

# Ideas – January 6, 2016

*EG*

[Home \(edit\)](#)

[Self \(edit\)](#)

## Contents

1	General . . . . .	1
2	Prebiotic polymerization . . . . .	1
2.1	From literature . . . . .	1
2.2	Home-grown . . . . .	2
3	Replicator origination, complexity growth, evolvability . . . . .	2

## 1 General

- [Compartmentalization \(edit\)](#) [no file](#) Is compartmentalization necessary or not?
- [Prebiotic Soup \(edit\)](#): life originated from prebiotic soup.
- [Autocatalysis \(edit\)](#): Autocatalysis and autocatalytic sets played important role in the origin of life
- [Metabolism first approach \(edit\)](#)
- [Bootstrapping problem \(edit\)](#)

## 2 Prebiotic polymerization

### 2.1 From literature

- [RNA-world idea \(edit\)](#)
- [Peptides could form prebiotically \(edit\)](#) [no file](#)
- [Amino acids could be formed prebiotically \(edit\)](#) [no file](#)
- [Nucleotides could be synthesized prebiotically \(edit\)](#)

## 2.2 Home-grown

- HP-world idea (edit): Catalysis based on hydrophobic interaction can give a rise to an efficient autocatalytic loop.
- Short sequences can have stable structure (edit) **no file**: HP-world (edit) hypothesis heavily relies on assumption that relatively short sequences can have stable structure and perform function. Supporting literature is here.

## 3 Replicator origination, complexity growth, evolvability

- Two polymers idea (edit) In order to start life one need two distinct types of polymers: informational and functional
- Bootstrapping problem (edit)
- Fragility problem. For example von Neumann's CA replicator is very fragile and isn't an actual solution for complexity growth problem, just conceptual. Any solution can have the same problem.
- World Modeling
- Movement First
- Antifragility