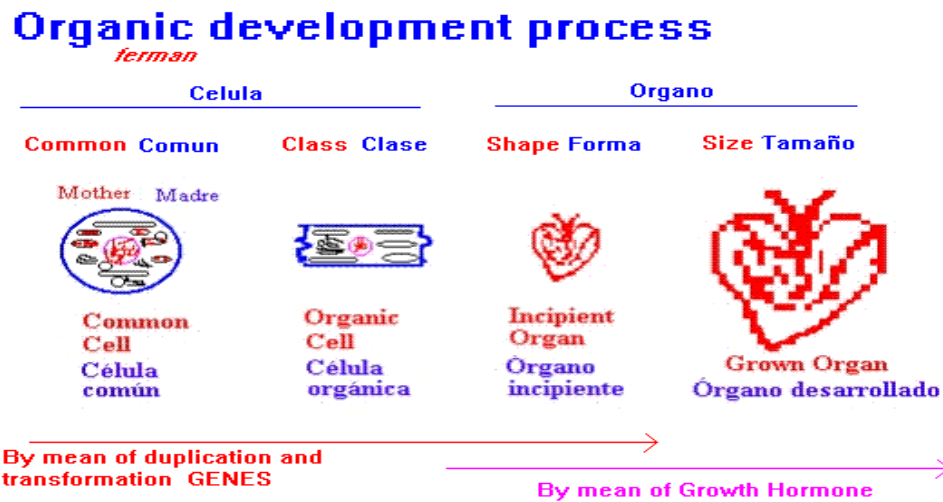


Fig. 4

The common cells or mother cells are the direct descendants of the fecundated ova, and in fact, they represent the warehouse or deposit of heritage consistent in the set of the cellular organelles, which have been developed through the times and taken inside the ova for their later development and specialization in each one of the specialist cells of each vital organ by means of the competent chromosomes for the structuring of each organ.

## Genetic Heritage Systems

Two parallel genetic Heritage Systems exist; the system of Genetic Heritage Organelles and the System of Chromosomes.

1.- The System of Genetic Heritage Organelles, which are content and configured inside the ova, and as we have said, it represent the warehouse of all the cellular organelles that have gone evolving through the times, being all they necessary for the construction and structuring of the different cells of the vital organs. These organelles that have been developed through time, also conserve and have the Molecular Mitosis Property, that is to say, all them have the property of growing and to be divided en two similar parts when they are induced to make by means of the appropriated inductors. Using an architecture simile, we could say that the System of Genetic Heritage Organelles represents the bricks and elements necessary for the alive being's construction.

2.- The System Chromosome that are constituted by all the chromosomes, so much paternal as maternal, are those in charge of directing the architecture and the alive being's assembly. In the previous architecture example, the System Chromosome would represent to the plans and guidelines to build the alive being.

## Pre-organic or Master Chromosome

We have seen that before beginning to be developed the organs of an alive being it is necessary previously the proliferation of common or mother cells so that later on, and starting from these common cells, each one of the being's organs can be developing.

Likewise we have pointed that the system or mechanism of proliferation of these first common cells is inscribed and carried out by the pre-organic or master chromosome (since it executes actions and organization technique and structural direction).

The pre-organic chromosome has this way diverse functions and performance behavior, of which we could highlight and to enumerate the following ones:

1.- The first one would be the one of making to proliferate or duplicate mother or common cells that contain all the genetic foundations necessary for beginning the alive being to develop.  
That is to say, these mother cells contain all the organelles that will be necessary for the creation of any type of cell for the new alive being.

2.- At the same time, the second that it makes is a work of basic structural chromosome, say, it goes defining the figure and the general alive being's factions to compose, such as general corporal form, members, etc. by means of to the duplication of cells mothers or common in the proportion and appropriate directions.

3.- Once that the fellow's general figure is conforming, the master or pre-organic chromosome begins to emit inductors or initiators IG (gene initiator for the organic chromosomes works) in the appropriate places of the already in creation body, so that, each one of the organic chromosomes begins to make its work consistent in creating and to develop its inscribed organ.

To revise the above-mentioned, we will give a simple and easy example, a tree.

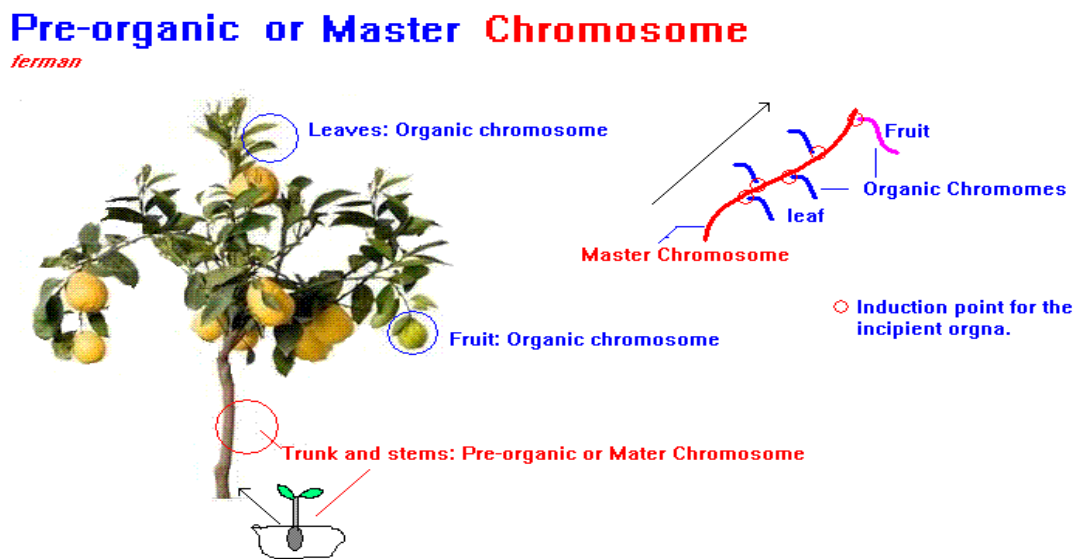


Fig. 5

A.- In the drawing we see as for the creation of a tree the first thing that takes place is the execution and emission of genes on the part of the pre-organic chromosome to go creating the initial form of tree, just as you can see in the incipient tree in the plant-pot.(Drawing)

As we know it is gotten with the emission on the part of the master chromosome of the necessary duplication and transformation genes for going constituting the initial figure of the tree.

B.- Subsequently and when the shape and form of the tiny tree has already been formed, the master or pre-organic chromosome emits a IG (initiation gene) in the adequate place on a leaf chromosome with object of beginning the proliferation and creation in this place of a leaf.

This leaf chromosome, when being allowed and incited for its performance by mean of the anterior IG, it begins to emit duplication and transformation genes until getting the first leaf of the tree.

Later and then, the emissions of inductors or genes IG would produce the proliferation of new leaves, and so forth. Always in the appropriate places that are specified by the master chromosome.

C.- Finally, when the emission of genes by the master chromosome arrives to its appropriate place, (place for creating a fruit) this chromosome will emit an induction gene IG specific for the fruit chromosome and this chromosome will begin to work and to produce its specific fruit.

And this way we can see as a tree can be developed with a main direction carry out by the master o pre-organic chromosome and seconded by the organic chromosomes for each organ of the tree.

Now well, in the same way but more complex and elaborated, it is as any animal or person is created and developed.

But the Pre-organic or Master Chromosome and several Organic Chromosomes (subject to the structure of this first master chromosome) in the animals and persons exist.

Of course apart from other differences; as for instance in animals the almost total cells of the master chromosome end up for converting in organic and specialized cells, and so, when any corporal member is loss of cut, this cannot be developed newly.

Now we could wonder. But in animals, which will the Master chromosome be?

Because to discover its situation and functional location maybe we will have to observe a simpler organism, as it can be the trees.

If we notice, in trees we have accepted that the Master or pre-organic chromosome is represented by the first stem, trunk and the posterior stems that are developed along the tree.

And these arboreal stems are in fact that drive inwardly the plant sap necessary for the tree; and outwardly they induce to the proliferation of leaves, fruits, etc.

Therefore, and in the same way, we should suppose that the animals have conserved the same system of genetic architecture than the trees, and for it, maybe the venous or circulatory system should be the one that have the responsibility of executing the actions characteristic of the Master chromosome, or vice versa, the Master chromosome executes the pre-organic and circulatory actions at the same time, that is to say, that creates the venous or circulatory systems inwardly; and outwardly to this circulatory streams it execute actions of duplication of mother cells, and the induction over the other chromosomes for the creation of organs.

### Genes of Duplication

We have seen that the transformation genes what makes is to go changing the successive litter of cellular reproductions to transform them into the appropriate organic cells for each organ and function of the body to create.

However each organ and function of the same one needs of many same or similar cells to be built and to be able to carry out its work appropriately.

In this case, the quantity of cells of each organ comes determined by the number of duplication genes that contains the being's chromosomes in question.

In this sense the quantity of genes that contains any organ, which is determined for the quantity of the duplication genes, also gives us characteristics very specific for each individual.

This way for example in an individual whose parents have very developed certain instinct or performance way, and for that, they need to have developed more quantity of specific neural cells for that instinct, because the children can also have therefore as inheritance a bigger quantity of that specific type of neurons, being this case more inclined to that way of paternal performance.

Then the genetic system of the duplication has very much influence in fitting out and setting of the actuation and individual conformation to any structural level.

### Mounting the puzzle of the life

To be able to explain the topic of the genetic architecture I will give an example, similar to the difficulty of the construction and architecture of a living organism with their enormous quantity of cells and organs all they appropriately distributed and organized.

This example can be the assembly of an enormous puzzle of great difficulty and similarity among its pieces. If somebody gives us a puzzle of great quantity and complicated pieces and we intend mount it, maybe we find a lot of difficulty in making it, and perhaps at the end, we are not able to get it.

However, if they gave us the pieces appropriately ordered in line, so we alone has to go putting a piece after another from below to up, then the puzzle would be mounted immediately and without any difficulty neither error.

Because well, in a similar method the genetic architecture to build the alive beings consist; in being an orderly series of genes and chromosomes that, when being emitted sequentially and in the appropriate order, they will go giving us the quantity, ordination and class of cells for the different organs of the body.

In the example, the line of orderly pieces would represent the chromosomes with its orderly genes. Therefore in that the chromosomes consist, in containing a sequential ordination of duplication genes which execute duplications of cells in their adequate place when they are liberated; and at the same time the emission of transformation genes go adapting each one of these cells to the necessary characteristics for the organs of the new being that is building.

Subsequently I expose a drawing that shows us the similarity between this model of genetic architecture and the method of programming of computers.

Subsequently I expose a drawing that shows us the similarity between this model of genetic architecture and the method of programming of computers.

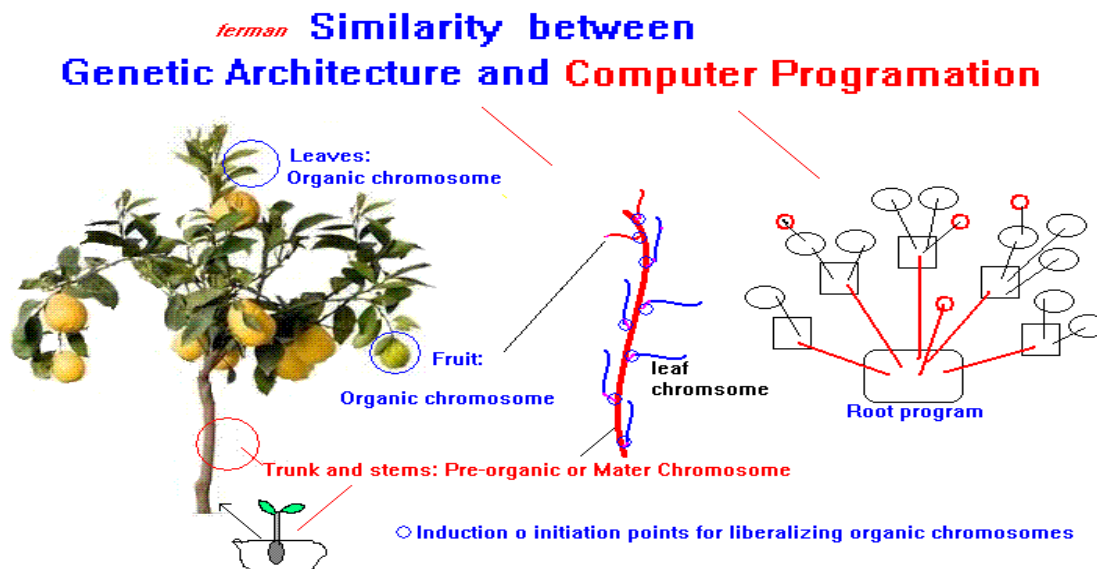


Fig. 6

### Control of proliferation

As we have seen, the system of structuring of the multi-cellular beings makes that all the cells and organelles are subjected to a blockade or proliferation control, say, so that an organelle and mainly a cell can be reproduced it is necessary of a key or inductor of growth that authorizes the duplication.

This is consequence of the necessity of maintaining a strict control on the dimensions, shape and functionality of the animal bodies.

And in fact, in that consists chromosomes and other induction systems for the duplication (maintenance inductors, hormone of growth, etc.), in being carriers of inductors packages for the proliferation of cells and cellular organelles.

The appropriate emission of these inductors is what conforms and maintain to the vital body in its structure and appropriate vitality.

### Summary and structural process

Summarizing and simplifying, in the first place we see that this model of genetic architecture contemplates two basic systems of genetic heritage: 1 and 2

1.- The system or set of cellular organelles (Genetic System of Cellular Organelles) that is formed by all the component organelles of the cells, which have been developed from the beginning of the development of the life.

These organelles conserve the property of the Molecular Mitosis that consists on the capacity of growing and to be subdivided each one of them in two similar organelles, those which in turn can go growing and being subdivided.

This genetic system is conserved and passed on by means of the ova, which is defined in this theory as Direct Ovulation Line.

2.- The system of chromosomes (Chromosomes System) that contains the structuring and distribution guidelines to which the cells are subjected in growth and development when a new being is created.

Two main classes of chromosomes exist, the Master or Pre-organic chromosome and the Organic chromosomes.

The Master chromosome is the one that begins the alive being's construction and the one that orders the performance to the organic chromosomes in the appropriate places to construct each one of the organs. So, the organic chromosomes are those in charge of building each one of the organs.

The chromosomes have two main types of genes: The genes or inductors of duplication and the genes of transformation.

The duplication genes, when being liberated by the chromosome, they induce to the cellular duplication. The transformation genes, when being liberated, they induce to the reproduction and transformation of organelles and cellular elements.

### Development Process of the genetic architecture

A. - After the fecundation, the Master chromosome last liberated for its performance and beginning of the new being's development to build.

This chromosome begins to execute duplications of mother cells and to build the being's initial form, probably beginning with the primary system of feeding, that is to say, for the circulatory system in its interior part, and for the proliferation of mother cells in the external part.

This way, this chromosome begins to develop the necessary feeding system (circulatory system) and at the same time, it goes developing enough mother cells in the appropriate position for later on to begin to develop each one of the organs.

B. - When the development of the embryo has already advanced a little, the Master chromosome begins to emit genes or inductors of initiation (IG) in the appropriate places, which liberalize to the organic chromosomes so that each one of them can execute and build its competent organ, always in the appropriate places and times.

These organic chromosomes emit their duplication and transformation genes on their managed cells; transform them from mother cells into specialist cells for the organ that they will build.

C. - Once the being to build has been developed, the growth hormone executes the necessary duplications to take the nascent body to its normal size as adult.

### Development, maintenance, aging and death of living beings

As we see this theory it doesn't contemplate the possibility that the system of chromosomes is the only one that acts on the heritage, and that system cannot build cellular organelles, but rather alone can distribute them appropriately in the cells according to the organ and function to make.

Therefore here it is contemplated an ancestral Genetics of Organelles and a Genetic of Chromosomes with capacity of emitting inductors to propitiate the organelles and cells proliferation and to conform this way the vital bodies.

### Control of proliferation

As we have seen, the system of structuring of the multi-cellular beings makes that all the cells and organelles are subjected to a blockade or proliferation control, say, so that an organelle and mainly a cell can be reproduced it is necessary of a key or inductor of growth that authorizes the duplication.

And in fact, in that consist chromosomes and other induction systems for the duplication (maintenance inductors, hormone of growth, etc.), in being carriers of inductors packages for the proliferation of cells and cellular organelles.

The appropriate emission of these inductors is what conforms and maintain to the vital body in its structure and appropriate vitality.

Following I include other notes on the genetic procedure as they are the phases of vital development and the aging of the multi-cellular beings.



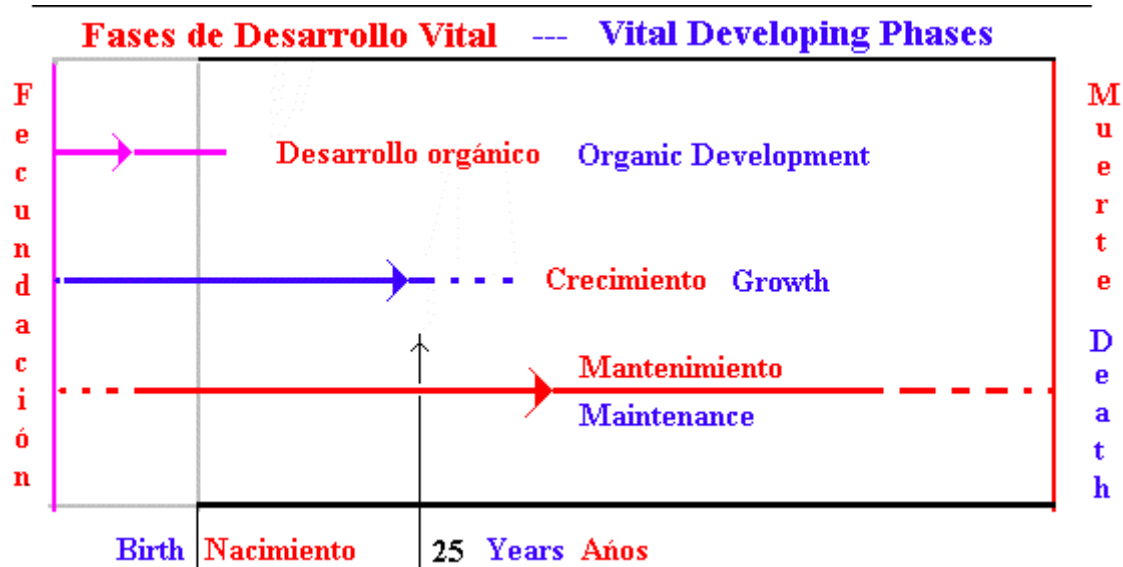


Fig. 7

Three development phases exist in the multi-cellular beings carried out each one of them for a chromosome type or inductor of reproduction.

--In the first phase or **Phase of Organic Development** each chromosome that represents an organ of the body that takes inscribed the transformation norms (genes), takes a development line, starting from a common cell coming from the fecundation and transforming it into the corresponding organ.

This phase would have two main stages:

A first stage (PRE-ORGANIC) of cellular divisions in which the common cells necessary so that each chromosome system begins its own line of organic development are produced.

A second and main stage (ORGANIC SPECIALIZATION) in the one each chromosome chooses its own development line, following it until being able to complete the assembly of its competent organ.

This phase finishes approximately to the birth.

--In the second phase or **Phase of Growth** the growth's hormone executes duplications of all the cells until getting the individual's normal size. This phase is on until the thirty years.

--In the third phase or **Phase of Maintenance** inducers (probably located them in the external membrane of the cells in union with the neighbors) induce to the reproduction of the cells every time that a neighbor dies and it is necessary another new cell to substitute it.

This phase is on until the being's death.

The lack or bad operation of these elements, mainly of the maintenance inducers, it is what causes the cancers and the precocious aging, as it is detailed and explains in the mentioned work.

-In cancers the maintenance inducers (or other) last free or united to the nuclei, producing cellular duplication continuously.

-In precocious aging, the lack of maintenance inducers or impossibility of being liberated correctly is the reason for that the cellular duplication can't be carry out. So in persons with this illness their maintenance phase doesn't work and they ages quickly.

### Aging and Death of the multi-cellular beings

The aging of the multi-cellular beings is in fact a "defect" of its condition of stable colony of organized cells, that is to say, aging exists to be an stable multi-cellular entity without capacity of indefinite growth when being paralyzed this growth when arriving to the maturity of the same one, conserving starting from then a quantity of cells perfectly defined.

This paralysis or detention in the development of the cells produce a functional paralysis of the same ones due to now they cannot follow their reproduction continually as they made it in the stage of growth, and this state prevents to eliminate the erosion and produced wear, which alone they could eliminate reproducing and transforming to bigger speed that the suffering wear, according to the following relative formula of organic vitality:

## Conceptual formula for the *Organic vitality*

$$\text{Organic vitality} = \frac{\text{Evolutionary or generative speed}}{\text{Erosion or degenerative speed}}$$

ferman

Fig. 8

This defect doesn't suffer the unicellular beings since when they are under conditions of reproducing, they do, and their reproduction speed and evolution is very bigger than the suffering erosion. On the other hand the cells in the multi-cellular beings alone can reproduce when a neighboring cell dies and they have to execute a duplication to occupy this vacant position, question that alone happens occasionally, being in this case their internal erosion much bigger than their evolution or reproduction. The death as it is logical takes place for an extreme aging that prevents the being to continue executing the necessary vital functions for their vital maintenance.

### Aging and Death

As for the anterior considerations, in the two first phases (organic and development phases), the generative speed is bigger than the erosion or degenerative speed, and then the vitality is positive. While in the third phase (maintenance) the erosion or degenerative speed is bigger than the evolutionary phase, producing successive aging of the cells and body, and ending up with the death of the being.

### EROSION

The biological erosion has its principle in the physical erosion of the molecules that compose the vital cells. Therefore it is not a genetic problem but a physical problem.

The molecular erosion is directly proportional to the number of atoms and molecules that compose the living fabric, mainly the genetic fabric. Therefore while more complicated it is this fabric more erosion possibility it has.

As we have said previously, when not having the cells of the multi-cellular beings continuous development and to be subjected to long periods of reproductive stagnation, this produces them a great erosion and genetic decomposition that is cumulative, finishing with the total aging and death of the multi-cellular.

### References

- 1.- Singer, Emily (4 February 2009). ["A Comeback for Lamarckian Evolution?"](#). [Technology Review](#).
- 2.- Blumberg, Roger B. ["Mendel's Paper in English"](#).
- 3.- Watson, J. D.; Crick, FH (1953). ["Molecular Structure of Nucleic Acids: A Structure for Deoxyribose Nucleic Acid"](#) (PDF).
- 4.- Miller, Jeffrey H.; Suzuki, David T.; Lewontin, Richard C.; Gelbart, eds. (2000). ["Mendel's experiments"](#)
- 5.- Alberts et al. (2002), [Chromosomal DNA and Its Packaging in the Chromatin Fiber](#)