

Heart of a Star, Revealed

Near the end of their lives, stars can cast off their outer layers slowly, via a gentle stellar wind, resulting in stunning cosmic images of so-called “planetary nebulae”, which were originally thought (incorrectly) to be newly forming planetary systems. Stars can also cast off their outer layers (or essentially all of their mass) quickly and violently, in supernova explosions, sometimes leaving behind magnificent “supernova remnants”, which are equally as beautiful, and sometimes eerily similar in form, although arising from very different physical phenomena. Each of these processes comes closer, with varying degrees, to revealing the heart of the star. When some of the heavy elements forged inside the heart of the star are ultimately released on a path to merge with the swirling gas and dust clouds of the wider galaxy, they become raw material to form new generations of stars, and eventually - after several generations of chemical enrichment - moons, asteroids, planets, and people (including astrophysicists). All the atoms in our bodies, including those that make up our own hearts, were once just potentialities, trapped for unimaginable aeons inside the heart of a star.

For this piece, I used iconic Hubble Space Telescope and Chandra X-Ray Observatory false color composite images of these amazing wonders of the natural world, often dubbed the jewels of the galaxy. Since these phenomena each signal the gradual or rapid peeling away of matter to reveal the physical hearts of stars - the central place in the cosmos to which all of us owe our existence - they seemed an ideal ingredient to create a patchwork mosaic of the symbol of our own hearts, framed with a backdrop of foreground stars from our own Milky Way galaxy. This image was also used as the centerpiece of our wedding invitation that I designed as an admittedly nerd-inspired tribute to my wife, the love of my life, Kristen Friedman.



digital rendering

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