

Science and Art : Unlikely Match made in Heaven?

STEM - the short hand for Science, Technology, Engineering and Mathematics - continue to be the average Indian parents' preferred medium of pressurising their kids. However, in terms of a global context, it seems that education and academia today are moving towards more interdisciplinary areas. Today, the global community is toying and adopting the idea of STEAM – Science, Technology, Engineering, ART and Mathematics.

The idea of mixing Science and Art may seem sacrilegious at first. In everyday parlance, Science and Art are often viewed as polar opposites. Science is considered to be purely objective, fact based with no room for flexibility. Rigid, immobile in its theorems and sometimes even arbitrary, science is often considered set in stone. Art, on the other hand, goes hand in hand with creativity. We consider it to be subjective, full of room for flexibility and interpretation. Art and Science are also perceived differently as careers. People who take up science and technical fields are often perceived as somehow more skilled than those who take up more creative ones, with art often being considered as a “backup plan”. This aspect of comparison especially is extremely harmful and is, additionally, baseless, since Science and Art involve such different skills and proficiency.

It is quite easy to see how these stereotypical ways of looking at Art and Science are not only wrong – but are actively harmful. Science, especially research-based science, requires quite a bit of creativity. Many of the greatest unanswered questions in science are open-ended. Most of our modern, and more importantly, ancient theorems that led the foundation of science were derived from men and women who thought of a problem in multiple creative ways. On the other end of the spectrum, all art is not equal simply by virtue of creativity. There are works of art that are objectively good and those that are objectively bad. There are theories in art too, in the style of science about what makes things tick, what inspires creativity etc.

In that sense, the fact that we are moving to more interdisciplinary habits is extremely inspiring. Marrying Science and Art can only lead to good things. Development of both technical and creativity is important for holistic, all round education. It's important to note that history is littered with individuals who managed to strike a balance between both creativity and scientific prolificity. Leonardo DaVinci is a classic example with history remembering him both as a great innovator of both science and art. Albert Einstein, arguably the greatest physicist of our time, was an excellent violinist. Ben Franklin was an accomplished musician and poet. We have countless examples of scientists who doubled up as artists and artists who had a treasure trove of scientific knowledge. Even with the examples, so far, thanks to the biases and societal perceptions of both fields, the proper mixing of these fields has not really come into the mainstream.

So, we've made a convincing case for why we need Science and Art to complement each other. So, how do we go around doing it? There are some obvious examples. For example, the field of neuroscience lends it really well to philosophy, psychology and other schools of thought. There is a world of physics in music, with wave harmonics and fundamental frequencies dictating what notes are good. Artist renderings can help crystallise some of the more far fetched scientific theorems.

Performance artists like Fabian Oefner, a Switzerland-based photographer takes photos that help us “see” sound waves, the colours in soap bubbles and other seemingly simple but scientifically important phenomena. Yoko Shimizu, a contemporary artist and biochemistry researcher sets up interactive pieces that show us fascinating and unintuitive scientific experiments. Nicky Case, a video game developer, routinely codes and develops interactive webpages and online games that help show how neurons work to the psychology of crowd mentalities.

Multiple YouTube channels are set up based on explaining science and scientific phenomena with really well-done animation and graphics. MinutePhysics explains physics in quick, inspired bursts, accompanied with cats and stick figures. 3Blue1Brown explains mathematics intuitively with the aid of animated pi figures and beautifully set up graphics. Perhaps the best culmination of what we’re after is AcapellaScience, a channel headed by Tim Blais. AcapellaScience is a channel that routinely makes science-based remixes and parodies of popular, chart-topping songs. You can find everything here from a parody of Despacito based on Evolutionary Biology (Evo-Devo!) to a Hamilton remix that focuses on the mathematician by the same name as the American founding father.

There are a lot of examples as we venture down this path of combining science and art. The most crucial thing to note is that why these two seemingly unrelated things go together so well is because of their common denominators. Scientists and Artists, in the end, require the same skills – the courage to go after the explored, and the tenacity to push forward for their craft. Science and Art lend themselves to complementary developments and you cannot fully realise one without the other.

Ultimately, whether it is science or art, what is most crucial is we are able to recognise the value of every field and how it can lead to development of one’s personality. Whether it is science or art you are inclined towards, it is important to go for it, to try and inculcate the best features of the field and lean to apply the insights that either field give us to an interesting and innovative life.