

SCIENCE AND ARTS: INTERPRETATION OF INTERRELATIONSHIP

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The historical harmony between the two seemingly distinctive fields of Science and Arts has been a forum for a widely speculative conjecture and been subjected to intense debate. However, the Art of Science and the Science behind Art along with the interrelationship between science and arts are carefully crafted chasmic analogies that although seem compelling but are nevertheless irrefutable. The rationale behind Science is the inquisition of truth, while that of arts is to explore the quintessential human culture. Ironically, a comprehensive study of the different branches of humanities in the backdrop of natural sciences reveals an antecedent coalescence between the two, later disarticulated by differences in social perception. “Ideation”, a fundamental component of Arts, is the premise for any preliminary project and “logic”, an indispensable part of science, is the predecessor for the successful accomplishment of the same. Despite the profound congruence that exists between the two disciplines, the all-encompassing collaborative appeal for a unified education policy was eventually ignored followed by the compartmentalization of the specialisations. Nonetheless, in today’s progressive and modernised world, we have come across human extraordinaire much like Ronald Ross, known for his revolutionary work on malaria transmission dynamics in the bygone era, harboured the mind of a scientist and the heart of a poet, and perhaps believed in the true parallelism of Arts and Science. Therefore it is imperative to develop a thorough understanding of these two diverse fields which should perpetually be ensued by unrelenting efforts in order to explore the zenith of excellence in all forms provoking an interdisciplinary orientation of intellect and/or education and the true purpose of life as one.

Introduction

The age-old intertwining of the two contemporary worlds of science and literature has over the centuries gone through a series of ebbs and flows, primarily emerging as an analogy to the other and yet in recent times being moulded into two distinct segments of modern society, with their respective foundations being singularly confined. The need to acknowledge this fading link between the two fields has been further emphasised, in several textual forms – “the themes taken up in more

recent works, have pointed towards the significance of literary form and textual strategy in understanding the structure and behaviour of scientific communities and the crucial role played by texts in the creation of knowledge” as described by the ‘Literary Structure of Scientific Argument’¹. The study of sciences in the era of postmodernism has been severely criticised by sociologists like Stanislaw Andreski, citing how the compartmentalization of the former groups of studies might inhibit a broader group of individuals to develop an understructure in the ‘art of scientific analysis’. The analogical basis has been further expressed by philosophers putting forth an argument – “We are by no means opposed to the effort to establish analogies between the diverse domains of the human thought; indeed, the observation of a valid analogy between two existing theories can often be very useful for

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the subsequent development of both². Paradoxically speaking, it is only when one has experienced an exposure in both the individual disciplines, can they entirely fathom their respective material bases. Aristotle famously quoted, “The noblest art appeals to the intellect as well as to the feelings (as a symphony appeals to us not only by its harmonies and sequences but by its structure and development); and this intellectual pleasure is the highest form of joy to which a man can rise”³. The recent endeavours in the fields of modern art and science however aim to shed light on how the two seemingly diverse practices nurture within their deepest bounds a state of latent congruence, which, inevitably transcends the pre-existing notions of segregation of the former from the latter, put forth by society.

“Men do nothing without the make-belief of a beginning. Even Science The strict measurer, is obliged to start with a make-belief unit, and Must fix on a point in the stars’ unceasing journey when his sidereal Clock shall pretend that time is at Nought”⁴

Through these lines Eliot tries to convey how the imaginative act lies the basis of foundation of the construction of all human experience, and thus also in science- both contain an element of make belief in the formation of their concepts⁵. Hence to speak, conjecture is the building stone of construction, and where there is lack of a constructive mind, conjecture comes across as a myth.

Interpretation of Material Bases of Science and Arts

Science, on a rudimentary basis, is defined as primarily, the systematic study of structure and behaviour of the physical and the natural world through observations and experiments. Secondly it is defined as an organised body of knowledge on any subject⁶. The story of science through the ages can be viewed upon as the record of man’s greatest intellectual achievement- a history of the continuous struggle against ignorance, fear and superstition. Today, it can be rationally stated that “it is almost a truism to say that science not only begins with a method but that its very essence is its methodology”⁷. Scientific inquiry discloses truths about a world that is independent of human cognition, and among those truths, some do not merely identify superficial aspects of nature but reveal things and processes that are remote from everyday observation⁸. Arts on the contrary is defined as subjects of study pertaining to human culture.⁶ The terms arts and science are often used in correspondence to each

other. Humanities is the study related with human culture like Literature or History⁶. Humanities in the backdrop of the enriched scientific world however provides a profound insight into several courses of studies such as social anthropology, psychology, social biology and medical sociology to name a few. A more detailed analysis makes it apparent how the basis of subjects like psychology evolved from a coalescence of natural sciences and that branch of philosophy known as epistemology, or the theory of knowledge. To put it in simpler words, great thinkers have always been interested in the validity of the human knowledge.⁷ The perspective thus provided by several philosophers as well as celebrated scientists in different time frames, gives us a distinct image of the overlapping of the two cultures through the years on more than merely one level.

Interplay of Arts in Science and Science in Arts

The manifestation of the two disciplines, science and arts, points increasingly towards the symbiotic ethical correlation of the two, which does not let us identify them as separate entities in the long run. As stated by Whitman, man should try to make the best of all the worlds they are living in, the world of stars or the world of astrophysics, the world of crowded halls or the world of solitude, the world of gray theories, green life and many coloured poetries⁹. In the life of a common man, it is the emergence of a vision that gradually evolves into an idea, and that very same idea in pursuit of which history is created. It is thus imperative to state how the premise of any life-altering achievement, be it in any field of the human race, always has to be “ideation”- which as a matter of fact is an integral component of a literary mind. The successor of any deed, “logic”, synonymous to one’s sense of analysis and fruitful observation, is a determinant that further lessens the bridge between the two worlds of science and arts. It is the *logy* or method of every science, of every discipline and even art, music to which is no exception either. Logic is a part of science because to a considerable extent the processes of correct thinking can be reduced to rules of physics and geometry and conveyed to the likes of rational minds, while it is a part of art because by practice it gives birth to thought, thought that drives our unconscious, enhances it, signs of which are observed in the dexterous hands of the pianist who captivates us with the hymns of his effortless harmonies³. The convergence of the two cultures can be further observed in great literary extracts by several novelists such as Jules Verne. The novelist’s keen insight into the field of science intermingled with his lyrical heart

is what led to the creation of *Voyages Extraordinaires*,¹⁰ a series of bestselling adventure novels including *Journey to the Center of the Earth* (1864), *Twenty Thousand Leagues Under the Seas* (1870), and *Around the World in Eighty Days* (1872).¹¹ His novels that have attracted a huge group of readers over the years, were set in the second half of the 19th century and primarily depicted the technological advances of that time. This was especially appealing to a wide range of readers because Verne, a magician of sorts, had devised the perfect way to reach out to them, by not just blatantly providing them with facts and technical arguments, but adapted to the art of gradually providing a narrative leading to plot development, and ultimately creating a fictional masterpiece. Science, according to Verne, has been built upon many errors-errors which have been fortunate and useful, rather than otherwise, for they have been the stepping stones for truth.¹² The blending of the two worlds is also strongly felt in artworks of the twentieth century in masterpieces by creators such as Pablo Picasso and Georges Braque. In his depiction of neoclassical themes to convey the ideas like surrealism and post-impressionism, he devised a new form of art termed as ‘cubism’, an art-form of intricate geometrical proportions, intermixed with concepts of physics and psychology. In the later years of the twentieth century, Braque, alongside Picasso devised a similar way in the creation of the visual arts style of cubism, which was termed as “Braque’s cubism”¹³ Through the use of various intertwining and rigid planes, he portrayed the idea volume and space. The codependent relationship of science and literature thus, as we can see, has sustained as an integral part of our natural world from time immemorial.

Impediments in the Congruence

The cultural gap between the two rich fields of science and arts, more apparent in the later half of the nineteenth century, was greatly condemned by philosophers such as C.P Snow. He proclaims how an average person was roughly articulate in both the fields during that time.¹⁴ However, with the massive advances in technological fields, and phenomenal progress in science, the modern system of education drifted the two cultures further apart. Gradually the highbrows of the two cultures deliberately began to perplex the material bases of the same, and protect the secrets of its ways with ardour. This led to further segregation of the two worlds because now people were left with the option of specialising in either one of the two fields.¹⁵ This compartmentalization of sorts prevented the general crowd from thinking outside

the box, and created an inevitable contrariety in not just the two disciplines but also in the mentality of the people pursuing it. Eventually it was figured that the mere way out of this dichotomy was implementing lesser specialisation of educational basis and adapting to a more collaborative approach and the proliferation of scientific literacy among the general masses.¹⁵ Despite the ideation of such a holistic approach towards education, looking great on paper, it was soon ruled out as impractical, because in the growing world of emphasised excellence it seemed not so feasible to make compromises when it came to education¹⁵.

Imagination and Ideation in Scientific Innovation

The cognition of the understructure of science as an element of arts and the other way round provides an insight into how these entities are potentially the material bases of many hypotheses and theories that are yet to be unraveled by the prodigal minds of modern society. Implementation however, of the two cultures as a common form of education is a huge challenge in itself, with different fields of studies gradually emerging in different parts of our world in an attempt to establish the underlying congruence of the two. ‘Scientific literacy’, a segment of the human mind, can be explained in the context of modern science as a consequence of one’s genetic basis. One can often ponder why at times it takes a scientist a lot of effort to hymn a melodious tune, or for them to create a mystifying plot for a story, while a poet might have to sit at their dreary desks all day in order to come up with a mathematical solution. The answers to these stimulating questions have been examined on a multitude of planes, by researchers who have come up with a plethora of solutions. However, it is safe to say that there has not been the *one divine* explanation that has shed light upon all these intricacies of the human mind, but a collective whole of answers and inferences explaining merely parts of it. The progress in the world of science has also experienced a dynamic shift in how the authors and poets of our generation perceive and portray literature. Poets gradually gave up implementing more of scientific references in their verses to reach out to the masses, and focused more on capturing the nature of human emotions and the complexities of the human mind instead.⁹ However even in these times of an emphasized need of excellence, several multidimensional minds have emerged in the course of time, who have harbored within them, the heart of a poet and the mind of a scientist. One such reference to a

poem, by an individual who thrives upon the existence of these two worlds goes like –

“My indestructible soul will only exist
A sub-atomic entity in the infinity
My inexorable destiny- I have nothing
to offer anymore
After this journey”¹⁶

The composer of the mentioned poem, is in fact a researcher in the field of life sciences, has been deeply ached at the fact how most of us go throughout our lifetime lacking purpose, the thirst to achieve the unachievable and more often than not, leave things to our own fate. Humbled by the strength of overshadowing ignorance and inevitable death, he is often concerned that his contributions to the world will only exist as a discrete entity of the infinite space. Such an appalling apprehension has not dawned on him because his contributions don't in itself have the potential to contribute to life altering theories, but because there might not be a lot of individuals possessing the composure to understand and acknowledge the importance of the same while time waits for none. Sir Ronald Ross, celebrated around the world for his revolutionary work on the transmission dynamics of malaria, in exultation after coming across the oocysts, the so called ‘pigmented cells’ in the stomach of an anopheline, mentioned in one of his long poems,

“This day relenting
God Hath placed within
my hand A wondrous thing;
and God Be praised. At His command
Seeking His secret deeds
With tears and toiling breath,
I find thy cunning seeds,
O million-murdering Death”¹⁷

The lack of such poetic potency in men of science, if not non-existent, is immensely rare. Nor are there a lot of individuals acknowledging the existence of a supernatural identity following a life- altering discovery in the field of science. However, history gives us an account of certain individuals of mankind, who have stepped out of the masses time and again, with nothing but a head full of dreams and a mind that was ready to dive all into the process of attaining what it took to attain the unthinkable. They, in their true form, have never succumbed to hardships and on the contrary have used that as a pretext that needs to be prevailed over to make their time on this unforeseeable planet worthwhile.

Convergence of Science, Humanities and Aesthetics

Science and arts in retrospect have been recognized as the most primal form of knowledge of the natural world and it can be implied that the two disciplines cannot under any circumstance exist independently of the other. The dynamic relationship between the two cultures is what we can state as bidirectional- the traffic of learning and interpretation flows in both directions, from arts to science and conversely from science to arts. Several efforts to combine the worlds of science and arts through an educational forum are being put up for experimentation through creative disciplines like Linguistics of Science; Physics of Music; Cognitive Science of Poetry Writing and appreciation; Geography and Literature; and Mathematical Modeling in Psychology. Despite the true potential of these courses being yet to be fully discovered, they come with a prevalent promise of contributing hugely to the underlying coalescence between the two disciplines. However, it is imperative to state that this interdisciplinary approach should not demand compromises on quality but on the contrary requires one's true zenith of excellence in all forms. It is only when the cosmos or chaos of desires, ideas and emotions exist in harmony within the human mind, can the true purpose of man in this boundless universe be sought and the essence of humanity be attained through the salvation of science humanities and aesthetics.

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