SBI4U Assignment: Current Views on Origins of Biomolecules & Life

Your goal: To demonstrate your understanding of origins theories

Your task: Find an article that deals with the topic of life's origins. It may deal with the rise of the first cells, conditions on ancient earth, or how the first biomolecules may have formed. Read the article, then compose a written review. Your review should:

- **Summarize** the article's main ideas and findings briefly
- **Identify** key ideas or key points that you think are most important, and which relate to the origins theories as we discussed them in class
- **Connect** these ideas to the main concepts on origins (i.e. early Earth's atmosphere, the oceans, sources of energy, Oparin, Miller, tidal pools, volcanic vents, glaciers, geology, symbiotic & autogenous cell origins)
- **Evaluate** the positions taken in the article, with your own opinions backed by what you've learned in this unit

Research: Online databases and Scientific publications are numerous. You can access scholarly articles from scientific journals, or articles from the popular press, such as National Geographic, Scientific American, Discover, etc. Helpful Links have been provided on your course website.

Keywords: origins of life, origins of cells, origins of biomolecules, abiogenesis, theories on the origins of life

Format: Your review should be no longer than two pages, plus a page with a bibliography. Ensure that you cite your source in proper bibliographic format; this can be done easily using sites such as **Cite 4 Me** or **Easy Bib**. Links to both of these are on the course site homepage (scroll down!). Ensure that you include citations within the text for any direct quotes, data, or other information taken from an article. You can do this in any format you prefer - footnotes, endnotes, or ***parenthetical referencing***. The latter is the preferred format in science. When you cite a quote or fact, simply put the source author and year in brackets, right after. For example:

> The article points out that the scenario for biomolecules accumulating in ice is not far fetched. Researcher John Priscu has revived bacteria trapped in ice cores for 420,000 years in his laboratory. Another researcher sees the ice as a "storehouse for genes", a way of recycling genomes over vast periods of time. *(Katz, 2012)*
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> Many researchers have demonstrated the ability of biomolecules to form from simpler organic molecules in the lab. What all of their attempts seem to have in common is cohesion - the ability of molecules to stick to others, to surfaces, or even to cell membranes *(Bates, 2019)*. One research group used aqueous solutions of formic acid, cyanamide, and even ethylene glycol to create glycerol, the backbone of lipids, and simple nucleotides, like those found in DNA *(Fiore, 2019)*.

Evaluation:

Source (2)	**Content (5)**	**Accuracy (10)**	**Format (3)**
Article being reviewed is current and topical.	Review addresses the article directly, clearly & appropriately.	Review demonstrates a good understanding of the topic, makes good connections.	Good spelling and grammar, bibliography and citations included