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SETI I - Technical Aspects (1.)

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## THE EVOLUTIONARY EPIC AS AN INTEGRATIVE THEME FOR INTERSTELLAR MESSAGE COMPOSITION

### Abstract

Even before the first SETI project was conducted, scientists have pondered what we might say if some day we discover an extraterrestrial civilization. Some have suggested that the United Nations would be the international body of choice for deciding such a question, and indeed, that would seem one appropriate starting point. But there is another natural alternative, a group whose discussions over the past decades already puts it in a position to recommend a coherent, consistent message that reflects broad-based consensus: the international scientific community.

To be clear, a solely scientific account of ourselves would not capture the depth and breath of the human experience. But a reply message representing contemporary society would surely include some of our scientific accounts of the world and ourselves, and perhaps the most all-encompassing such account is the one provided by evolution.

The view that the cosmos is in flux is an ancient one. Contemporary scientific understandings of evolution are multifaceted, aimed at explaining multiple transitions and developments. How did heavy atoms originate from lighter ones? How did life arise from inert matter? How did consciousness and culture evolve from the biological world?

The mechanisms of evolution are many and varied, and our own messages to other worlds might start by describing them, and in the process, describing ourselves. We humans bear witness to the process of evolution in the very construction of our bodies. The calcium that gives solidity to our bones, the iron that lets our blood bear oxygen to our brains, the sodium and potassium that make possible the transmission of impulses along our nerves, all of these elements were formed inside a star that had its own birth and life and death, spewing its remains outward in a supernova explosion billions of years ago.

Such an initial reply might tell ETI that we too recognize our origins in the early universe when hydrogen and helium were created; that we breathe the oxygen first released from Earth's oceans some two billion years ago; that our bodies have the strength and structure that let our forebears move from the buoyant protection of these same oceans to inhabit the land, to develop the cultures and technologies that allow us to make contact with beings on distant worlds.

We would, of course, say much more in messages to follow. But as we ponder our first reply, it would be fitting if it reflected some of the very processes of the universe in which we humans arose.