



From the Pulpit: June 16, 2024

Eleventh Sunday in Ordinary Time—Father's Day

The Reverend Dr. Katie Snipes Lancaster

Psalm 121; Isaiah 40

God After... IV: God after Smith and Hutton

On this Father's Day whether it is while golfing, or grilling, or flyfishing, boating, or just from the comfort of an easy chair, I hope that this work of tying science and faith together might be grounding for you to have your feet planted on the earth. Having your feet planted is of course important today because we are talking about geology. Smith and Hutton are considered the fathers of modern geology, appropriate for Father's Day. They help us keep our feet planted and in fact to consider what might be going on underneath the surface of the earth.

From Psalm 121

*I lift up my eyes to the mountains—
where does my help come from?*

*My help comes from the Lord,
the Maker of heaven and earth.*

From Isaiah 40

*In the wilderness prepare
the way for the Lord
make straight in the desert
a highway for our God.*

*Every valley shall be raised up,
every mountain and hill made low;
the rough ground shall become level,
the rugged places a plain.*

*And the glory of the Lord will be revealed,
and all people will see it together.*

Our understanding of the world and thus our understanding of God, is influenced by the world around us and thus by the way we understand the world. When we look to the stars, what do we see?

When we look to the mountain, what story unfolds? There is a sense that scientists from centuries ago still speak to us in story, just as the ancient theologians do. Bill, Christine and I wanted to unpack that this summer: our summer sermon series on the intersection of science and faith is inspired by John Haught's books *God after Darwin* and *God after Einstein*. Today we think about God after Smith and Hutton—the fathers of modern geology.

*“All other rock
formations
were made all
at once by God
on October 23,
4004 B.C.”*

I fell in love with geology at Ghost Ranch, but that's not hard to do. You would too. Just like you did when you visited the Grand Canyon or drove up to Mt. Rainier or skied the Alps. To fall in love with geology is to fall in love with the earth. It is to pay attention. To look. To wonder. To discover. To see. In *The Brothers Karamazov*, Dostoevsky writes, “love all God's creation, the whole and every grain of sand in it.”¹ And geologically speaking, every grain of sand has its own story to tell. Just as theology is the Theo+Logos of God, a kind of God-talk so too is geology the Geo+Logos of the earth, a speech-of-the-earth, told layer by layer, epoch by epoch.

¹Dostoevsky, Fyodor. *The Brothers Karamazov*. Translated by Richard Pevear and Larissa Volokhonsky. New York: Farrar, Straus and Giroux, 1990.

Look at Ghost Ranch, and the story unfolds immediately. The earth speaks. The sand tells a tale. The white, yellow, and orange layers of rock are ancient sand dunes, now frozen in time. Hike up to the edge of that ancient sand dune, and you can feel the textured sand, see the windblown surface as it was 165 million years ago. In geological terms, 165 million years is still fairly young, considering geological time as we know it today goes back 4.6 billion years. It is practically impossible to conceptualize 4.6 billion years. Richard Forte, former President of the Geological Society says that the human species is but “a grace note in the long symphony of existence.”² Or as John Haught points out, the history of the globe was to be distributed evenly into thirty volumes, the human race only appears in the last book, on the last page, in the last paragraph.³ “What are human beings that you are mindful of them?” says the Psalmist.⁴ Indeed.

But we have not always thought this way about time. This incomprehensible time scale on the level of billions of years was not the norm, far from it. There was a time when scholars believed that the earth was 6,000 years old. In fact scholar and head of the Irish church, James Ussher (not that Usher, this Ussher) declared that the world began on October 23, 4004 B.C. I love this. It is so precise. It is so certain. October 23, 4004 B.C. And it’s not like James Ussher pulled this number out of a hat. He was part of a community of scholars researching this question of origins, of beginnings, of the history of the earth, wondering when it all began. He followed the best scholarship of his day, reading across disciplines, searching ancient documents, and supported by a community of scholars. It wasn’t magical thinking. It was academic wisdom.

²Forte, Richard. “Lyell and Deep Time.” *The Geoscientist* 21, no. 9 (October 2011).

³Haught, John F. *God after Einstein*. New York: Crossroad, 2022.

⁴Psalm 8

By the 1700s, Ussher’s dating of ancient days was not just accepted as the norm, but printed in the margin of King James Bibles distributed worldwide (Up until the 1980s when the King James Bible was reissued as in the form of the New King James Bible, the Gideons were distributing to hospitals and hotels a version of the King James Bible that included in the margins this date of 4004 B.C. You might have a copy at home. And you may know someone who is still influenced by this chronology. My friend Bonnie in college, otherwise academically adventurous, had her feet firmly planted in Ussher’s timeline from 1650).⁵

“Hutton ... observing that these layers of earth made it clear that the earth ‘immeasurably ancient’”

Scientists at the time, then, in the 1700s, had no other way to imagine the world than from the perspective of an earth that began in 4004 B.C. Anyone trained at Oxford or Cambridge for example, would have been trained in chemistry or biology by men who were ordained clergy, and some 2/3 of students would have been planning to take up holy orders upon graduation. There was not a realm of science and a realm of religion. Scientists were people of faith, and in the realm of natural history, a kind of proto-geology, the scientific method was used to research Noah’s flood, searching the fossil record and

collecting specimens. Noah’s flood was a normative and singular event, scientifically speaking. The accepted idea at the time was that fossils were remnants of creatures killed in the deluge, a deluge that covered the entire planet. All other rock formations were made all at once by God on October 23, 4004 B.C.

Here enters James Hutton. Born in 1726, Hutton spent his early years as a perpetual student, a little adrift, first studying medicine and then chemistry in Edinburgh, Paris, and Holland, only to return home to run his family farm. Advances in farming equipment and ideas like crop rotation and selective breeding made for a kind of agricultural revolution, so his extensive knowledge went a long way; but it was walking the land that turned him to geology.

⁵Gideons International. “History of The Gideons International.” Accessed June 15, 2024. <http://bibles.wikitod.com/gideons>.

Hutton watched the way water slowly eroded the landscape of his farms, taking soil and sediment from one place to another. He observed the slope of the stones, the angles, the repetition, the predictability. And finally in 1788, taking with him two scholars, one older and one younger, he went out in a boat searching the Scottish coastline for a place where the layers of the earth could tell a greater story, for a place where the drama of creation might unfold anew.

He had an inkling that the rock formations he was seeing on his farm and surrounding land took much longer than 6,000 years to form, but it wasn't until he set sail along the coast that he found it. Anchoring his boat, they got out and walked onto the land, up the rocky earth, to what is called Siccar Point, now a kind of pilgrimage point for geologists. The gray sandstone, we now understand, is some 425 million years old, and it collided with the tectonic plates, making it buckle and slant, then it was eroded by water, after which another red layer of sandstone was deposited on top of it, and then the whole thing was lifted upward again by the movement of plate tectonics. Of course in 1788, Hutton was simply observing that these layers of earth made it clear that, as he put it, the earth was "immeasurably ancient" and "indefinitely old." Hutton's friend Playfair (a mathematician, budding geologist and Church of Scotland Minister) who was with him at the time said, "The mind seemed to grow giddy by looking so far into the abyss of time." In that moment, Siccar Point became for them a kind of sacred ground. From there, Hutton said, the earth has "no vestige of a beginning and no prospect of an end." The timescale was so huge, it was for him, beyond comprehension. Infinite. Boundless.⁶

James Hutton's observations were not immediately taken up by the scientific world. Ideas like this never are. Several decades go by, and a canal builder, William Smith, synthesizes Hutton's work into a geologic map, and modern geology is born. William Smith, unlike Hutton, did not come from a wealthy family and Smith's father

⁶Repcheck, Jack *The Man Who Found Time: James Hutton and the Discovery of Earth's Antiquity*. New York: Perseus Books, 2003.

died when he was seven. He found himself working for the canal building industry—traveling some 6,000 miles via canal around the whole of England—in his work as the Somerset Coal Canal surveyor. Day after day, canal after canal, Smith saw the earth cut into like a birthday cake, revealing the layers such that after some time, Smith began to predict, with frightening accuracy, exactly what layer would come next, and he began building a map of the earth—not just what was on top of the earth, but

what was underneath. In addition to a map of England from above, showing what kind of rocks layers were found in various locations, he published these side views, as if cutting through the entire earth from Snowdon to London.⁷

What happens when you see the earth, not as a univocal creation, created all at once but instead as forming over a timescale we can hardly comprehend? For one it opens up the timescale so that Darwin can begin to imagine the possibilities of species developing over an infinitely broad timescale. But there's something more about this geological breaking open of time—toward what is called Deep Time—that makes Hutton and then Smith lifelong though often unnoticed partners in our

understanding of the very foundations of the world. And it makes me wonder if in part, the ancient prophet Isaiah saw a kind of Deep Time, a geologic process unfolding such that, "Every valley shall be raised up, every mountain and hill made low; the rough ground level, the rugged places a plain."⁸ Geologists too like Isaiah, see valleys raised up to mountains by earthquake and tectonic plate, and rough ground made plain by the weathering of wind and water. There is they say, "a sermon in stone." Or as Jesus says "even the stones cry out."⁹

"Smith began to predict, with frightening accuracy, exactly what layer would come next"

⁷Winchester, Simon. *The Map That Changed the World: William Smith and the Birth of Modern Geology*. New York: Harper Collins, 2001.

⁸Isaiah 40

⁹Luke 19:40

—Prayers of the People—
The Reverend Dr. William A. Evertsberg

Growing up in a world shaped by Hutton and Smith's ideas has contributed to my spiritual formation in ways I can hardly begin to unpack. Maybe that's true for you, too? Theologian and scientist Thomas Berry puts it this way, "The divine communicates to us primarily through the language of the natural world. Not to hear the natural world is not to hear the divine."¹⁰ I had a visceral reaction to Mt. Rainier when I visited in high school, this ancient mountain rising high above me such that my voice instinctively sang Psalm 121, "I lift my eyes up to the mountains where does my help come from?" Mt. Rainier, it turns out, is only 500 thousand years old: relatively young, and yet still infinitely older than the Psalmist who first spoke those words. Sitting on the shores of Lake Michigan, you can keep company with a 1.2 billion year history of Mid Continental Rift, ancient precambrian oceans and glacial sculpting.¹¹ As Mary Oliver says, "let me keep company always with those who say, "look" and laugh in astonishment, and bow their heads."¹² To feel the long storied history of the planet is to be in touch with the presence of God who has hovered over it all. So too Simone Weil says "Attention, taken to its highest degree, is the same thing as prayer."¹³ May our study of the earth, and our paying attention to it, be akin to prayer, a way to awaken to the spirit of God in whom we live and move and have our being.

God of Might and Majesty, you are rock, fortress, and deliverer to us, our stronghold, the rock in whom we take refuge.

With inscrutable purpose and ineffable plan, you sculpt this curious landscape.

Vast glaciers sweep down from the Arctic, scrape the terrain to plain and gravel, leave behind moraines and six thousand trillion gallons of great lakes, and disappear.

The earth's plates heave up the towering Rockies; over eons, winds and waves and rivers chisel rigid rocks into grand canyons a mile wide and a mile deep.

All is flux and flow and change. Nothing earthly endures, but from everlasting to everlasting, you are the same, faithful and steady and sure.

And so we secure our modest lives to the rock of our salvation and trust your unfailing goodness.

On this red-letter day, we thank you for the grace of the parental units. If any fathers here be overwhelmed or baffled, and they will be, show them a wise and godly way, because they're going to need it.

If any here be disconsolate, send your ever-present gifts of hope and joy.

If any here feel lonely and left out, send them companions, and let it be us. We'll do it.

If any here are bereft from the loss of a long love, patch together their broken hearts.

If any here be facing frightening diagnosis, or arduous procedures, or healing but exhausting therapies, make them to soar on eagles' wings.

We've sent our friends and colleagues and youth to a far and unfamiliar land: to learn, to work, to make new friends, to make a difference, to learn Spanish, to enter a more intimate bond with your presence. We dare to pray that you keep them safe, you lead them forward to a successful quest and enriching adventure, and that you bring them home, weary and sore but fulfilled.

Our Father.... Amen.

¹⁰Berry, Thomas. *The Sacred Universe: Earth, Spirituality, and Religion in the Twenty-First Century*. New York: Columbia University Press, 2009.

¹¹Wiggers, Raymond. *Geology Underfoot in Illinois*. Tennessee: The Mountain Press, 1997.

¹²Oliver, Mary. *Evidence*. Boston: Beacon Press, 2009.

¹³Weil, Simone. *Grace and Gravity*. London: Routledge, 2002.

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