

Chaos and Literary Aesthetics: Stitching the Indian Myth

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“Where chaos begins, classical science stops.”

- James Gleick, *Chaos* (Gleick, 3)

In and around 1960s, troubled were those who extended arguments upon arrangements of voluptuous assumptions. Sipping his coffee, Edward Lorenz saw on his computer, a Royal McBee, a dry mid-day being simulated. A meteorologist as he was, he had offered a major portion of his room to this machine in exchange of information that marked his eminent reputation at the Massachusetts Institute of Technology. “Outside his window Lorenz could watch real weather, the early morning fog creeping . . . Fogs and clouds never arose in the model running on his computer” (Gleick, 11).

There was a gap. There always had been and many, across various fields realised, there always shall be. “Discourse is invoked by Foucault as a term for an exhaustive representation; that, therefore, leaves no gaps or silences” (Frances, 2). Every discourse arose from an agenda. It could be of power, or of knowledge, or both, but the voices that were made silences or noises, were not a matter of chance. Chance is innocent. It was the persistent attempt of selectiveness. From the choice of words to the choice of vision, it was a procedure of omission and preference. The intent behind outruns the action and the selection. Not considered dire, such ‘innocent’ assumptions and selections lead people into the realm of being interpellated with the stagnant yet strong belief that it was them who writ and were writing a narrative of their own choice. But their presence was passive.

Monologism, at its extreme, denies the existence outside itself of another consciousness with equal rights and equal responsibilities, another I with equal rights (thou). With a monologic approach (in its extreme pure form) another person remains wholly and merely an object of consciousness, and not another consciousness. (Bakhtin, 1984, pp.292-293)

They were noises; irrelevant dust on the shining armour of natural reasoning. Every field favoured those problems that have solutions, and that too on conditions given in a lab devoid of all forces that act upon the empirical existence of all

those who will be applying that in their own lives. “Theorists operate in a pristine place free of noise, of vibration, of dirt. The experimenter develops an intimacy with matter as sculptor does with clay, battling it, shaping it, and engaging it” (Gleick, 125). This gap, a meek silent terrain of voicelessness, did trouble people like Lorenz but it intrigued those more who picked a pen to write, or rather rewrite, reality. It was not a better reality, they claimed, but a narrative that never relished the brisk air of acknowledgement, let alone applause.

Truth can be true, but every Truth aligns itself in a hierarchical order of agenda. “Truth is not born nor is it to be found inside the head of an individual person, it is born between people collectively searching for truth, in the process of their dialogic interaction” (Bakhtin, 1984, p.110). In an age of doubt the right questions mattered more than the right answers, for one leaves and the other leads. In the later half of the twentieth century, minds were troubled with the improper interaction with and answering of noises, the others, the silences or the disturbances in all perfect systems of an equilibrium world. “Monologue manages without the other, and therefore to some degree materializes all reality” (Bakhtin, 1984, pp.292-293). Something was not fitting. Assumptions were taken as a threat to growth. They looked back at factors that were rounded off, facts that were compiled in the name of precision and result. “Lorenz felt a jolt: something was philosophically out of joint” (Gleick, 17). So, they decided to ask again.

Henri Poincare was one of the first to question the assumptions about stability in nature. On paper, and even on computer, population estimations were being grinded to the precise decimal number while rabbits in one odd year outgrew their estimated number on the digital screen, while on the other hand foxes, predicted to die of hunger in a huge number, were seen embracing a growth to such an extent that they spread to the nearing terrain as well. “Rabbits do not always act the same way or produce at the same rate, nor do foxes, for the weather and living conditions of each season vary, as do the kind and amount of nutrients in their diets” (Slethaug, xx). Insignificant events and occurrences led to the fallout of significant, extensive and expensive estimations after months and months of observations and calculations. Noises were giving soreness to the voice, and people were starting to hear gibberish with adherence.

These triggered minds could see the smoke rise as a column from a cigarette and break into wild swirls, they’d watch the flag snap back and forth in the wind, in the behaviour of the weather, of an airplane in flight, cars clustering on

an expressway. They could feel expression in gibberish, flow in the pattern of abrupt narratives, and flaw in the epical metanarrative. A few years back the city council of Monza, Italy, barred owners from keeping goldfish in curved goldfish bowls. It was justified by saying that it was indeed cruel to keep a fish in a bowl with curved sides, because, gazing out, the fish would have a distorted view of reality. But how do we know we have the true, undistorted picture of reality? Is there not a chance where we ourselves also be inside some big goldfish bowl and have our vision distorted by an enormous lens? The goldfish's picture of reality is definitely different from ours, but can we be sure it is less real? (Stephen Hawking, *The Grand Design*, 54). But, to know a vision without being shown can occur prominently after closing the eyes to what we saw, as Kuhn says, to accept the future, one must renounce much of the past. (Gleick, 39)

Chaos theory did not grow as a remedy of what wrong had been done in the sciences. "I don't write a book so that it will be the final word; I write a book so that other books are possible, not necessarily written by me" (Michel Foucault, Interview). It was not an oppositional force coming to jolt and free the systems from stringency and an eternal sense of determinism. Chaos poses problems that defy accepted ways of working in science. The Greeks suggested it as a paradoxical state in which irregular motion may lead to pattern, and disorder and order are linked. The understanding developed in the contemporary times and it became more than a closure to order. It became a celebration of disorder within the order, and of order within disorder. The small particles, the bleak noises and dissipation in an orderly system may have been rounded up but they cause disruptions of a huge magnitude. "The sensitive dependence on initial conditions means that similar phenomenon or systems will never be wholly identical and that the results of those small initial changes may be radically different" (Slethaug, xxiii).

Science started relishing, as mentioned before, the questioning of given principles around the 1960s. Realisation dawned around this time that quite simple mathematical equations could model systems every bit as violent as a waterfall. The theory embraced the dynamics of an inclusive approach towards the pattern on the leaves, to the pattern of rivers, the paths of lightning, the shape of clouds, or the fluctuations in population and markets. "Monologue pretends to be the ultimate word. It closes down the represented world and represented persons" (Bakhtin, 1984, pp.292-293). Scientists who started

working rebelliously against the orthodoxy of the eminent 'given' found themselves under scrutiny, surveillance and seclusion, like they were crazy, ungrateful devotees willing to put mundane questions to the sublime. But they took it gracefully. "I am not crazy, my reality is just different than yours" (Cheshire-cat, *Alice in Wonderland*, 59).

Other than physicists, meteorologists, and more troubled scientists, minds from other fields started questioning as well. Physiologists found a surprising order in the chaos that develops in the human heart, the prime cause of sudden, unexplained death. The rise and fall of gypsy moth populations were explored by ecologists. Economists tried a new kind of analysis on old stock price data. After James Gleick penned his marvel *Chaos* in 1987, literary minds, always baffled by jargons in physics, finally read words that were not accentuating a distinction between sciences and human sciences. They took a deep breath. Even literature had to be revisited. "Simple, deterministic systems could breed complexity" (Gleick, 307).

Harriet Hawkins in *Strange Attractors* has explored the works of early figures such as Shakespeare and Milton under the light of the concepts and metaphors of chaos theory. In *The Arrow of Chaos: Romanticism and Postmodernism*, Ira Livingston explored the mentioned domains with chaos theory. N. Katherine Hayles wrote *The Cosmic Web*, *Chaos Bound*, and *Chaos and Order* to traverse the interface between modern literature, literary theory, and twentieth-century physics. American, Canadian, African and British literature, all were timidly succumbing to, as Gramsci calls them, organic intellectuals. "The intellectual was rejected and persecuted at the precise moment when the facts became incontrovertible, when it was forbidden to say that the emperor had no clothes" Michel Foucault (Frances, 2). Fear was giving way to dare.

"Do I dare/ Disturb the universe?"

-T.S. Eliot, "The Love Song of J. Alfred Prufrock".

The earliest works of literature in India were orally transmitted. Rig veda, a collection of sacred hymns, dates back 1500-1200 BCE. Then there were Sanskrit epics, *Ramayana* and *Mahabharata*. By the ninth and tenth century literature in Telugu and Kannada also flourished, followed later by literature in Marathi, Odia and Bengali. On the platter of the world, Indian literature is mature enough to be quantified and qualified as an important component of world literature. It,

worthily, deserves a revisit through the lens of chaos theory. The only initiation is not that of correspondence with the thought of barging Indian literature into the realm of all literatures of the world that have been approached by the chaos theory, but with the affirmation of diversity within and around all forms, genres, regionality and nationality of Literature. All boundaries collapse.

The Dry-Tree Silhouette

“The water walks barefoot in the wet streets”

- Pablo Neruda, “White Bee”.

Scaling is an act of determinism. What humans cannot scale, they cannot estimate, anticipate or appreciate. The concrete understanding of a phenomenon is based upon the scales that themselves are accepted, assumed and given. Nature defies humans that mere privilege. Imagine a photograph of a mountain. The human eye fails to assert and allot a specific scale as to how big the mountain actually is. But if the photograph had, for example, a temple, then the human eye takes it as a referent for scaling the size of the mountain using the height of the temple as a base unit.

Nature is similar at different sizes. A small mountain is similar to a tall mountain. Air travellers lose all perspective on how far away a cloud is. Without cues such as haziness, a cloud twenty feet away can be indistinguishable from two thousand feet away. This is because nature is unlike a linear system where all the blocks can be broken down and put back again without having any loss or gain. In nature, in nonlinearity, in chaos, and in literature, all blocks do not add up because in them what all base particles do, when they come together is unpredictable. “Implicitly, the mission of many twentieth-century scientists had been to break their universe down to the simplest atoms that will obey scientific rules” (Gleick, 14). But it is one thing what one atom does, and what all of them do. When together, they hardly go straight. Art that satisfies lacks scale. Dharamvir Bharati had no referent of moral scaling while reading *Mahabharata*. *Andha Yug* was written in 1954, around the time when Indians had questioned, intrigued and inverted the authority of the British raj on the reality of their land. They were looking for more.

Alok Bhalla defended his decision to translate *Andha Yug* by calling it a service of practical reason, and “given the present condition of the country, in the aid of political sanity too” (Bharati, 1). Bhalla emphasized on the relief that Dharamvir Bharati brought to the character of Krishna by making him a more

humane figure “with whom the self can always conduct a dialogue” (Bharati, 3). Bharati’s entire struggle was to bring the epic to the empirical realm. The development of the epic was made a straight pipeline of linear perspective but there was branching that never made it on the page. The biggest quantum leap was that of the aesthetic. The branching was, if not less, similarly aesthetic than the straight bark of the tree. Gert Eilenberger, a German physicist, asked,

Why is that the silhouette of a storm-bent leafless tree against an evening sky in winter is perceived as beautiful, but the corresponding silhouette of any multi-purpose university building is not, in spite of all efforts of the architect? . . . our feeling for beauty is inspired by the harmonious arrangement of order and disorder as it occurs in natural objects-in clouds, trees, mountain ranges, or snow crystals. (Gleick, 117)

Even the intent of fiddling with an epic as huge, pious and mature as the *Mahabharata* was a reason enough to exile an ungrateful soul. They had no place for someone who was not obliged by what shape such literature had taken over the years. Dharmvir Bharati was after form. For him, each stroke that is taken on a white canvas is an act of violence. Each drop of colour that marks it fixity on the dimensions of the canvas is an end to the entirety of innumerable possibilities that could have sprouted from the exact same place. Branching of possibilities is an expansion of horizon. If a painter knows the violence being committed, only then is he/she a great artist. But an insistence on the finality and exclusivity of their stroke is a step towards precision. Where there is no dialogue, there is decadence. An age of an enlightenment, honour, valour and *dharma* becomes the blind age, *Andha Yug*.

The blindness was towards the futility of war that even the foot soldiers were more willing to contemplate than the people who were debating *dharma* itself. They had not violated any honour because they did not have any. “The ordinary foot-soldiers of the Kaurava army are cynical about those who control the affairs of state. They are more concerned about their immediate physical survival than about questions of law or virtue” (Bharati, 8). These small dissipations in the singularity of a bark made the entire narrative more chaotic where earlier it was statically moral and simply a confrontation of black with white. The piousness perforated, such branching was aesthetically more vibrant because it was more encompassing.

Imagine a person riding a bike on an empty road. The path of travel

becomes a straight line where the torque hardly changes for any reason and the journey is smoother because of less braking (dissipations) and stopping (collisions). This is true even when the reaction and properties of one atom or molecule are observed in isolation. On the road to literature, one is never alone, no matter how much he tries to be. Riding a bike on a crowded street is like writing a poem in itself where your path is highly dependent not on the capability of one's mind but on the chances that are jumbled to you through the probabilities of the constant dissipations of each rider, driver, pedestrian and even pet or potholes. Chaos is like "walking through a maze whose walls rearrange themselves with each step you take" (Gleick, 24).

If the trajectory of each day of that person is traced in black on a white sheet of paper, the small dissipations will be gentle touches of aesthetic vibrancies for the destination each time would be the same. Even in that chaotic trajectory there is bound to be a set pattern, if not in scaling then in dynamics, like the trajectory around the corner of the street or a lane where potholes make the rider take almost a similar path that he or she took the previous day and will take the next day, or avoiding collision even on the scaled path where obstacles are not static but jumbled each day. Limiting only one, scaled path as the only route for one destination is making a closed ended, isolated and unobliging assertion of rounding off all those small dissipations that are empirically existent. The same happened with epics, and the same happened with *Mahabharata* as observed by Bharati himself when he says,

Since I have shared its sufferings, how can the truth I discovered be mine alone? A time comes when the superficial distinction between the 'self' and the 'others' is erased. They are no longer separate. This is the 'whole' truth. I have 'personally' discovered it- but its dignity lies in its being widely shared once again. (Bharati, 17)

A glimpse of this entirety is what made Bharati enter in dialogue with the straight line righteousness of dharma itself. No more rounding off in the name of precision. Edward Lorenz learnt it the hard way. He wanted to examine one sequence at length so he took a shortcut. He decided to start midway and gave his computer the initial conditions that he had noted in an earlier printout. He came after having a coffee and saw something that changed his study forever. The new run should have copied the old one to its exact range but what he saw huge divergence between the old and the new run. Divergence that was so huge that there was hardly any resemblance. But then suddenly "he realised the truth"

(Gleick, 16). The problem was in the numbers that he had typed. In the computer's memory, six decimal places were stored: .506127. On the printout, to save space, just three appeared: .506. "Small errors proved catastrophic" (Gleick, 17). Vyasa saw linearity of a narrative and the reception of the text was entirety. Bharati emphasises this aspect when he makes Dhritarashtra realise, "Today, I realised that there is a truth that lies beyond the boundaries of my selfhood. I realised that only today" (Bharati, 35).

It is often believed that one of the oldest criteria of beauty is symmetry. But, nature seems to follow a geometry of the irregular, the jagged, and the kinky. As Mandelbrot puts it, "Clouds are not spheres, mountains are not cones" (Kumar, 58). This irregularity arises from randomness. Randomness is not new, it was never new. It always existed. The guards were always there standing outside the palace of those who were involved in the 'dharam yudh'. Lorenz, in his model, saw more than randomness, he saw "order *masquerading* as randomness". It was not confrontation of order, like Ashwathama says, "Whoever is not with me is against me" (Bharati, 55). It was a celebration. Life does not go linearly. At each instance there is a chance of a bifurcation. Each of the branches that form from the breach of a linear trajectory due to a random dissipation are also a truth in themselves and not a breach into the sanctity of the linear bark. "What man does at each moment becomes his future for ages and ages", says the Mendicant, further depleting the authenticity of the essence of life preceding existence (Bharati, 58).

Yuyutsu was one of the few in the entire cast of *Mahabharata* who tried to see the bifurcation early on. He is dejected by his family for not supporting them. He wishes, for acceptance, that it would have been better if he would have turned a blind eye to Duryodhana's wives. The helplessness of those who questioned the affirmation of authenticity were in a habit of being exiled and shunned. Vidura says, "Whenever someone turns away from well-worn traditions and seeks to find his own path the ignorant, the cowardly, the simple-minded always treat him with contempt" (Bharati, 73) when he feels the pain of Yuyutsu, who says, in lament, "It would have been better if I had accepted the untruth" (Bharati, 75). The fear of being unaccepted was the most favoured and flavoured reasons why epics were hardly revisited. Thomas S. Kuhn mustered up courage and pushed a sharp needle, around 1962, into the traditional view of science. He readily emphasised a contrast between the bulk of what scientists do, working on legitimate, well-understood problems within their disciplines and "the exceptional, unorthodox work that creates revolutions" (Gleick, 36).

Envisage how phenomena like discontinuity, bursts of noise, and such, had no place in the geometry of the world for two thousand years. “The shapes of classical geometry are lines and planes, circles and spheres, triangles and cones” (Gleick, 94). They were a powerful abstraction of reality but, as already stated, Mandelbrot asserted how clouds are not spheres and mountains are not cones. The new geometry, he says, is rough, not rounded, scabrous, and not smooth. Epics are essentially a faith that they are a straight line like a thunderbolt, but the reality is the the lightning bolt lead it differently than going straight.

The age of doubt is always insightful. The age of determinism is blind. People fearing to doubt is the decadence of any tree of civilization, because the branching of trees is what exposes the leaves to the most of sunlight, proper distribution of weight and maximum utilization of spherical space. If the bark shoots straight up, there shall be no room for the flower to bloom and the fruit to hang. And even if the fruits bloom and ripen, in a perfect narrative, they never leave the bough. “Does ripe fruit never fall? Or do the boughs/Hang always heavy in that perfect sky,/Unchanging” (Wallace Stevens, “The Sunday Morning”). Writers were tempted to enquire the impeccable perfection of paradise itself. Bharati scripts Vidura who is fearful when he says, “but is a sin to doubt and I do not want to sin” (Bharati, 92).

Andha Yug extends how Bharati radicalised the idea of a void of noises that were rounded off to make the surface smooth. The writers of epics held, along with a pen, a sandpaper in their hands to scrub away patches of itching surface. The heroes could not be touched. Blemishes were made upon those characters who were created to solve specific purposes in the narratives. If one has to deliberate on the honesty of character A, throw in a character B who is caught cheating in the sub-plot somewhere on the street. Sanjay saw the rampage of Ashwathama who had no other meaning to his life than the downfall of the Pandavas. He earnestly reported it to Gandhari, “It was horrible sight! He was cruel. He was dreadful” (Bharati, 100). It is the reply of Gandhari that made the age blind in itself, like the willing curtaining of cloth on her eyes, when she says, “But he was heroic” (Bharati, 100)

While ‘The Green Apple’ is the dynamical potential of a system that opposes equilibrium modeling, ‘The Dry Tree Silhouette’ is bifurcation and branching. The determinism of the path falls into randomness. The distribution of a river into tributaries is not an instance of disintegration but a channelisation. Bringing *dharma* to the realm of those who died in maximum numbers in the war that

was held in its name, Bharati channelised the possibilities of meaning and interpretation of the word that, like Euclid's Geometry, was not branched for more than two thousand years.

“Instead of such entropic dormancy and inertia, the writer needs to raise questions, ‘ambiguities, contradictions, whispers, hints’, in order to alter a system and combat threat of totalization” (Slethaug, 52). The systems that quantify the essence of totality inevitably become stagnant. Derrida was one of the first to say that since art is a means of “imposing order upon experience” (Slethaug, xv), it tends to erase all the flux and nonlinearity. It was the purpose of art then, to reinscribe it through narration. “Behind the throne I won stretches a long and unbroken tradition of blindness and stupidity” (Bharati, 129), Yudhishtira says. Bharati scripted realisation in the victory of Yudhishtira as futile quest for a smoothed understanding of existence. Yudhishtira contemplates, “And what is victory then? Is that not also a long and slow act of suicide? (Bharati, 143). The line making distinct the difference between victory and different was in itself not a straight line but a combustions of zigzag streaks that has a flavour of both, order and disorder, and a truer sense of beauty arises through a blend of these two.

Sitting somewhere at a crossroad milestone, D'Arcy Thompson must have thought about dynamic systems like these. It was his ardent belief that systems hold inherent in themselves dynamics that cherish. He thought of life to be “always in motion” (Gleick, 202), which always responds to rhythms, “the deep seated rhythms of growth” (202). Forerunner to his thought must have been Plato who spent a major segment of his life dwelling upon the form that incarnated itself in shape, like the idea in itself to be the destiny of all incarnations of shapes that derive their existence from the chaotic sea of disorder, randomness, systems that breed, beyond determinism, a sense of occult instability. The shape might readily be straight, or like a cone, who Euclid caricatured it to be, but behind them must lie “ghostly forms serving as invisible templates. Forms in motion” (Gleick, 202). Any attempt for a collision of two or more distinct, non-hegemonic shapes with adherence to the form was, more than a scratch on the canvas, a stitch.

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