Spirituality EarthBeat



Image from NASA's Chandra X-ray Observatory of PSR B1509-58 – a spinning neutron star surrounded by a cloud of energetic particles, about 17,000 light-years from Earth.. X-rays from Chandra in gold are seen along with infrared data from NASA's Wide-field Infrared Survey Explorer (WISE) telescope in red, green and blue. NASA's Nuclear Spectroscopic Telescope Array, or NuSTAR, also took a picture of the neutron star nebula in 2014, using higher-energy X-rays than Chandra.

(NASA/CXC/SAO: X-ray; NASA/JPL-Caltech: Infrared)

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There is a moment right after you've passed outside of our galaxy when, all of a sudden, the darkness of space fills with uncountable new points of light. What you see looks like a very full night sky on Earth, with every star shining. But these aren't stars that you see — at least not singular stars.

The planetarium's narrator reveals, "Each dot you see now is a galaxy made up of many billions of stars." Thousands of dots, each containing billions of stars. This leap in the order of magnitude is nearly impossible to fathom. Your imagination trembles. This is the moment when the immensity of your smallness causes you to audibly gasp.

I have witnessed that gasp for about 20 years now. It happens in the middle of the 50-minute planetarium presentation called "All Creation Gives Praise" that I cocreated with my astronomer colleague, Phil Sakimoto, in Notre Dame's Digital Visualization Theater.

This partnership started when I myself first glimpsed the expanse of our observable universe under Phil's guidance within this dome-shaped theater. I myself gasped when we made the jump from seeing stars to seeing galaxies that looked like stars. I

also gasped when I saw the microwave radiation from the Big Bang, originating some 13.8 billion light years away. I gasped again when we returned to our own planet after seeing the tremendous distances between everything else.

We are not the center of the universe: by this journey, we can see that clearly. Everything we have ever known is contained within an indescribably small bubble of cosmic space, with potentially infinitely more space on every side. Cosmically speaking, we just don't matter.

But we matter to God. To us, the Father has sent his Son. To become one with us, the Word became flesh. For us, God gives himself. We can see everything there ever was and ever will be, but all of it is for nothing if we do not move from seeing the magnificent "sign" of creation itself to believing that the meaning of heaven and earth was once contained in the little space of Mary's womb.

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Since that experience, we have been working to help people understand what they are able to see from this planetarium space, while also offering them the opportunity to praise the God who creates and governs it all — the God who fills our gasps of wonder with his love.

Wonder is hard to come by these days. Our media producers and content creators have become so proficient at grabbing our attention that we find it harder and harder to stay focused on one thing for very long. Wonder takes time; it is more than surprise and interruption. Wonder is a relationship of intimacy, where you find yourself in awe at something that is beyond you, which becomes more fascinating the longer you dwell with it.

In his great book about the necessity of detachment and solitude for true human life, "The Power of Silence" (2017), Cardinal Robert Sarah does not mince words when he diagnoses our modern media ecology: "Images are drugs that we can no longer do without because they are present everywhere and at every moment. Our eyes are sick, intoxicated, they can no longer close. It is necessary to stop one's ears, too, because there are sonic images that assault and violate our sense of hearing, our intellect, and our imagination."

Sarah is not advocating for entering into sensory deprivation chambers where we try (in vain) to shut off all observing, thinking and reflecting. Rather, he is naming what many people instinctively feel: There is no time or space today in which we can truly focus, ponder and contemplate — everything is coming at us so fast; we are incessantly bombarded with stimuli.

The vast majority of us are far from the regular life experience of someone like the 18th-century Congregationalist preacher, Jonathan Edwards, who wrote in his "Spiritual Exercises" that "I spent most of my time in thinking of divine things, year after year, often walking in the woods, and solitary places, for meditation, soliloquy, and prayer, and converse with God. ... Prayer seemed to be natural to me, as the breath by which the inward burnings of my heart had vent."

Edwards lauds the communicative capacity of nature while Sarah laments the suffocating effect of too many artificial images. We feel the difference between the two if we find ourselves on a mountain's peak, or deep in the woods or surrounded on all sides by rolling prairies.

It is not that the Wind River Range of Wyoming is intrinsically "better" nature than that of Lower Manhattan; rather, it is that Lower Manhattan has become a setting suffused with busyness, electronic communication and artificial images, while the backcountry of Wyoming is outside the reach of technological, commercial and industrial ways. You are more likely to be overwhelmed with man-made images in Manhattan and overcome by natural ones in Wyoming.

The "Creator of heaven and earth" is not absent from Lower Manhattan — far from it. Instead, those who have grown accustomed to such places are more likely to become desensitized to the traces and signs of God when saturated by all the busyness. This may be just as true today in one's own living room where screens and notifications vie for attention in every passing moment.

The fullness and intensity of the Lord of the cosmos — through whom, with whom, and in whom all that is, is — is made present to us under the appearance of simple bread and wine of the altar. Everything that exists serves as the backdrop for that which is most wonderful and surprising of all: God comes to us.

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Long before the industrial or digital revolutions, St. Bonaventure spoke to the perils of constant distractedness and the need to be awakened again to the Word of God, who is the principle of all life. He wrote: "Whoever, therefore, is not enlightened by such splendor of created things is blind; whoever is not awakened by such outcries is deaf; whoever does not praise God because of all these effects is dumb; whoever does not discover the First Principle from such clear signs is a fool. Therefore, open your eyes, alert the ears of your spirit, open your lips and apply your heart so that in all creatures you may see, hear, praise, love and worship, glorify and honor your God" ("The Journey of the Soul into God").

The paradox Bonaventure notices is that our senses must be opened to recognize God in created things. It would seem that our senses are quite open when perpetually attending to all the many images, sounds and parcels of communication that surround us today. But the truth is that our senses are dulled by such things, so that true sensing is obstructed and ultimately snuffed out by these forms of sensory overload, the same way too much cotton candy ruins an otherwise healthy appetite.

This is what Edmund Pevensie infamously learned in "The Lion, the Witch and the Wardrobe" when he had eaten too much enchanted Turkish Delight: "there's nothing that spoils the taste of good ordinary food half so much as the memory of bad magic food." Artificial images employed to steal our attention are the bad magic food; natural images are the good ordinary food.

Weeks spent "off the grid" in a natural environment without artificial stimulation can restore the appetite and open the senses again. So can a disciplined pilgrimage, such as on the Camino de Santiago, or even a monastic immersion experience. We can retreat to the desert, retreat to the woods, or retreat to the sea. But we couldn't possibly retreat to outer space, could we?

While the boundaries of physics prevent us from moving our bodies beyond, at most, our planet's immediate neighborhood, by using technology well we can now place our attention on those places and things to which we cannot move otherwise. Were we to do that with an array of artificial images and fabricated experiences, however, we would be doing nothing other than exchanging one trick of media saturation for another. But if we were able to observe the real imagery that our technological means brought to us, we would instead be doing something akin to reading a map in three-dimensional space. Only in that way could the far reaches of the cosmos become a setting for a retreat into nature like the other retreat destinations.

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The premise on which "All Creation Gives Praise" relies is just this: to only present real astronomical observations so as to provide an immersive natural environment for rekindling wonder. The technology employed extends the power of our eye through satellite imagery; it then orders and organizes what has been observed and gives the participants the experience of moving through these cosmological realities sequentially and proportionally in a domed theater.

What participants experience are "views of what you would see if you really could travel through space." The possibility of encountering something truly new and literally breathtaking is, as the astronomical narration announces, "not science fiction, but science fact."

Seeing is not believing, but belief does need sight. We move toward belief in what we cannot or have not yet seen on the basis of that which we have seen. True, the Lord said to St. Thomas that "Blessed are those who have not seen and have believed" (Jn 20:29). But immediately afterward, St. John the Evangelist writes that these signs "are written that you may (come to) believe that Jesus is the Messiah, the Son of God" (Jn 20:31).

In other words, St. Thomas saw the glorified risen body of his Lord, while all other disciples after him must rely on the signs recorded in the Gospel so as to make the act of belief in that same Lord. We see signs and then, on the basis of the signs we have seen, are invited to believe in the one to whom the signs point.

The way in which science and religion are related to one another in "All Creation Gives Praise" is analogous to the relationship between signs of the Incarnate Word and belief in him. What we explore is what astronomers have called "the observable universe" — meaning all that has been observed through astronomical means.

The sky is too vast and the distances too enormous to observe everything, so by international concord astronomers have agreed to scan and map the sky in certain directions, accounting for everything they can detect and analyze. By scientific reasoning, astronomers seek to identify and understand that which is perceptible. "All Creation Gives Praise" makes use of these observations, the things we can perceive. The aim of the astronomical part of the presentation is to help participants

grow in knowledge and understanding of what we human beings have observed in space.

The role of theological reflection, then, is first to marvel at that which we see through the words of Scripture and tradition, and then to prompt us toward the possibility of greater belief. What we see are signs of the Word of God, by whom and through whom all things are made. Once we begin to understand what we are seeing, the grammar and longing of the language of faith open a path that leads from astonishment to prayer.

The entire presentation is a living experience of the dialogue of science and religion, faith and reason, astronomy and theology. We strive to see and understand better, so as to pray and praise more deeply, honestly, and boldly. Science remains science and religion remains religion — yet by speaking together in a mutually hospitable manner, something new emerges: a union of faith and reason.



(Unsplash/Patrick McManaman)

The effect of moving with our attention to the most distant reaches of the observable universe is returning to our given place, in our particular time, to discover ourselves: small, seemingly insignificant, a speck of dust in a breath of time thrown amidst the vastness of creation. Seeing this truth upends our illusions about ourselves and our delusions about God.

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God comes to us so we may go to him. That is the meaning of all existence. The Incarnation is the descending movement, the Ascension the movement that opens way for our own ascent. A journey through the cosmos shows us that no matter how far we go on our own, we will never reach fulfillment and peace unless we accept the mercy of a God who comes to us.