

# How Art Reveals What's Beyond The Observable Universe

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As extraordinary as humans are, our vision only allows us to see a minute fraction of life. Some would even argue that our eyes are the worst evolved part of our body. Thankfully, our brain is big and beautiful, hence we did not allow our myopic perception to halt our innovation. Thus, we invented tools to extend our visual horizon. Telescopes reveal distant galaxies, microscopes uncover magnificent cellular machinery, and brain scanners illuminate intricate neural networks.

As wonderful as these technologies are, they cannot compare to the human experience because they cannot observe what we feel and imagine. Pain, resilience, identity, and memory do not submit to quantification. Where telescopes and scanners reach their limits, art continues to document our existence by recording emotion, social interactions, history and more. Hence, art functions as a parallel mode of inquiry to what life is, often when data alone cannot or is slow to. Without our imagination, skepticism and curiosity cannot be conceived. Without art, our imagination cannot be justly depicted. Therefore, art is a transitional womb that births scientific hypotheses and experimentation. Hence, allow me to indulge you in an interesting conversation about the importance of art to not just the life sciences but to scientific discovery, as a whole.

Unfortunately, science can only progress as far as its tools allow. Telescopes can only see so far and microscopes so close but somehow scientists we stay motivated. How? By mapping out the hypotheses in our heads and let it go beyond flow charts and schematics. Long before Newton, 15<sup>th</sup> century medieval paintings like Salvador Mundi by Leonardo Da Vinci depicted the earth as a crystal orb. Robert Hooke drew insects, tissues and even cells in the 17<sup>th</sup> century based on what he had seen on rudimentary microscopes. Science fiction writers, like Jules Verne, envisioned space before NASA was even an idea. Simply put, art inspires science. Therefore, it should not be held in lower esteem in comparison to science nor should it be disregarded as a valid and fruitful career path. Without art, who knows where scientific discovery would be.

As with everything, science and medicine are fields with flaws. Although quantification is important, it is restrictive in what it can tell us. Pain scales are not adequate patients in chronic pain, depression questionnaires cannot encompass the lived experience, and BMI does not account for ethnic differences. Humans are undoubtedly the most mentally complex creatures on the planet, and our layered lives cannot be reduced to numbers on a scale. Constant quantification strips us of our humanity. It is no surprise that art is used to ease experience, as well as communicate where words fail. Furthermore, art removes stigma sometimes created by science. Like most mental disorders, schizophrenia is poorly understood by the public. Yayoi Kusama, a Japanese artist living with schizophrenia, paints what the disorder feels like to her. Upon viewing, people can see what she goes through, humanizing her and other patients. Her art also serves as a means of education and tool for dismantling misconceptions. Art reminds us that we are more than statistics.

In my opinion though, I think the most valuable role art plays in science is shedding light on the biases it often denies having. Life sciences have neglected BIPOC, queer, and disabled folks forever. In the field of psychology, non-white people are often excluded from studies. Historically, Black people have been used as test dummies for vaccines and medical remedies. Even today, trans people are denied equitable access to healthcare. Science is not immune to existing systems of oppression. When science has left people behind, art brings them forward to ensure they are not forgotten. The same way art has functioned as an activist in political movements is the same way it advocates for

marginalized persons in science. In 1987, the AIDS Memorial Quilt was created. Each square sewn represented a life lost to AIDS. Eventually, thousands of squares were sewn together showing that AIDS was not just a niche issue. Rather, it was (and in some countries still is) a humanitarian crisis that should not have been ignored for so long just because it initially mostly affected gay men. Art makes the invisible visible.

The arts are being undermined now more than ever. Science is being questioned and invalidated at every opportunity. It is important that the fields recognize their intertwined purpose in order to fight what appears to be declining literacy and critical thinking. To safeguard the sanctity of human revelation, academics must abandon arbitrary wars and division. Instead, using our shared passion for knowledge and love of learning, let us endorse and protect each other. That way, we ensure that future generations are given the same (and hopefully more) opportunities to unearth what's beyond the observable universe.



An astronomy image taken from *Orbital Today* and a related news article on the theories behind what is behind the observable universe. Source: <https://orbitaltoday.com/>

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