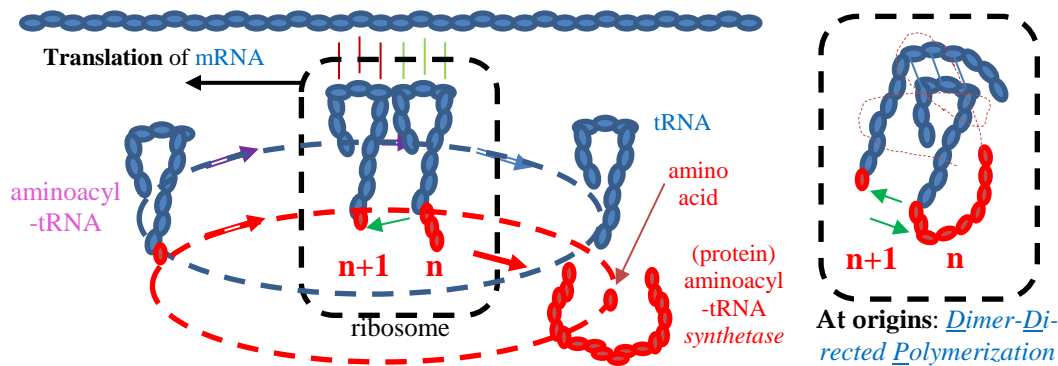# The Logic that Emerges from the Self-Referential Genetic Code

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The self-referential model **doi:10.20944/preprints201703.0031.v2** for the formation of the genetic code (in the biochemistry realm) utilizes a logic that mimics the quantum mechanics rationale: the classic realm is generated by processes of decoherence, which disrupt the coherent states that occur in the quantum realm. Another mimicry is the utilization of the pathway 'from disorder to order' in both realms **Quantum Biosystems 2015 6(1):148-159**. I wonder what this coincidence means. Does it suggest mutual theoretical support? Would it mean that our mind is constrained (biased?) to produce similar models for diverse realms of reality? The repetition / similarity in the different realms is reminiscent of the apparent circularity in the adaptive / evolutionary mechanisms and explanations. Adaptation promotes mutual adjustment between the interactants: organisms (in) / environments (out) or genetic memories / proteins. (1) The logic of the living is the metabolic flow that is embedded in the universal and geochemical flows. (2) **At the origins** of the genetic code, there is (proto)tRNA Dimer-Directed Polymerization. The flow is slow because syntheses are bi-directional. Dimers are proto-ribosomes: structures that hold tRNAs together and propitiate the transferase reaction. (proto)tRNAs are complementary-equivalent, superposed, coherent; an anticodon is at the same time codon for the other. Products grow at both (proto)tRNAs. (3) Peptide products that are capable of (proto)tRNA binding and stabilization, without disrupting their activities, establish a self-referential self-stimulatory nucleoprotein production system, at the birth of cells. (4) Decoherence. Separation of the members of dimers was provoked by intromission of the mRNA strings, which may have originated from enchaining of segments of the (proto)tRNAs. (5) **At translation** (better, transliteration). *Ribosome-Directed Polymerization* is directional and the flow is fast. Genetic strings (mRNA) are scanned by laterally associated couples (instead of dimers) of tRNAs that enchain the carried amino acids into proteins. The *synthetase binds* the components together. Elipses indicate recycling of the synthetase substrates, tRNAs and amino acids.