

## INTRODUCTION

Cosmologists can trace the beginning of the 13.8-billion-year-old universe back to 10-43 seconds after the Big Bang, a time they call the Planck epoch. When pressed as to what existed before this time, they say "nothing existed – no matter, no time, nothing." Nothing.

Meanwhile, quantum physicists have theorized and demonstrated experimentally that a vacuum - the very poster child of nothingness - can give rise to matter and energy. A vacuum has been explained as a reclusive condensate of matter and antimatter which, when provoked just right, reveals its constituent parts. Voila: something from nothing. Or perhaps we should say: nothing as something.

Our human lives are vanishingly transient things in the context of 14 billion years. In a mere century the most long-lived among us are born, grow up, grow old, and die. From dust to dust as the Hebrew

Bible says. Or from star-stuff to star-stuff, to paraphrase Carl Sagan. The duration of a "long" human lifetime is less than a rounding error of a rounding error of a rounding error in cosmologic calculations.

In facing mortality - my own, my loved ones', or my patients' -Ifind comfort in the notion that whatever death holds, it involves some kind of reconnection with the "Nothing" that gave rise to the entire universe. That nothing, it turns out, is a fertile and overflowing source. This is, of course, beyond my mathematical understanding, but it is not beyond my imagination. So, yes, thanks for nothing after all. SDP

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## THANKS FOR NOTHING, AFTER ALL

The world emerged from Nothing's darkness In times too distant to recall When something rose in that black starkness Thanks for Nothing, after all

Nothing lay in peace and quiet Devoid of movements, large or small The cosmos surged with form and riot Thanks for Nothing after all

In that first eveblink of creation From quark to interstellar sprawl Nothing burst to wild gyration Thanks for Nothing after all

I lay my pen upon this table Whose atoms help prevent its fall But Nothing made those atoms able Thanks for Nothing after all

Pulling on the string of being Is it attached to some strong wall? But Nothing's there and that is freeing Thanks for Nothing after all.