

EROTICUL-SCI: MANY WAYS OF KISSING

The Beginnings

This article intends to present a conceptual framework for the word 'erotic' and how it is utilised as a lens for observing the scientific culture. I advocate that the empirical method should be open enough to consider various methods for using 'thought experiments' to 'brain-storm' for possible hypotheses which could then be tested via observations or logical/philosophical elucidation. A more varied methodology allows for broader possibilities when we work from within a knowledge system because it allows more room for lateral imaginings, which then leads to the reaping of insights from our unutilised senses. While there is no wish to essentialise the erotic or the sciences, these two ideas have a role in negotiating for a more organic/sensual approach that goes beyond the noetic.

The word 'erotic' is defined here to mean sensuality, pleasurable intimacy and salacious construction.

The first section constructs the erotic hermeneutics of science, with an exposition of the erotic as juxtaposed against science, e.g. DNA strands in a gene or the different spins of two electrons in a particular state, both used as prime examples of the erotic act. It will explore a range of scientific topics from physics to biology (with the erotic always hovering in the background) in order to advance the view that the eroticising of one's perception of these subjects is a naturalistic approach that complements and supplements empirical methods in the studying of natural sciences.

The second section of this article, subtitled *Making Science Sexy*, will discuss the commodification of the scientific culture, the problem of postmodern science, the androgynous-technological culture and the link they have with the erotic and intimate space that are a result of a closer proximity between science practitioners and their audiences due to the speed of information delivery and technological advances in the mass media. The concept behind 'rococo science' will also be scrutinised in this section.

The Erotic Hermeneutics of Science

The expressions of invisible biology

Let us begin with the human cell. It is one of the smallest yet most tangible unit to us, even if we cannot differentiate between each individual cell without a microscope. Within the cell is the mitochondrion, and it is this tiny factory that controls the production and reproduction of energy. The energy produced by the mitochondria allows the exchange of matter to take place during meiosis at the cell's nucleus level, thus leading to the fusing of two cells, hitherto two strangers, to create a new entity. This exchange of internal fluids is analogous to the exchange of bodily fluids through the act of sex. It allows the mutual absorption between two entities, encouraging the exchanges of its essence, as part of the topography of living entities, from the pollination of flowers, to the penetration of sperm/s into the ovum/ova, the integration of ideas and disciplines, the act of conscious thought and reflex actions, and the act of kissing and penile penetration. The little nuclei become the beginning of all good or evil. The nuclei are used to produce identical clones, clones that might possibly contain asymmetrical subatomic particles. Often, such little unnoticed asymmetries are taken for granted. Yet, any disturbance, however slight, to that which is

considered 'normal', can be a cause of major catastrophe. This is known as the butterfly effect. The myth of the evil clone is thus born.

It is not difficult to envisage all these as forming a recognisable pattern of exchanges in energies, fluids, ideas, and actions that could lead to the creation or renewal of life. The pleasure that could be derived from exchanges of matter and the excitement of living is contagious. The luxurious and snug twisting and folding of protein chains is similar to how snakes, worms and tubular creatures of botanical or zoological kingdom weave and slither their way through and around each other. The slow unravelling of the protein chains is transformed into a lithe body of a dancer with chiffon or *crepe de chine* draped and sliding around her body in rhythm to the music as she leaps and bounces her way through the stage. Just as the dancer is constrained by the limits of her bodily kinetics and flexibility, the protein's unravelling is repressed or urged on by cellular expression.

An example of the folding of protein chains is the collagen, a complex protein structure (in three dimensions) consisting of three chains of amino acids (the basic unit for protein), wrapped around each other in the shape of a pleated rope. The very same collagens are implanted into the lips of a woman undergoing plastic surgery to create the bee-stung effect of sexual beauty. Yet, that could degenerate into the grotesque rather than the sensual in an operation gone wrong, or an operation done excessively. Sensuality is only possible when it is done subtly, but artificially created bee-stung lips, especially when done by an unskilful surgeon, is worse than aesthetical disaster. It could be potentially dangerous. The main problem with the plastic eroticism promulgated by the cosmetic industry is that they ride on the ignorance and

vanities of their disciples. There is mysticism surrounding the technology that can make you beautiful, with wilful misinformation to persuade people to part with money in their quest for the elixir of youth and beauty. Ignorance of the facts is neither blissful nor erotic, but crass irresponsibility. The erotic could only happen when there is an accompanying understanding that acknowledges that this world is full of mystery and contains much which we do not quite comprehend that is beautiful, one that we are intimate with yet so far from fully knowing.

Now, imagine a pair of snakes mating, wrapped tightly around each other, and the post-coital unravelling that takes place. The same way that the DNA strands in the womb of a human mother unravels to allow the crossing of genes during the division of cells. DNA bends around a protein called the histone core. The DNA can be both left and right-handed, depending on its state of conformation. Super-coiling helps to stabilise the left-handed DNA, and it does so by coiling endlessly into closely wound strands, like very tight springs. Unlike many humans, DNA at its basest, level works on strict complementarities. *A*(Adenine) pairs only with *T*(Thymine) and *G*(Guanine) only with *C*(Cytosine). Only the most primitive human could possibly pair with each other to such strict complement as only then would only two be in existence. But as the numbers increased, partner swapping was not unknown. The DNA also engages in partner swapping to a limited extent because the *As* must still go with the *Ts*, and the *Gs* with *Cs*. Therefore, there is no probability of random swapping. The initiation that transcribes from RNA to DNA involves acrobatic twists and turns, sometimes extending to 90 degrees, like a human contortionist. In aromatic structures (which consist of 5-6 member molecular rings), methyls and carbonyls are highly attracted to the main structure. It parallels the image of human masses who are attracted to the

bright lights of big cities; or weaker vassals who are attracted to powerful overlords. Yet, the aromatic nature of the rings makes them rigid planar molecules. In the same way, cohesive ties between humans can sometimes lead to inflexibility of lifestyle and routine, especially when community traditions take supremacy over individual needs. Similar to a flexible human, DNA strands could only weave and manoeuvre into various formations when they could move about undaunted. Therefore, if we choose to lead our lives to rigid conformity, we would be stuck in the rut and be easily exterminated should the situation of our environment changes.

A particular manner of stacking objects, especially those with regular shapes, into stable piles, works as much for the double helix. Watching two strands of DNA held together by base stacking is like observing two bodies in sexual intercourse, one riding on top of the other. In some instances, DNA is wrapped tightly around the protein core. DNA bending plays an important role in gene expression, as would the contortion of the dancer's body in artistic expression, and the arching of bodies in orgasmic expression. Super-coiled DNAs appear as compacted molecules, with the helices wound around them.[1] As humans, we also need a long leash and many chances in order to stabilise ourselves. Like the super-coiled DNAs, the opportunities are not endless, yet knowing that there are many breaks opened to us and support that we can fall back on, should we choose to utilise them, help in making us feel secure even as we take risks.

For the uninitiated, the X and Y-chromosomes are genes that determine the male and female sexes. Science has proven that in the absence of the Y-chromosomes, indifferent gonads become female sex organs. The pathway of normal human

development is female. The gonad influences the hormonal environment of a developing infant. However, the existence of the sex-determining Y chromosome will bring about the characterisation of maleness in a foetus, though for foetuses with XXY chromosomes, they would develop female characteristics. Sexual dimorphism, characteristic differentiation between males and females, depends on the development of the chromosomes, as well as the existence or absence of the Y chromosome. Expressions of hormones as the infant grows will induce sexual dimorphism in the person, and lead to different courtship behaviours in animals; lordosis (the female who lifts up her rump for penetration) and mounting (the male clambering onto the female to insert his penis).[2] Yet we know that human beings have created many variations to the act of procreation. Hormones released from certain parts of the brain stimulate gendered differentiation. We know that sexual differentiation happens during the perinatal development of a child. Books were written to discuss the sex of the brain. Despite various observations and speculations, the human sexual brain beyond the expression of hormones is still a subject of much mystery.

Psychoanalysis tries to explore the raw id of humanity, one that is a bubbling cauldron of explosive psyche and emotions, that is uncontrolled. In other words, the id is unrepressed sensuality. The ego, which develops during one's maturity to separate the conscious from the unconscious, with the juxtaposition of the pre-conscious between these two, is a control tower that attempts to sit in the middle between complete restraint and freedom. It leads to the formation of the cathexes (an object in which emotions are centralised) and the possibility of unconscious eroticism. Of course, according to Freud, the superego comes along and tries to suppress it all, but to little avail (this second phrase is my opinion but I suspect that Freud would have shared in

it). [3] Simmering beneath this unconscious psyche is the impatient erotic being trying to escape. But, none are closer to the truth. As knowledge brings us greater intimacy with ourselves, the less our understanding seems to be.

Anthropomorphism and the physical ontology

How shall one view the attraction and repulsion taking place between the electrons and protons, especially when charged? There is synergy in the various individual quarks that come together to form the required particles needed to make up a specific atom. At a macro level, and regressing a century, we find that scientists had discovered little particles in lodestones that allow attractions between two appositely polarised magnets. They called the lodestones magnetrons. Now they are awaiting the discovery of gravitons to explain the weak gravitational pull exerted by all cosmic objects upon one another. Kepler had somehow anticipated the gravitational attraction, and Newton came up with the mathematics for it. The concept of repulsion and attraction, whether at a visible or invisible level, is so strong that it permeates the way we see the world and our human relationships. Humans are considered natural lodestones because we can conduct electricity, which fries up our cells in the process. Scientists believe that animals are sensitive to the geomagnetic field, using it to their advantage when migrating. In biology, pheromones exuded by humans allow sexual attraction at the subconscious level, but is an obvious feature in the animal kingdom. You might wonder, what about attraction between those of the same sex. How does one explain it? It goes against the idea of like repels. Perhaps we are viewing it too simplistically. Looking into Greek mythology, Indian sex sutras and centuries old records, with actual histories and myths intertwined, one rediscovers that the attraction among those of the same sex is not a decadent feature of our contemporary

culture but has long existed. Hedgehogs repel predators with quills projected through their evolved jets. Electrons spinning in the same direction seldom occupy the same energy state, as they could not stand to be in the same 'state'. The erotic bond does not exist between these two electrons. On homosexual love, one could provide two generalised explanations. The first explanation is that this is unnatural desire, as most religions would tell us, due to the excitation of certain pleasure points in the brain. The second is that the desire is not about physical attraction, but goes beyond to the inner consciousness. Therefore, it is not about physicality but the internal characteristics of the two beings. The inner consciousness contains memories past and present that are stored to form a content pool of memes. These memes contain sublimated histories of individuals, and a collective group. Within this collective unconscious, suppressed memories of personal and individuated *jouissance* could be extricated. Hence underlying eroticism becomes a feature in our historical consciousness. Attempts have been made to understand the consciousness of a particle, but much is based on speculative hypotheses.

When a dart is thrown, why does it seem never to go in the direction that you have aimed for? A similar thing happens when you try to shoot a billiard ball into the pockets, or when you attempt a bricolage. They seem to move too far left or right. Barring your skill-level and parallax error (an optical illusion caused by the inability of the eye to accurately judge the distance or direction from its positioning), there exists such a principle called mechanics. The dart curves slightly as it travels, as will the billiard ball. This is because the inertia frame where these two activities are taking place is the Earth. The Earth spins around its axis as it spins around the Sun. Therefore no objects on Earth actually travel straight. So has our instinct failed us?

Well, only if we need to know how to avoid a stray bullet (would the bullet go straight or will it curve) or avoid oncoming vehicles on busy roads. The superficial instinctive feel for the world sometimes goes against scientific reality, yet at a deeper level, it is harmonious with our view of the world. This is the instinct that is linked to our erotic world-view. Yet when one re-examines the idea of the erotic, the sinuous and cosinuous curves afforded by the rotational movement of the earth goes well with the curvaceous force of gravity. Imagine the voluptuaries of a naked body, or a cushy divan that caresses your tired body. Now, think of the Earth as being cushioned by the warped space-time, its body embraced by radiation and an atmospheric halo.

There are segments of today's society that dream of revolutionising computer science to permit real-time virtual sex and robotic sex slaves. It becomes a fantasy stemming from the frustrations we feel with cybersex (and secretly, with the real thing). Perhaps Bataille is right in hinting on how for some; the erotic self is tie up with sado-masochistic tendencies. We can manipulate these tendencies better with a man-made digital device that lacks its own individuation and consciousness. Is this erotic self-indulgence? Then there are vibrators, based on the principle of mechanical vibrations, which are appendages in masturbatory activities. But then, one could view the self-inductance of the electromagnetic coil used by Faraday to demonstrate his experiment on electromagnetic inductance as physic(s)-al masturbation. Think of a magnet moving in and out of a magnetic coil, exciting the magnetic field, and producing currents, hence resembling the semen produced during penile masturbation. The feminine coil exerts a powerful control, for without it, the lodestone would not have been excited into its polarised state.

Some might argue that the coil envelopes the magnet, but I prefer to see it as a form of spacious embrace. Oscillations of atoms create a group of vibrating particles that, when in resonant modes, produce laser. Laser is created by the stimulated emission of radiation. Stimulation takes place in an inverted population of particles that clamour at the point of stimulation. The greater the stimulation, the greater the amplification will be, until it reaches saturation level, as more and more particles are attracted to make a transition to their lives, like a game of seduction. However, seduction could only happen when the object of seduction is being eroticised, which stands in opposition to pornography.

Making Science Sexy

Commodification and the Inhuman

In the days before technology was developed enough to take the grind out of science-learning and when unimaginative teachers had insisted on following rigid textbook outlines in conducting experiments, many a student had yawned his and her way through a biology or physics class. Even the more motivated students had to suppress their impatience as they bid their time. While many did not continue the study of these subjects beyond high-school, those who did had genuine interest in the latter.

However, when government policies were enacted to promote the sciences to students, science and technology became heavily politicised. Some students chose a career path in the sciences because it provided a smoother route forward. Now, millions to billions of monies are spent in creating Disney-like science galleries, high-tech exploratory labs with expensive models, and science-education programmes in order to cultivate a greater prerogative for science among the school children. Sniffing money in this, many corporations have also jumped into the bandwagon. Of course, it

is only fair to say that some who do (whether corporations or individuals) actually have a passion for what they do, though their ethics might be questionable.

Science is made exotic to attract the layperson's attention. In that event, it has become an erotic *object-petit*. It is so easy to notice these things as we watch them on television every week, if not every other day. Discovery Channel is a popular educational programme today, as are National Geographic and other documentaries broadcasting scientific revolutions and advancements on the electronic screen. These big corporations make their bucks publicising information formerly the prerogative of the elite to the masses, and then commodifying whatever they could into products; mugs, t-shirts, toys, etc, to be sold to the general public. We see scientists up close in our living rooms. We watch them pontificate on their latest projects and discoveries as cameras zoom in for close-ups of the latest artefacts dug up, or at a new form of surgery pioneered. We also get to see other living creatures living out their most intimate lives, with zoom lenses that could magnify the tiniest image by the thousands. The advent of Internet allows professional scientists, students and amateurs to exhibit their works to the connected world. The intersection between art and science becomes blurred. Artists who make art into a science and science practitioners who seek to please aesthetically are the avant-gardes of our generation. Boring lessons from dry textbooks are now transformed into a pleasure dome of swift images and breath-taking visuals that move quickly across our eyes. These images include the MRI (magnetic resonance imaging) and radio imaging taken from the cavities of our bodies, from intimate matrices of our cells. We see radio-telescopic pictures of snaking comets and other extra-terrestrial objects, magnification from the crevices where the nano-electronic circuitries lie and close-ups on the sex-life of the

prokaryotes or fungi. Could one say that the understanding of an average person on the street has improved? Obviously not, for though these shows and visuals seek to explain the processes and the how-to as simply as possible, they could not explain the whys and the knowledge that could only be understood through years of apprenticeship. Information bombardment confuses. However they afford the pleasure to fill hours of boredom and emptiness, or the hours between procreation. Having such close and intimate connection with the world previously barred from most of us, even if this is a world that we have only little understanding, afford us great pleasures. It becomes a form of a legitimised peep show.

Technology has also brought about the amplification of conspiracy theories, with images captured by electronic documenters and gadgets. We fail to realise that the attractiveness of conspiracy theories is because they appeal to our pleasure points. The invisible force of science wriggles, tunnels, and weaves its way into our lives, from the ubiquitous electricity that we use to get work done, to animal husbandry and farming. A delicious fact is that ‘holes’ left behind by moving and negatively charged particles like electrons could provide the current that power the global landscape, from ice-capped mountains to parched deserts. Cross-fertilization and organic farming has provided us with new hybrids, for better or worse. So do genetically modified food with its health risk or benefits. The production of boiler chickens, a process involving the housing of poultry in close proximity, leads not to intimacy, but to cramped, miserable lives before death at the slaughterhouse. We would not suffer ourselves to live like this, if we could help it. But these creatures have no choice, as they are there to feed our hunger and our rising population stemmed by uncontrollable births (or sex?). These chickens are fed with morsels we would not dream of feeding

our pets or zoo animals. Our cravings for juicy meat lead to our cruelty. Modern homes can be spacious, but only if you could afford it to be so. In that regard, it is not too different from buildings of the previous ages that are defined by land ownership and economic power. Perhaps we have never developed beyond dry economics, with everything categorised and 'logically' planned. What about more space to allow us to live in harmony with natural habitats? Perhaps we need not then kill so many trees to make way for our abodes? We need to create an intimate space to be shared by all living organisms.

Erotic space

Most works of art, whether cinematic, in cyberspace, on canvasses or as sculptures, are influenced by the way we perceive the world. And the way we view the world has to do with how we have scientifically progressed. Nobody would have thought of building places to accommodate electrical items, water piping and even air conditioning if not because we take all these material comforts for granted. Modern art from the last century showed perfectly the kind of buildings that would not have existed two centuries before. Factories in 19th century industrial England were definitely different from the factories in South East Asia. Why? It is because the automatic processes (as opposed to time-consuming manual labour) are now accommodated by the factory spaces that contain them. Automations perform menial work previously done by human slaves. Films can now make illusions that seem as real as life. One could feel the force of the characters' interactions within an intimate and erotic space; on a widescreen plasma TV or box auditorium. Bedroom/erotic foreplay from an imaginary *mise-en-scene* shares a space with its viewers who might be using them as stimulus to their sexual games. The underside of these would be the

existence of hidden cameras deposited into private spaces by unethical voyeurs for the purpose of filming or spying on unwary objects. Tools used in espionage have now become tools of sexual violation, all in the name of gratifying the erotic needs of the viewers.

Certain instruments of scientific advancement could never escape us through the billboards, sodium streetlights and phallic buildings with multi-coloured lightings. On billboards, one sees ruthless marketing that equate sexuality with affluence and luxury. Anatomical sections of bodies are emphasised and dismembered in order to up-play their erotic shapes and suggestions. Mobile phones with their polyphonic tones posit various signifiers to the activities of its human callers and phone owners, with promises of secret rendezvous and SMS sex. Objects of desires and lusts are now easily captured with video-cellphones and shared among friends.

Thomas Kuhn's *The Structure of Scientific Revolution* argues that the history of science "shows a discontinuous series of breaks and radical departures (called 'paradigm shifts'— a phrase that has enjoyed a certain celebrated status in postmodern circles), rather than a progressive, linear accumulation of knowledge." [4] If we are to start considering scientific knowledge as a fluctuating system inscribed with various signs and symbols, we can be said to subscribe to a 'real' that Luce Irigaray proposes as including

in large measure, a physical reality that continues to resist adequate symbolization and/or that signifies the powerlessness of logic to incorporate in its writing all the characteristic features of nature. [5]

In the present climate of the cultural studies of science, natural science is studied together with the anthropo-centric social sciences. Gendered dominance of a particular group in the scientific field has created a scientific culture and identity that is predominantly of one gender. Grant alludes twice to Francis Bacon's quote of "place nature on the rack in order to force her to yield her secrets" to emphasize it as a particularisation of the male gaze. [6]

Yet, most of the early postmodern discourses on science are too reductive in their conceptions of science as a series of narrative representation. Deconstruction of scientific studies takes a broadly empirical view that science could be broken down into discrete building blocks, as opposed to a continuity of conditions intimately connected to one another. However, on the obverse, deconstruction's ability to turn the scientific system upside down, and to force it to look into itself, is a useful tool that encourages scientists to rethink the way things are. Haraway herself refuses the notion that 'nature' could be reduced to the 'narrative' and science to signs. In later postmodern discourses, the concept of hybridity and network, while might seem like a good idea initially, soon begins to resemble a chaotic assemblage of sexual identities, histories, memories, realities and ideas. Postmodern discourses on science did not do much to solve the early paradoxes of modernist science, but instead, brings with it additional problems. An example is when subjective discourses are emphasised over facts (which, though might not be consistently objective, provide a launching pad towards more rigorous experimental discourses). The over-zealous use of Deleuze or Derridean post-structuralist theories as a microscope to study the sciences have not validated the discourses of postmodernist subjectivities, but have instead stirred ridicule from working

scientists who know what they are talking about.[7] The idea of “connectionism”— making connections between things, and the simulacra, is both similar in their simulating of physical realities that do not create a greater intimacy with the objects of study. Postmodernity has not opened up the gate for a wholesome theory that could be utilised when evaluating a new paradigm or one not already in the current system. The tools provided by the postmodern theories are merely language games that could not be utilised in the construction of actual experimental hypothesis, whether through physical or mental laboratory. On the other hand, postmodernity is partial to the concept of research as a “search for knowledge”, with long term goals as opposed to short term earnings. In a way, postmodern constructions have redeemed the association of the sciences with the arts, which disappeared with the onset of specialisation in modernism.

Rococo Science

It is not my aim to talk about the sciences of the Rococo period, which would have taken place during the eighteenth century in Europe. Instead, a choice is consciously made to rethink the word “Rococo” when juxtaposed against the word “Science”, to create a new proposition. Rococo is an individual culture with great beauty, gracefulness, charm, humour, privacy, and discreteness. This is the very culture of science that we should aspire towards, one that entwines the public sphere of science, its public image and grandiose schemes, to the private sphere of a layperson, who would then be intrigued and interested in the progress that science goes through.

Yet it seems that the scientist themselves, despite the popularising of their culture for public consumption, are seen to promote an asocial culture of science. Sharon Traweek, in her paper, describes the difference in attitude between the American and Japanese scientists. On claiming for the heterosexuality of physicists (she is speaking of the American physicists – I am referring to a paragraph in her article that addresses their beliefs), she argues that the American physicists (high-energy physicists in particular) argued for taking away time spent on social activities to be fully utilised in their physics research. According to Traweek, “This terse sexual economy is not unlike the importance of economy in physics: do not spend time and money on detectors and software where you need not.”[8] However, there are still many eminent scientists who believe in writing books for the intelligent public, books that are not over-burdened with jargons and tangled equations.

When the Rococo movement came into being in the eighteenth century, it was as a natural reaction against the strictures and rules that dictate the production of art in the Baroque period. Therefore, appropriating this particular movement into the early part of the eighteenth century provides for a less constrictive way of looking at the sciences, away from the personal limitations placed by the scientists on themselves, while not losing focus on the object of one’s study, which is the science itself. While some might like to argue that Rococo is a loud and brash form to follow, there is a need to look beyond that to see what its greatest elements are, which include freedom of movement, freedom of thought and the daring of the imagination. The Rococo is not about merely drawing attention to what one is doing without anything substantial to show. It is to make the culture of science an attractive feature of the rest of human culture, but without diluting the importance and complexity of its condition. It

believes in clarifying misunderstandings that had arisen partly from the attitudes of the scientific establishments, and myths perpetuated from popular publications.

Another important element which is usually overlooked in the sciences is how specialisation has led the specialists to be divorced from the greater body of knowledge within which this particular specialisation inhabits. While the scientific establishment encourages cross-fertilization between disciplines, and between specialisations, there is still a tendency of territorialism among the scientists themselves, as is demonstrated in Traweek's research. There is now a fear that science has been hijacked by the postmodern theorists, a fear sometimes founded, but at other times due to misunderstandings from both the social science/humanities theorists and the science theorists/experimenters. There is a need to encourage healthy debate from both sides, instead of territorial defensiveness, which is often the case observed among the extreme proponents in both groups.

As a former science student, I see that our arrogance over the supremacy of the sciences have blinded us to the rigidity of a system that reduces life to equations and atoms. In order to illustrate this, included here is a lengthy quote from Traweek's paper, where she describes the "narrative leviathans" of scientists:

Scientists are fond of grand explanatory systems, the sort of authoritative stories Lyotard has called the "grands recits." Scientists like their machines to write this way. The easy assumption is that nature coupled with the genius authorizes science, so they are entitled to account for everything and reject all other stories too. To borrow (and disrupt) a notion from Hobbes by way of Michel Callon and

Bruno Latour, almost all these stories, whether about nature, scientists, or science, are narrative leviathans, producing and reproducing all encompassing stories of cause and effect through the same rhetorical strategies. They are wandering through those perpetually replicating Cartesian grids, telling stories about huge minds and gargantuan machines with big names, exciting monstrosities that fit nowhere. The erotics of taxonomies, the satisfactions in controlling grids of difference, and the aesthetic pleasures of sameness are fetishized in totemic machines, the only place where theories can become facts. [9]

While there is a sort of sexiness to order and machineries, as explicated by Traweek, taking it too far lends credence to the theory of crazy or inhuman scientists popularized by comic books and Hollywood blockbusters. It also fails to impart to the non-practitioner a science and its culture that can be both erotic and sensible. Instead, science and its practitioners are now viewed as the Other that inhabit the liminal state that is neither mainstream nor outside. They are seen as doing incomprehensible mathematical derivations and experiments (which is not too wrong an assumption to make, as most of what scientists do are indecipherable to even the most educated lay person) without realising that much hard work and learning is required to grasp this minute amount of intricate human knowledge, or that a scientist who is extremely good in one area might fail to comprehend other areas which the other scientists are involved in.

By taking a step away from the Baroque formality, where we take a too mathematical view of the subject, and moving towards the Rococo, one that is light-hearted and

even playful, we might find ourselves becoming more intimate with the subject of our gaze. Rococo science could be immediately private and public, discreet (not garish or ridiculous) yet globally accessible.

Androgynous Tech-Culture

As a prelude to the culture of androgyny (and the cyborg), here is a quote from Haraway's *Cyborg Manifesto*, where she defines the cyborg as

a creature in a post-gender world; it has no truck with bisexuality, pre-oedipal symbiosis, unalienated labour, or other seductions to organic wholeness through a final appropriation of all the powers of the parts into a higher unity.[10]

She also describes the coupling of organisms and machines in medicine. An apt example would be the heart pacemaker or iron lungs that enable a formerly derelict human to survive for many more years to come taking over the functions of fail-to-function organs. The genetically mutated mouse is one of the many species of rodents and animals that have been modified or tampered with, depending on whose side you take, for the purpose of finding cure or palliation for human ills.

Many of the higher technologies are slowly moving towards the androgyny, whether we realise it or not, though there are still some gendered biases and nuances that are leftover from the days when men dominated the techno-culture. Spaceships are named after warrior types, most of whom are male (from Apollo to Viking – the latter, despite the existence of female crews, still conjures the image of blood-thirsty male pirates). Yet, use of names like Voyager, despite its neutrality, does not quite conjure an image of an androgynous being. Scientists building detectors and instruments often give them female names. The subtle implication of such naming conventions

delegates the feminised entity to the role of ‘helpmeet’, an assistant or subordinate in the making of Nobel-prize winning discoveries. This reminds us of the twentieth century warplanes that were given female names by their male pilots. However, by subverting the tropes between the person of power and object in subjugation, one could see it as a coupling between the male ‘master’ and female ‘machine’, and hence a conjunction between the masculine-feminine to produce androgyny. This could therefore also allow the coupling between the male ‘machine’ and female ‘director’ (for want of better semantics).

The Internet has given rise to cyber-communities where the gender of its denizen no longer matters as much. While it is argued that the Internet merely replicates the realities of real-time living; like lower level of penetration by female users and higher usage among the males, it is rapidly moving away from single-sex biases to attract users for all kinds of activities, from online shopping to blogging. However, the computer equipments are still not very instinctive. While there are many computer users who feel at home typing in front of the terminal, there are still others who feel intimidated by it. Use of pseudonyms and nicknames in online communities, like in Slashdot [11], allows much privacy to the users and enable them to cross boundaries of sex. The ambivalence of gender and blurring sex of the cyber-denizen or a bot (artificial intelligence entity of varying complexities that trawls cyberspace) is erotic in that they can enter our most intimate space without leaving a feeling of intrusion.

As AI proponents and neural network specialists have discovered, a cellular automata or artificial intelligence that are created from the current principles of computing are nowhere close to even a tiny percentage of the human brain performance. Despite the

various looping and else-ifs, programming languages (software for the computers) are still built on rather procedural and linear structures that are based on how many discreet (and analogous) possibilities for a particular cause of action. Perhaps we should think about what Sadie Plant highlights with regard to the feminine qualities that Freud found disconcerting; a woman who thinks backward, in reverse and inside out as she builds her intellectual system. [12] While this quality is not necessarily feminine, it is definitely different from the mainstream masculine structure of thinking. This is something that the artists and creative persons would know. Not only that, this is something to be argued for the androgynous mind (known as a mind that appropriates the best qualities of the feminine and masculine methodology). Perhaps, it is time we think about building an ‘androgynous’ intelligence, instead of stubbornly persisting in our linear and non-linear networking that refuses to break out of the mould.

Conclusion

Some of you might see my arguments as a distortion of reality, objectivity and facts. Some might even view it as unjustified and licentious. However, I believe that this manner of re-thinking science could be used by both social and natural scientists because it provides them with a different perspective when looking at factually-oriented and supposedly objective subjects (though both are debatable). Our view of knowledge will certainly alter as we build on our understanding and refinement of ontology.

NOTES

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