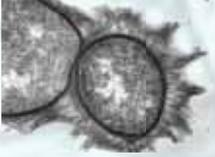


# HORIZONTAL GENE TRANSFER: FAST AND FURIOUS EVOLUTION

Although, random mutations during vertical gene transfer are a profound denominator of evolution by natural selection. At times the **Pace of Evolution** is accelerated by **Horizontal Gene Transfer**

## Virulence Factors

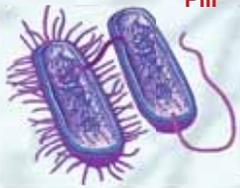
Bacterial Capsule



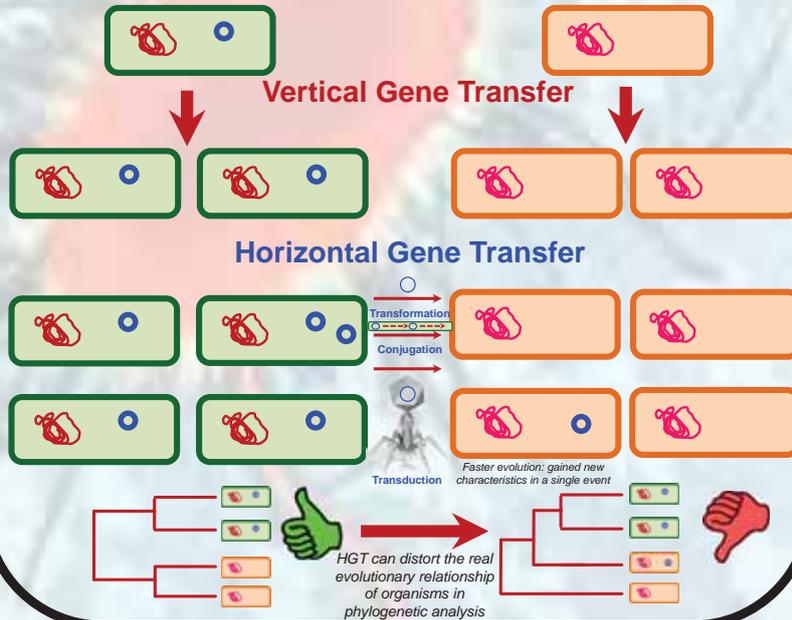
Hemolysins



Pili



## Gene Transfer: Types and Forms



## Antibiotic Resistance



Tetracycline resistance

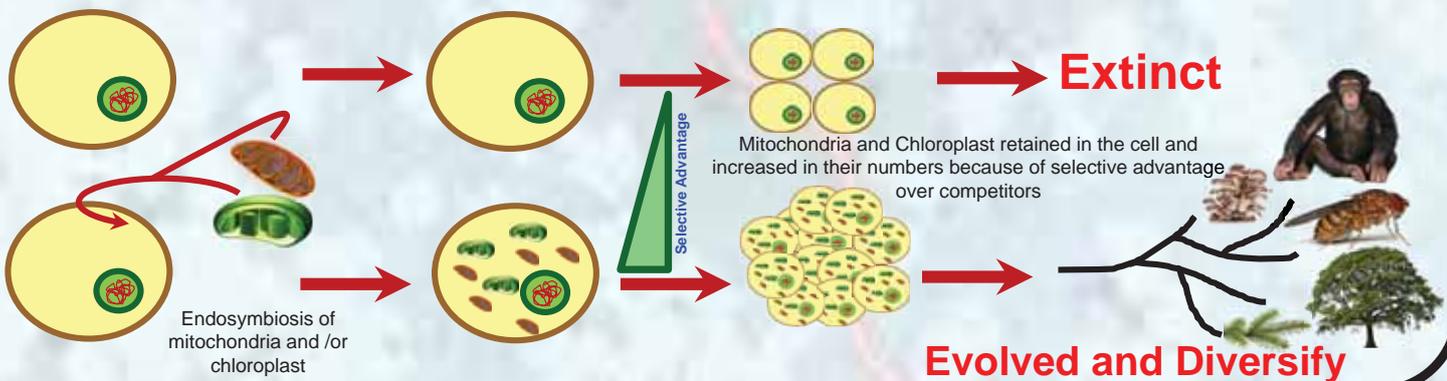


Methicillin resistance

Vancomycin resistance

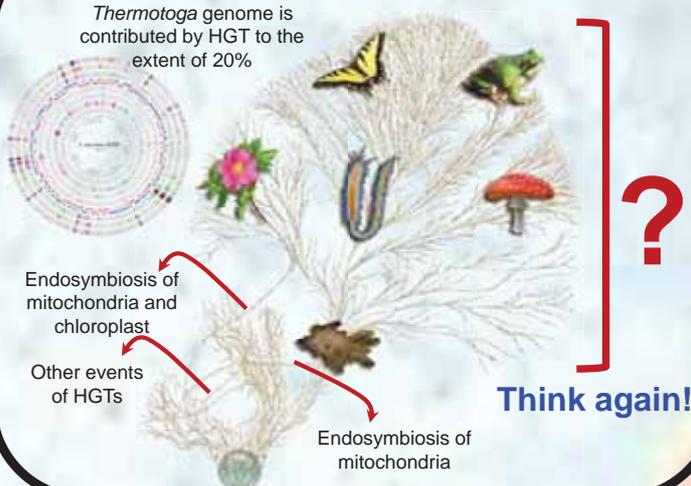


## HGT Contributes in the Origin of Eukaryotes

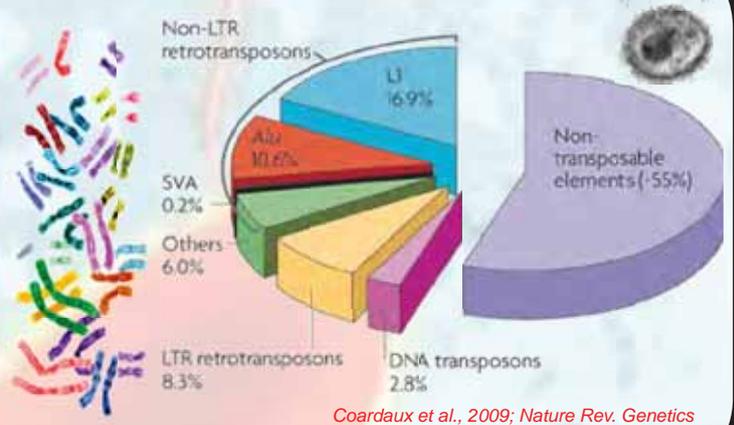


## HGT and Tree of Life

*Thermotoga* genome is contributed by HGT to the extent of 20%



## HGT and Human Genome



After all, we are not so unique both vertically and horizontally!

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