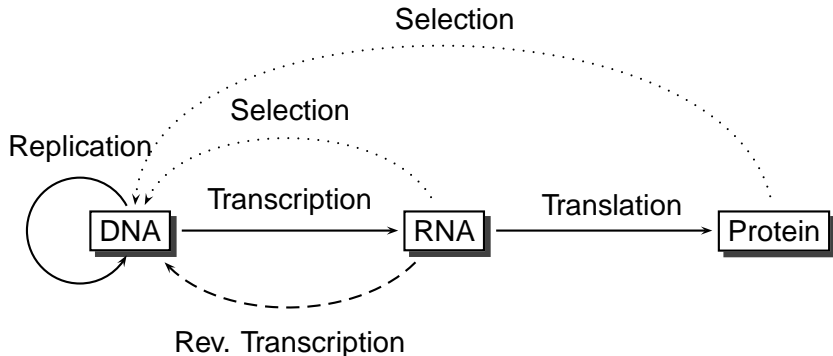*Introduction to Computational Biology; An Evolutionary Approach*: Introduction

Bernhard Haubold & Thomas Wiehe
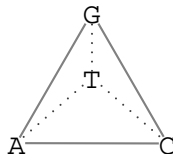
Tree of Life
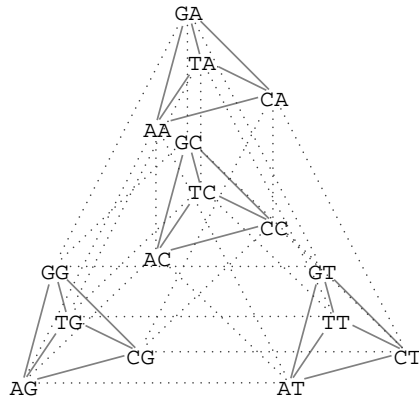
Extended Central Dogma
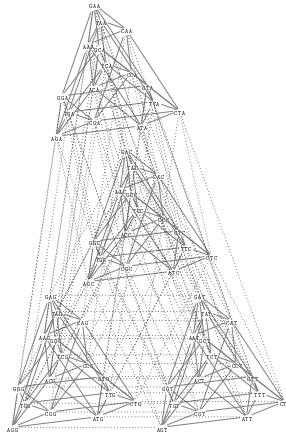
3-Dimensional DNA Sequence Space

6-Dimensional DNA Sequence Space

9-Dimensional DNA Sequence Space

Condition for Evolution by Natural Selection

$$df \geq 1$$

- $d = (|\mathcal{A}| - 1)l$: dimensionality of sequence space
  - $|\mathcal{A}|$: size of Alphabet (4 for nucleotide, 20 for protein)
  - l: length of sequence
- f: fraction of functional one-mutation neighbors