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## WE MUST STOP THE WARMING

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By **LESLIE GRADY JR.**



Astronaut Neil Armstrong's death caused me to reflect on several things. Of course, one was the Apollo program and its awesome accomplishments, not least the photograph of Earth in all its magnificence suspended in space. While stunningly beautiful, that photograph reminds us of Earth's isolation and frailty, as well as our responsibility to care for it.

Because of Armstrong's connection to Purdue University, I was reminded of my service on the Science Advisory Committee for a NASA Center there. The center's mission was to conduct research for development of a self-sufficient human lunar and Martian habitat. One lesson I learned was the difficulty in balancing a closed ecosystem that can be maintained for long periods. I think about that whenever I look at images of Earth and consider our continued emissions of carbon dioxide and other greenhouse gases. It frightens me.

The first experiments on the role and impacts of CO2 in the atmosphere are attributed to John Tyndall, a British scientist, in 1859. Since then, the subject has received much attention. Today, scientists recognize that CO2 acts like Earth's thermostat by influencing the amount of water vapor, the most plentiful greenhouse gas, in the atmosphere. For hundreds of thousands of years Earth's CO2 level fluctuated between 180 parts per million during ice ages and 280 ppm during interglacial periods, such as the Earth has been in for the past 10,000 years. Since the start of the industrial revolution, however, humans have steadily increased the level of CO2 in the atmosphere through the burning of fossil fuels, until today it stands at over 390 ppm and is rising. As a result, Earth's average temperature has been increasing, causing changes in our climate. Indeed, some climate scientists now refer to the effects of rising CO2 levels as climate destabilization, noting that the term "climate change" is too benign.

Although some deny the role of CO2 in regulating Earth's temperature, the evidence is conclusive. In fact, Raymond T. Pierrehumbert, a climate scientist at the University of Chicago, has stated that for any other explanation of global warming to be true, all that we know about thermodynamics, infrared absorption, energy balances, and temperature would have to go away. The science is clear. We must accept as fact our role in causing climate change through the burning of fossil fuels. This truth is one factor that compels me to speak out.

If I were a misanthrope, I could perhaps accept the science of climate change without feeling compelled to speak, thinking that humankind would reap what it had sown. But I am not a misanthrope. My belief is expressed well in a Unitarian Universalist hymn by Bruce Findlow, "For all that is our life we sing our thanks and praise; for all life is a gift which we are called to use to build the common good and make our own days glad." Although the consequences of climate change are uncertain, all that I have read causes me to conclude that they are more likely to be bad than good. Furthermore, the negative consequences will fall disproportionately upon those least responsible for the cause. How can anyone come to that realization without being called to speak out and to work for change?

Regardless of your political persuasion, I call upon you to demand that our elected officials take climate change seriously. No individual or political party has all of the answers about reducing the use of fossil fuels. The problem is complex. Only when all minds are brought to bear upon the problem will solutions be found. Inaction is not an option. Each passing day with business as usual makes the problem even more difficult and expensive to solve. We must act now.

*Mr. Grady lives in Harrisonburg and is on the Steering Committee of the Climate Action Alliance of the Valley.*

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