

How has a particular work of literature informed your understanding of the world today? (1000 words)

Appreciating Cells and Starstuff

By Kaylynn Walmsley

The Cosmos is supposed to be the opposite of chaos, a harmony present throughout the universe where everything, from a celestial body down to a tiny microbe, has a place. And yet the human process of exploring this harmony has been messy, chaotic, and fraught throughout history, with much contention as to whether it will ever get easier. However, one piece of literature that sustains hope about the future is *Cosmos*, by Carl Sagan. My copy of this book was a gift from a childhood friend, and in the years since, I have read its pages over and over again, finding new ideas to marvel about as I grow older. Reading throughout my childhood has helped sharpen my critical analysis and broaden my imagination, but this particular text has truly impacted the way I view the universe, and therefore the way I wish to conduct myself in it. Sagan created a picture of the universe that I wanted to better understand and engage in; something interconnected, where even the smallest “mote of dust” could hold beauty, and every branch of science, every human story, was worth exploring (Sagan 2).

The word ‘cosmos’ was always lyrical to me; some combination of sharp and round consonants and smoothing vowels, combined with a near-biblical implication. It sang a melody that entailed a concept I couldn’t comprehend. ‘Cosmic justice’ seemed like a foreboding wraith, and yet Sagan took my notions of the word, and overturned the idea of a terrifying, overbearing universe into one that just is. And not only that, but these laws of physics and the impersonal jittering of molecules became something beautiful, intertwined with a human spirit not as clearly defined. Sagan is, of course, famous for his legacy of scientific education and advocacy. One of the most important facets of that legacy was his focus on conservation; a deep-held respect for the environment led him to push for mitigating human destruction. This helped contribute to my own budding appreciation, and

encouraged a positive outlook hoping for positive growth, instead of focusing on the damage done. While it is important to acknowledge negative news stories, most people won't pursue change if they have no optimism about the outcome. The growing pains out of my childhood gave me pessimism and distrust, and it was challenging to believe our world could be salvaged. Every negative story I heard seemed to serve as proof that my own actions were miniscule and unimportant. Yet *Cosmos* reminded me that though each individual is microscopic in the grand scale of the universe, the value of "accumulated wisdom" has led to everything we know; the beginning of a "long voyage home" (7). Sagan's creation of a hopeful worldview has helped me feel more confident in my own ability to make a difference. We view each function as part of a wider community, and it becomes hard to be fully pessimistic about humanity's fate after reading *Cosmos*. For example, Sagan details Johannes Kepler's work on uncovering the "harmonic proportions" of the solar system (60). This led to excommunication from the Lutheran Church, and though Sagan acknowledges the harsh truths of history, he also writes a compelling image about the joy of scientific discovery. Kepler's discoveries were eventually accepted, because although humanity can be backwards and cruel, this is always balanced with development and growth. Sagan created an incredibly motivating portrayal of scientific progress, and a worldview where mysteries can always be discovered with enough patience.

Another way that *Cosmos* impacted my life was changing the way I view the scientific method. As a young child, my view of the scientist was someone who was impersonal, emotionally detached, and working on something that only furthered an obscure, niche field of impractical information. After reading *Cosmos*, I began to see how science could be varied, rife with human experience, and interconnected. One particular passage about the artificial selection of Heiki crabs was particularly fascinating. It described how fishermen would throw back crabs that resembled a human face, until "the face of a warrior is incised on the carapace"; this tradition stemmed from ancient history and superstition yet intertwined with biological evolution (20). It illustrated the oftentimes unintended results of genetic selection, and showed just how acutely other organisms are affected by humanity. Additionally, Sagan connects biological discoveries to celestial ones, stating that "the living cell is a

regime as complex and beautiful as the realm of the galaxies and stars” (32). These concepts made me consider science in a more holistic way, which I found far more interesting than studying theories in a vacuum. Of course, science has to be impersonal in some aspects to minimize bias; however, allowing a sense of humanity into it, creating space for empathy, makes the whole process of scientific discovery much more fulfilling and engaging. By connecting scientific disciplines, Sagan creates an image of the universe where spectacular facets of the universe’s order are simply waiting to be found. When reading, I thought that this new knowledge of the universe almost demanded to be understood. I wanted to be at the forefront of that.

In reading Carl Sagan’s *Cosmos*, I was of course enraptured by every compelling fact he shares. My natural childhood curiosity was stoked, and as I’ve grown older, I realize this was perhaps the true power in this text. By creating a positive framing for humanity’s future, Sagan restored hope into many conservational and educational endeavors. Through weaving together multiple disciplines of study, discovery becomes more nuanced, as well as more relatable to human emotion and passion, which helps develop interest and pursuit of knowledge. Sagan inspired me to become involved not only in science, but to understand the history and literature behind our world as well, which I feel has made me into a better, more invested student, both in and out of the classroom. *Cosmos* compels me to become someone who conserves and advocates not out of selfish fear, but because there are still so many beautiful things to uncover in our world.

References:

Sagan, Carl. “Cosmos”. *Ballantine Books*, 2013 edition.