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GUEST EDITORIAL

Asymmetry between Arts and Science

In the prologue to the 1935 movie *The Bride of Frankenstein*, apparently the best of the several sequels of the Hollywood fame *Frankenstein* released during 1931, Mary Shelly, the creator of the original story declares her intentions: *My purpose was to write a moral lesson of the punishment that befell a mortal man who dared to emulate God.* These words of Shelly in particular, and her story in general, mirror the biased treatment to which science and scientists are being subjected for almost centuries by the artists – writers, painters, movie directors and all. Most science fiction works are built on the negative aspects (mostly imaginary) of the new developments of science and end with a solution sought through another scientific trick (mercifully for science and scientists). At the end however, the credit for finding the solution to the problem is not generally attributed to science or scientists rather to the fortuitous escape route available.

This general pattern is true be it *Jurassic Park* or *First Men on the Moon* or *Star Wars* series, and such themes certainly reflect the biased opinion held by their creators. Further, the fact that these stories are always sold well suggests that even the public approve of these patterns where science and scientists are painted in a villainous role. On the other hand, rarely do we have plots where artists are similarly caricatured in Frankensteinian roles. Strangely, most wars in our history were fought not because of science but because of pale ideologies or fundamental views – that are certainly not the creation of science. In fact at least a few of these conflicts can eventually be traced to some form of religious ideologies, or social and cultural boundaries that are created, maintained and nourished by the arts rather than science. Despite this, science is vividly projected as more antisocial than arts. Shades of this attitude are seen throughout the history of science; the most recent casualty being the genetically modified organisms.

I have been intrigued by this asymmetry in the perception of science (or scientists) and arts (artists) in the minds of the public not only because it does beg an explanation but also because it seems to underlie another pattern that we all notice: scientists come to be known to the public only when they are knighted or bestowed with famous awards while artists on the other hand are recognized even before they are awarded by their peers. I will return to this later.

The pattern of depicting science and scientists in villainous roles in movies and science fiction cannot be attributed to, another bias or asymmetry that we all recognize: there are more artists or non-scientists creating these products for the public than there are scientists doing so. But there is a far stronger asymmetry: there are far more artists writing and painting on science (or scientists) than scientists writing or indulging in creative arts. This is especially strange because after all the basic interest of both the faculties is to offer intellectual creations and to explore 'Nature' in its multiple facets.

Nevertheless, there are a few scientists indulging in creative arts as well. In India for instance, the noted botanist B. G. L. Swamy created several forms of art. Among his novels, *Colleju Ranga*, on college life, was made into a movie; *Hasiru Honnu* (Green Gold), earned the Sahitya Academy Award, and was also translated to other languages; his paintings are internationally acclaimed both by scientists and artists. However even these creations are structured more on his experience as a scientist. Even his chaste humour on the most mundane issues such as keeping a pup at home also carries elements of his scientist-instincts: he traces a peculiar pattern in the behaviour of the pup and finds that it gradually, though inexplicably, learnt on its own, to bark only at the images of certain personalities, eventually that of Kamaraj(!), the then Chief Minister of Tamil Nadu. Similarly, writings of other scientists such as Jayant Narlikar are also oriented towards offering the niceties and complexities of scientific discoveries. Of course, there are some connoisseurs of music and painting among scientists and for some peculiar reason there are more, or visibly more, among physical scientists (perhaps another asymmetry begging an answer). But I am not sure if there are as many examples of scientists writing on creative arts as there are artists writing on science. In fact, of recently there are AIL (Arts In Labs) groups emerging as a result of the efforts by artists but I do not see *Science In Arts* groups initiated by scientists though there have been attempts, mostly half hearted and futile.

Further, even the examples such as of Swamy represent the occasional twinkling star-artists among scientists and they are few in frequency; the artistic sky of science is very dim as it is poorly populated with such stars in arts. On

the other hand, there are countless non-scientists writing on science, painting on science and perhaps even singing on science. I am not sure if there is an immediate explanation for this but it does seem to suggest that scientists are reluctant to venture into the art of writing and painting. It is also not unlikely that scientists get trained in to a straightjacket process of doing science, which renders their other creative faculties more vulnerable, and eroded. Or it might be that the scientists are arrogantly proud about their profession and do not consider it a worthy exercise to venture into arts.

Now to the other asymmetry between the scientists and artists in the treatment received by them from the public. Scientists generally get in to circulation as familiar personalities more through awards, which are again bestowed by their peers. It is rare that public recognizes an Einstein on his way up, before the award committees bestow him a certificate. On the other hand, artists become visible more by their work than the medals that their creation accrues. In fact, awards follow public recognition for the artists while they precede public recognition for scientists. This pattern recurs every year when the Nobel Prizes are announced! Not many would be aware of these scientists till their pictures are splashed on the magazines after the Nobel declarations(!). On the other hand most would know even the emerging writers, painters, actors and singers!

In this sense, Tagore's *Gitanjali* or Salman Rushdie's *Satanic Verses* would be more known to the public than Chandra's work on *Truth and Beauty* or Haldane's argument on *On Being the Right Size* though, all may have equally important messages to be offered to the public. Surprisingly Hussain's *Gajagamini* would perhaps be more known to the public than Raman's work on the colour of the ocean and the sky (apologies for the contrast but both are on sensuous beauty and colours of Nature's creation). Nevertheless it is true that given sufficient time Amartya Sen's *Argumentative Indian* may become as well known as any of Rushdie's or Naipaul's works. And many think that here lies the message and an answer for the asymmetry I am referring to: works of most artists directly tickle the so-

cial senses and touch the personal souls or chords while, even the most profound discovery of science is initially far removed from such social and personal implications.

There could be some truth in this. Consider the now-famous anecdote of M. Vishveshwaraiah at Jog Falls – though its authenticity is often questioned. It is said that while those who were aesthetically or artistically inclined were expressing their awe at the beauty of this world famous waterfalls, MV is believed to have expressed his sadness at the appalling waste of energy in every drop of water that traced its path all the way down. This expression of a technologist and the consequent action did touch the lives of millions and MV was a household name irrespective of any award!

I like to end with another asymmetry between the artists and scientists that may reflect the internalized growth of arts and directed external growth of science. Imagine poet Kalidasa taking a rebirth in the 21st century and attending a Sanskrit seminar on 'Love and Nature'. Perhaps he can deliver a very passionate talk on the subject that would please most, he can interact at ease with Sanskrit litterateurs assembled there, and, may even excel the contemporary writers in his grasp of the subject. The arts representation of 'Love and Nature' has not substantially changed ever since Kalidasa and his work is relevant even today as it ever was. On the other hand, imagine Darwin revisiting a 21st century seminar on 'Evolutionary Genetics'. He may be lost among Sewall Wright's Fitness Surfaces and Fisher's Fitness Equations; even the Lotka–Volterra formulations taught at classrooms may stun him! Ever since Darwin, science of Evolution has grown or appears to have grown beyond him – though all this is his creation. It is true scientists stand on the shoulders of the giants but in the process, do they seem to be losing sight of where the rider on their shoulder is looking? Is science growing directionally away from the society while arts is internalizing itself into the society?

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