
The gene of

Pierre Roubertoux*¹

¹INSERM U 910 Aix-Marseille Université (INSERM-AMU) – INSERM AMU – Marseille, France

Abstract

Pierre L. Roubertoux

Affiliation: Genetics and Neuroscience, INSERM U-910 Aix-Marseille Université

Title: The Gene of...

Abstract: During several years we believed it would be possible to draw up a list of diseases, morphological characteristics and behavioral traits linked to each gene. The publication of the genome sequences (Caenorhabditis elegans, Man, Mouse, Dog etc...) kindled the expectation. The post genome area demonstrated that the attempt was not vain. Links between genes and phenotypes, including behavioral phenotypes, do exist but they are more complex than previously thought. The relationships between genotype and brain and between brain and behavior are not linear and consequently, genomic, brain and behavioral levels of organization are not isomorphic. Passing from the DNA that is the most elementary level of the biological organization, to the amino-acids level, to the neuronal level and then to the behavioral level increases the quantity of information but it reduces concurrently the capability to predict the upper level from a lower level. Pleiotropy, epistasis, alternative splicing, interactions between genes and the environments or neuronal integration contribute to the dilution of the genetic causality.

*Speaker