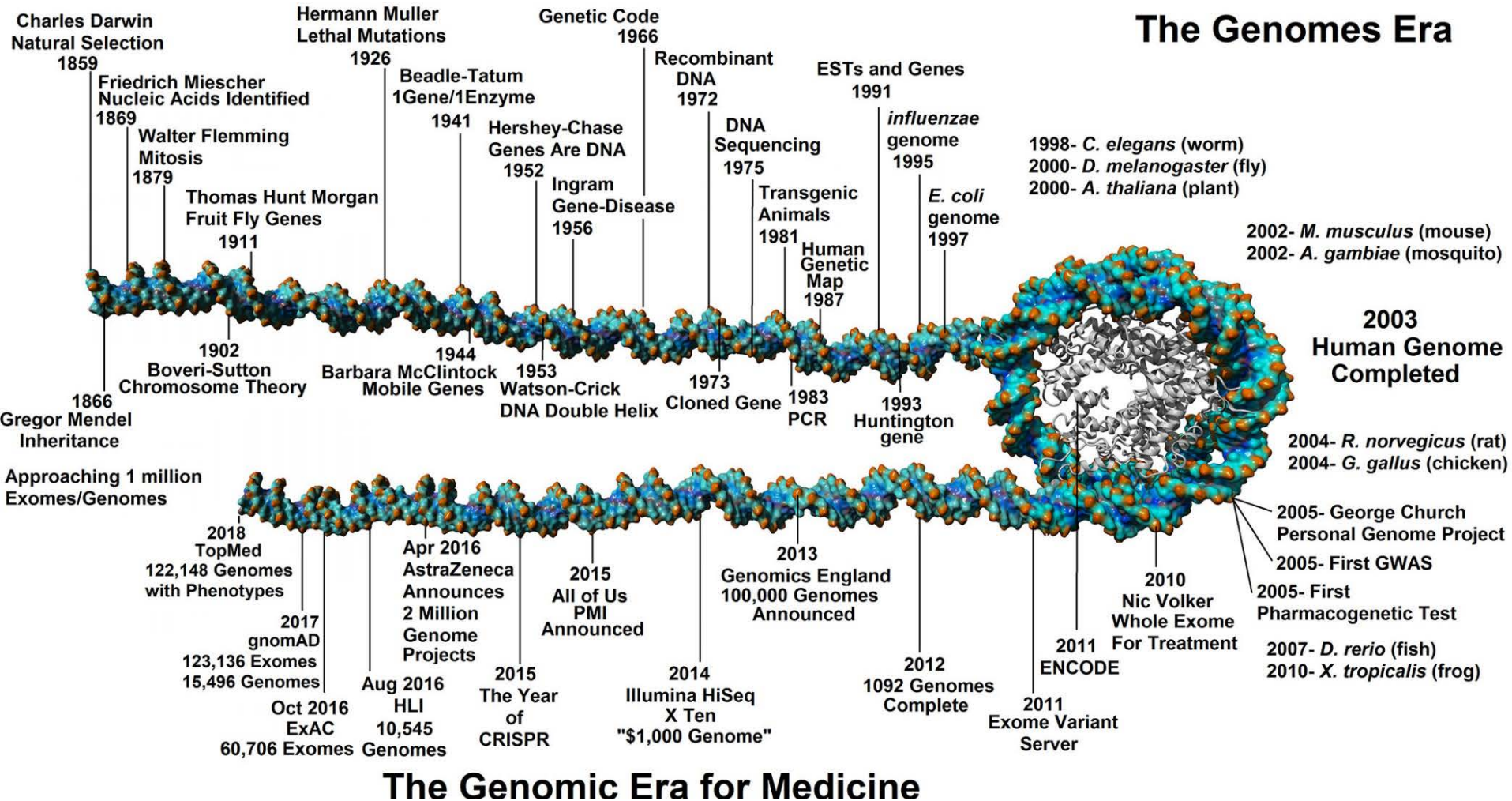
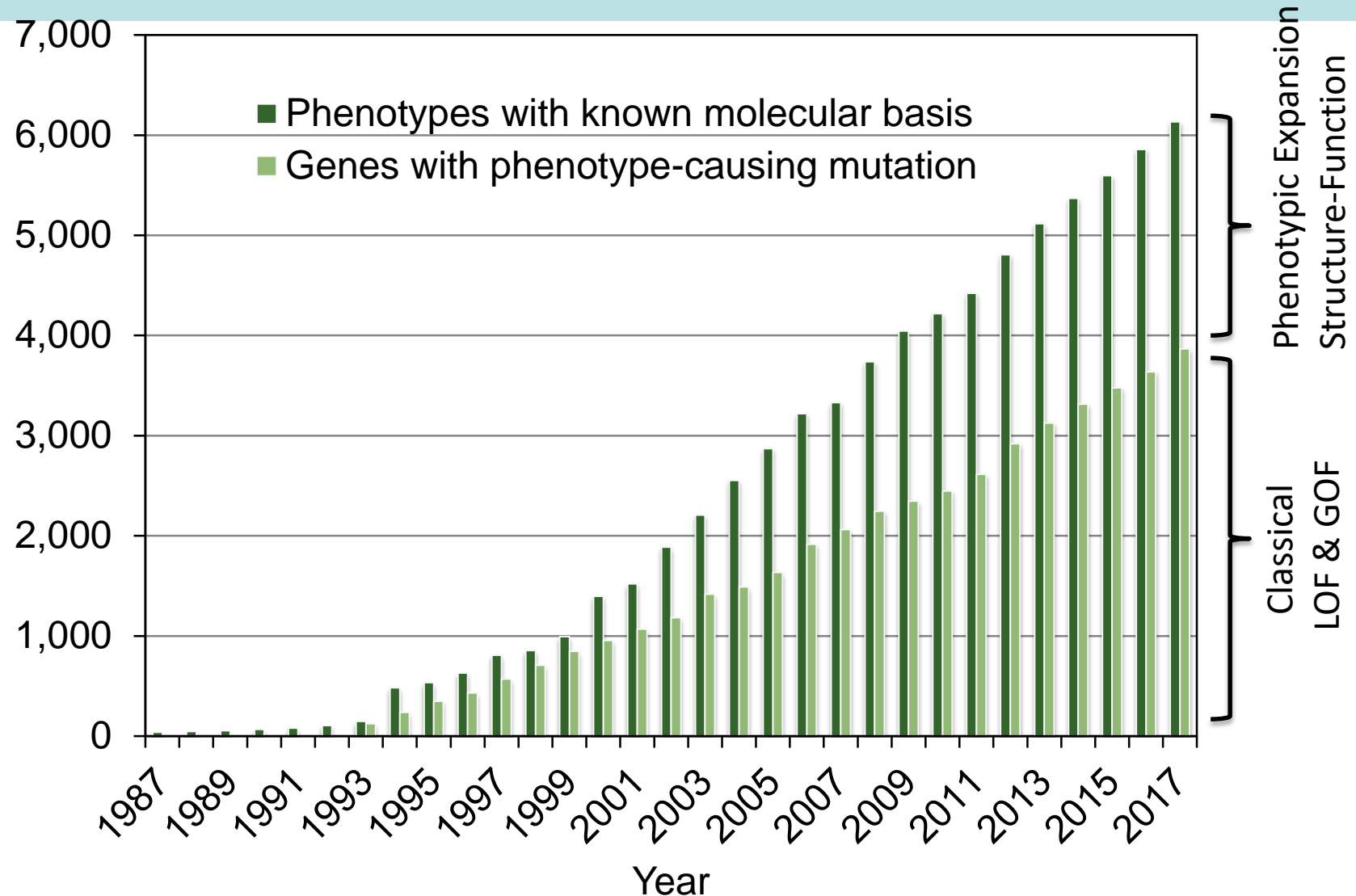


DNA to Genes to Genomes



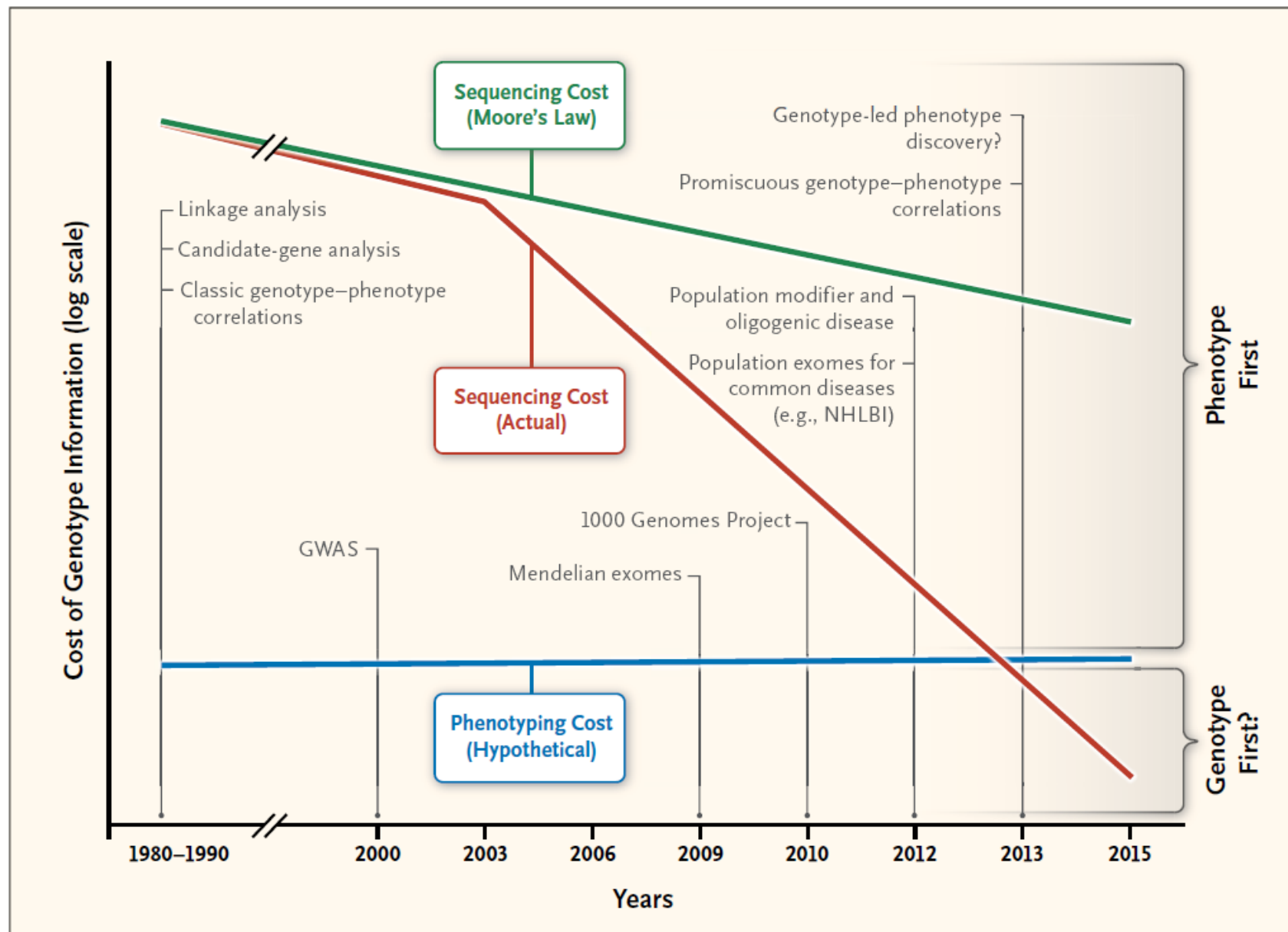
Growth of Gene-Phenotype Relationships

29 December 2017



Source: Ada Hamosh, Online *Mendelian Inheritance in Man*

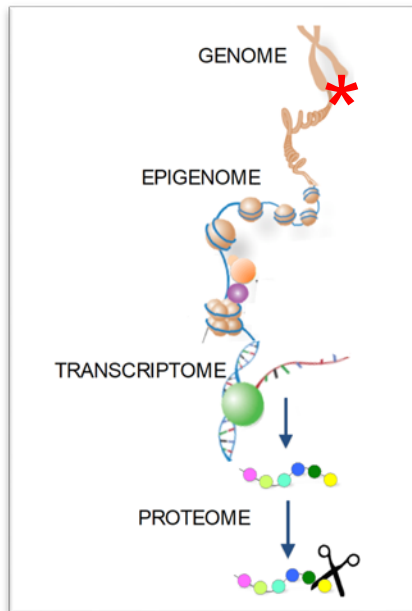
The cost of understanding genetic disease: From Phenotype to Genotype and Back to Phenotype



Genes, Genomes and Genetic Variation



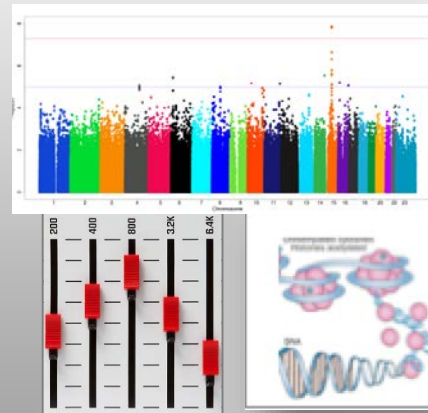
Phenotype



Monogenic Diseases
Christodoulou

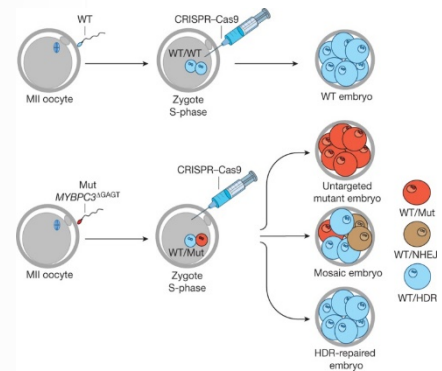
Genotype.

Genetic Variation
Complex Disorders
Sham



Future prospects:
Correcting pathogenic
mutations?

Carroll



H Ma *et al.* *Nature* 1–7 (2017)