Chapter 4

Mapping the Postcolonial Genius

> The feeling of the scientist and the poet both have gone out in search of the inexpressible One. The difference lies in that the poet does not think about the method and the scientist cannot ignore the method.[1]
>
> - Jagadish Chandra Bose, "Literature in Science"

> [T]he scientist or artist is personally as much the product of a tradition as the producer of a product, which transcends that tradition. In other words, creative artists or scientists do not simply produce a transcendent product; in a sense, they actually transcend *themselves*. They produce something that they could not have willed, and which they could not know they had the ability to produce. As the bearer of tradition, they have not only gone beyond *it*, they have gone beyond *themselves*; they have transcended their Selves. One is reminded of the beautiful story about Haydn who, listening for the first time to his *Creation*, broke into tears and said: "I have not written this."[2]
>
> - Larry Briskman, "Creative Product and Creative Process in Science and Art"

The diary is an artefact which stages the "intimate theatre of history"[3] of an individual's life in a performative manner, personal style, and individual technique. It is a form of creative storytelling which regularly and deliberately translates events and incidents as well as subjective reflections of the phenomenal world and the writer's everyday life in an objective fashion. Cautiously inscribed, documented, preserved, and kept away from the eyes of others, the diary is an archive of secret communication with one's owns 'self'. The diary, writes Irina Paperno, "turns life into text, the diary represents a lasting trace of one's own being—an

effective defence against annihilation"[4].The pages of a diary are something that remains of a person who is no more, it gives us a sense of the person as he was, and yet the authenticity of the subject produced in a diary can be questioned because no diary can be exhaustive; it is a story that does not tell us everything. The diary of an individual and its political context—the rise and falls in a nation's history—are also intimately related to each other: "The diary allows the linking of the self to historical time".[5] Often with a turn for the literary, the dramatic and the fictitious, it is a residual and performative form of self-fashioning that intends to constitute a stable subject by arranging and often eliding incoherencies of life. In spite of occasional jumps and cuts, it apparently produces a picture of the subject in the making and his milieu in a particular phase of history. The habitual narcissistic impulse and showcasing of subliminal thoughts, half-baked beliefs, and suppressed desires can make a diary contradict the carefully constructed public image of a person.

The scientist as a person may not be scientific in his approach. The legendary physicist Albert Einstein's travel diaries quite astonishingly reveal a racist outlook which betrays his belief in geographical determinism of human intelligence. While commenting on the hot and humid climate of the East, Einstein eventually ends up revealing his belief in the intellectual superiority of the West: "wouldn't we too, in this climate, become like the Indians".[6] If a genius like Einstein cannot erase these subjective 'fallacies', the question arises how do individual beliefs, historical differences, and cultural specificity affect the so called objective approach of a scientist? It seems that though the diary reveals a very strong sense of self where the self itself often overlooks the complexity and ambivalence within its own creation. The diary is a more intimate and direct form of life than a biography.

The Bengali film-maker and writer Satyajit Ray (1921-92) published "Byomjatrir Diary" ["The Diary of the Space Traveller"], the first story of his science fiction series on Professor Shonku in 1961in *Sandesh*, a children's magazine mostly run and edited by the Ray

family. Shonku loves to keep an account of his everyday life in minute details. Writing a diary is easier for an "over-imaginative" person, which he thinks he is not and casually calls himself a "non-writer"[7]. He wishes to have the linguistic skill of a creative writer but ultimately resolves that it is not necessary to use language aesthetically in a diary because he is only recording the truth, he is not fictionalizing the events and incidents of his life.[8] While differentiating a scientist from a creative writer, he stresses on the capacity for rigour, close observation and patience: "Actually, as he is a creative writer, it is difficult for him to travel with us. We have come here to observe everything closely and for this we need time and patience."[9] But the question is can a scientist be a detached observer of life erasing the burden of the call of the outside—the aesthetic, ethical, social, political, or ideological? It seems that Shonku often finds it difficult to maintain this demarcation: "I understand that the attraction for a, most probably, imaginary place is not at all a sign of a scientist. But what can be done? The unpretentious emotions of our mind have to be expressed in diaries!"[10]

Historicizing the Trans-historical

In one of his conversations with Ernst Bloch, Theodor Adorno rightly says that "all humans deep down, whether they admit this or not, know that it would be possible or it could be different"[11]. Just after the emancipation from the British Raj, it was a crucial and decisive phase in Indian as well as world history when a newly born nation was urgently in need to regenerate itself. However this immediate transformation or utopian wish fulfilment is only possible in science fiction, "a literary genre…whose main device is an imaginative framework alternative to the author's empirical environment."[12] The advent of Shonku is a literary response to this collective desire for the nation's own heroes in every sphere of knowledge—arts as well as sciences—who will make a difference. In that sense Ray's attempt can be seen, to use Adam Roberts' phrase, an attempt at "world-building"[13]. Shonku is utopic in his thinking and projects a fierce will to otherness in contrast to the shabby

realities of life after independence. It is sheer nonsense, one can think, but deep down there is a conscious desire and hope to go beyond. There is a wish image of tremendous potentiality: in spite of its social, political and economic odds one day India will revive the lost glory and earn respectability in the world.

Trilokeswar Shonku is a curious combination of the Bengali tradition and Western modernity where the proper name stands for any of the three supreme gods from the Hindu tradition—Vishnu, Shiva and Surya—and the title surprisingly refers to the geometrical cone. This man is five feet two inch, myopic, thin but strong, and most surprisingly with long beard but bald at the age of twenty one. In his own description he has a wide forehead (a mark of his intelligence) and in "the eyes there is a mixture of sharp intelligence and peaceful restraint."[14] He has a combination of crystal clear (remembers everything from the time when he was only eleven months old) and eidetic memory (knows sixty-nine languages) and an auditory and nasal sensitivity a few times greater than common people. As a genius he is a little eccentric and yet a gentleman who is acknowledged all over the world for his adventures and invention of numerous brain storming medicines and technologies. From a small town named Giridih—now in Jharkhand—and far away from the metropolis, he regularly travels to attend conferences, join in collaborative projects, and take part in exciting adventures across the world. He thinks, as every superhero does, it is his 'duty' to save people from danger.[15] Peculiarly enough, his cat is named after one of the greatest scientists of the world—Sir Isaac Newton. Christening a cat by someone's name is a scandalous move in Indian culture which is biased towards the human over the animal. One cannot call a cat or dog by the name of the greats in Indian history—this is blasphemy. Yet this naming has a peculiar popular appeal to the wounded psychology of a formerly colonized nation. The cat is lovely and adorable, and yet it is domesticated. Taming Newton is taming the epitome of Western science and civilization.

In his famous Independence Day speech delivered in the midnight of August 15, 1947, Jawaharlal Nehru hits the right note of an emerging nation's politics of "nation building": "The achievement we celebrate today is but a step, an opening of opportunity, to the greater triumphs and achievements that await us. Are we brave enough and wise enough to grasp this opportunity and accept the challenge of the future?"[16] Just as Uncle Ben advices Peter Parker, Nehru also urges his countrymen not to forget that "Freedom and power bring responsibility."[17] In such an environment imbued with intensified nationalism, Professor Shonku emerges as a product from a country whose rich intellectual history had been demolished during its two hundred years of colonial subjugation. However Ray is not one to succumb to the foolhardiness of a narrow-minded nationalism that views everything indigenous in the superlative. In one of his interviews Ray tells us how he was influenced by the cosmopolitan attitude of Nehru and Rabindranath Tagore:

> I admired Nehru, I understood him better, because I am also in a way a kind of product of East and West. A certain liberalism, a certain awareness of Western values and a fusion of Eastern and Western values was in Nehru […] as a man, I always understood what Nehru was doing, as I understood what Tagore was doing – because you can't leave Tagore out of this, it's a triangle.[18]

Trained in Rabindranath Tagore's Santiniketan, Ray was an heir to the Bengal Renaissance of the nineteenth century which sought to disseminate western knowledge in Bengal and propagated a fusion of liberal humanist thoughts with cosmopolitan imagination. A derivative of this east-west syncretism, Ray seeks to transcend the narrow boundary of selfish self-preservation that creates a divide between nations and embrace the world community. "Travel widens the mind"[19], Shonku remembers the proverb and cultivates the traveller's respect for other nations, people, and cultures. In Ray's imaginary landscape, Shonku is a world-traveller. There is no surprise that his closest friends and collaborators with whom he feels at home in the world—Jeremy Sanders (anthropologist), Francis Fielding (astrophysicist), and Wilhelm Kroll (geologist)—are not from his country of origin, but

Europeans, two Englishmen and the a German. They are equally respectful of the Indian tradition and culture. Another friend Chris McPherson, the geologist, always carries a signed copy of Tagore's *Gitanjali*, a precious gift by the poet himself to his father.

In spite of Ray's ahistorical gesture that denies fixity in time (the diaries carry only dates, the years have mysteriously gone missing from its pages), Shonku cannot escape historical predicament. After a close scrutiny of the textual references, Biswajit Ray suggests that he was born in 1911 or 1912[20] which establishes the fact that he should be around fifty years old when the first diary was published in 1961. The inaugural story "Byomjatrir Diary" ["The Diary of a Space Traveller"] narrates to us the story behind the discovery of a diary of the famous scientist who suddenly disappeared fifteen years ago:

> Professor Shonku had disappeared about fifteen years ago. Some people would say that he died while carrying out a dangerous experiment. But others would say that he is still alive; only he is hiding and doing his work secretly in some remote area of the country, and he will come out when the time is right.[21]

This abrupt disappearance of Shonku reminds us the story of another legendary figure whose sudden disappearance had already become a subject of public curiosity that enthralled the nation for several decades. The radical Indian leader Subhas Chandra Bose (1897-45?), popularly known as Netaji, who travelled around the world to organize the Indian National Army and fought against the British, was considered to be the harbinger of a new era in popular Indian imagination. In 1945, exactly fifteen years before Shonku appeared in the public domain, he suddenly disappeared leaving the whole country in a perennial mourning. People were not ready to take him as dead and believed that his return as a superhero will magically solve all problems—poverty, inequality and injustice—of the nation. Shonku is a reincarnation of Bose, albeit in another mask to satisfy the collective desire of a nation—a magical presence which can solve all insoluble problems of life.

In Search of an Origin

The creation of Shonku is a "chutnification" (the Bengali word that can be used for it is *khichuri*), as Salman Rushdie would say, of traditions, genres, and cultures. Ray draws from various sources both from the east and the west. The familiar Indian folktales, Tantra, Black Magic, hypnotism, and Sukumar Ray are punched together with Mary Shelley, H. G wells, Robert Louis Stevenson, H. G. Wells, and Isaac Asimov. In one of his remarkable nonsense poems in Bengali "Bigyan Sikkha" ["Science Education"], Sukumar Ray (1887-1923), the illustrious father of Satyajit Ray, parodies the bookish knowledge that inheres the risk and danger of treating nature as a 'sealed book' and bringing everything under the mechanism of human authority:

> Come here; let me see your head, let me see it with futoscope,
>
> Let me see how much adulterated spuriousness is there in the butter of your brain.
>
> In which way does the gate of intelligence open, and in which way does it close;
>
> How much brain space is lightly filled and how much is dense.[22]

Science is only one branch of knowledge and it cannot explain everything. The poem concludes with a call for a return to common sense rather than trying to seek miraculous solution of all problems through science: "There is everything, only I couldn't find where has it been written—/ How would I stop a mad bull running after me!"[23] In fact, Sukumar Ray graduated from Presidency College in 1906 with double honours in physics and chemistry. He was aware of the overdoing of science in an adopted culture, which seeks either to re-appropriate all indigenous knowledge in scientific terms, or discard everything home-bred as irrational and non-science. An eccentric scientist, Professor Nidhiram Patkel, appears in his micro-story "Satti" ["The Real"]. Imbued with romantic nationalism, his inventions are comprised of *deshi* ingredients—easy to use and damn cheap. Professor Patkel's famous invention is Gawnghobikat Tel, a type of oil with strange power: "If you drink the oil, it is a medicine for spleen; if you smear it, it is a medicine for ulcers; and if you apply it in your

moustache, it will grow the size of half of your hand within seven days."[24] In fact, the name "Patkel" has been derived from a familiar Bengali proverb *eentti marle patkelti khete hoy* which can be roughly translated as "If you through a brick, it will come back to you as a stone". Following the lead of Debiprasad Chattopadhyaya (1918-1993), the Marxist-rationalist philosopher who extensively wrote on the role of science and philosophy in the everyday life of Bengal, Biswajit Ray observes:

> According to his (Debiprasad) opinion, it is true that the country has become independent but the baggage of non-attainment of the common people is so large that they search for a medicine that cures all ailments. Not only that, they also want a person who can cure all ailments by chanting a mantra.[25]

Shonku is an extension of what Patkel is—a *deshi* superhero—who has solutions to many problems of his life and times, albeit ironically, he refrains himself from mass production of his inventions that will radically transform the nature of humanity itself.

Sukumar Ray's *Henshoram Hunshiarer Diary* [The Diary of Henshoram Hunshiar] (1922)—a parody of Arthur Conan Doyle's (1859-1930) *The Lost World* (1912)—is a humorous text where Henshoram, the adventurer, reaches to an unknown land ten miles north of the Bandakush mountain. In this land he encounters strange animals and plants, names or renames everything in a colonial style as if they did not exist before they saw them but strangely returns without any proof except a few handmade sketches. Sukumar Ray's cross-linguistic word play in his naming of the animals—*gomratherium*, (in Bengali *gomra* refers to irritable temperament), *clillanosaurus* (*chillano* is to cry out loud) and *langratherium* (*langra* refers to a lame person)—in the new land is hilarious. Satyajit Ray, his son, borrows the diary format from his father's work and follows the narrative structure of science fiction which is a western form, but an undercurrent of subversion runs through the stories and eventually deconstructs the genre. Profoundly interested in the complex process of the making and unmaking of culture, he rewrites and upturns the typical generic expectations by starting a creative dialogue not only with Doyle's Professor Challenger—a symbol of white

supremacy—but the whole Victorian enterprise of adventure genre where Christopher Columbus stands as a trendy mythical figure.

Imperialism is an umbrella term which agglomerated many ideas together, such as, white racial superiority, social Darwinism, hypermasculinity, adventure and war, and finally, the self-imposed mission to civilize the uncivilized. Aware of the ills of colonialism, Shonku does not support imperialism of any kind while Challenger remains an integral part of the imperialist project which became, writes the historian Eric Hobsbawm, a "part of the political and journalistic vocabulary during the 1890s in the course of the arguments about colonial conquest"[26]. The late Victorian sense of decadence gave rise to the necessity of, as Kenneth Wilson says, "national character"[27]or decontextualized idea of Carlyle's "great men" built upon the ideals of duty to the nation, uprightness, and scientific temper whatever that means. Regarding the rise of this popular heroism, Kenneth Wilson writes:

> A hero is a man whose sound character and manly virtues allow him to overcome the obstacles before him and vanquish his enemies. Imperial destiny and individual heroism were, then, the two structuring principles of popular imperialism's concept of history.[28]

The hero travels across the world in search of adventures as the flag bearer of the British supremacy with the white man's burden on his back. Doyle's stories set its tone with one of romantic excess of the Victorian England where men are ready to take risk of adventures to win a women's heart or serve his nation: "There are heroisms all round us waiting to be done….But you should do it because you can't help yourself, because it's natural to you, because the man in you is crying out for heroic expression."[29]

Edward D. Malone, the light-hearted journalist, is treated with contempt as a boy in the beginning of *The Lost World* but later he achieves manhood by taking part in the slaughtering the ape-men in the plateau. The masculine adjectives Doyle uses for Professor Challenger—"violent", "dangerous", "cantankerous", "unsocial", "rude", "megalomaniac", "fanatic", "absolutely impossible", and "hated by everyone"—are not applicable to Shonku.

Shonku does everything a white superhero does but he is not a replica of Challenger and rather he has a soothing presence likable to others. The stereotypical notions of white superiority, arrogance, and disdain, the hallmarks of Edward Said's orientalism, make Professor Challenger believe that he belongs to the final stage of Darwinian evolution. The "half-educated" Londoners are treated by him as if they belong to a "common herd"[30]: "The Sub-species of the human race to which you unfortunately belong has always been below my mental horizon."[31] He vehemently guards his privacy from the "foolish curiosity of the public"[32], denigrates the inquisitiveness of the "faithful Negro" and treats them as villainous, brutish, brainless, and deformed. This "Columbus of science"[33] uses persuasion, gifts, and threats of coercion in order to make the natives work as guides in his nostalgic search for pre-historic life in a world where almost everything have already been put into the cognitive map. Ironically enough, the man who inspires Challenger's journey is a bohemian artist and a poet—quite obviously a person full of creative imagination and "wanting in merit"—who seems to have visited that plateau and left his sketchbook, the only tangential 'proof' of its existence in reality.

Along with Darwin's theory of evolution which stirred the Victorian imagination, Doyle must have been familiar with Nietzsche's idea of *Übermensch* through the English translation of *Thus Spake Zarathustra* either by Alexander Tille or Thomas Common which appeared in 1896 and 1909 respectively. The word "superman" has been used at least three times in the stories of Challenger: Challenger has been described as a "super scientist",[34] Malone wants to be a "superman"[35] to please Miss. Gladys, and later he thought that the indigenous people of the plateau "looked upon us as supermen"[36]. Whereas Doyle's superman belongs to the present, Ray uses the word only once and leaves it for the future. At ease to share his space with all other beings on earth, Shonku prefers to stay human.

The hypermasculinity of Professor Challenger is an idealization of white supremacy—physical, intellectual and technological—that finds delight in a voyage to a 'virgin' land and rewrites its history and culture in its own terms. With "eyes shining with the lust of slaughter"[37], Challenger meets the ape-men in the plateau. He goes back to the mediaeval age of chivalry to draw his superficial codes of honour, but the grim experience of colonialism, makes Shonku draw his intellectual resources from an indigenous and more inclusive philosophy of life. Shonku believe in an ethic of incorporation, collaboration, and hospitality which redefines superheroism in terms of the elements his culture values most. Ray counteracts the ideology of heroic imperialism in several ways: the old law of friendship, network of human interaction, respectful curiosity to know the other cultures, and finally a sincere responsibility to preserve humanity, the world, and its environment. Shonku is immune to the allure of materiality, does not believe in plundering other countries by using the power of superior technology, and he does not destroy the serenity and beauty of an unknown territory by rewriting its history, society, and culture. Shonku's mission is not to destroy the ancient and the vulnerable but to preserve with care, learn from them, and yet leave them as they are without disrupting or intruding into their life.

The Algebra of a Postcolonial Scientist

The word 'scientist', Stefan Collini points out, was first coined in 1834 by mimicking the word 'artist'.[38] It was the nineteenth century which witnessed the consolidation of a deep structural divide between the two disciplines—the sciences and the humanities—barring communication between them awkward, difficult, and not even debatable. In his 1959 Rede lecture "The Two Cultures and the Scientific Revolution", C. P. Snow observed the incorrigible signs of the time—a mutual distrust and incomprehension between the scientists and the literary critics. He also noticed how an anxiety arising out of the ignorance of each

other's craft gave birth to contempt and disrespect which narrowed down possibilities of any mutual dialogue:

> Literary intellectuals at one pole—at the other scientists, and as the most representative, the physical scientists. Between the two a gulf of mutual incomprehension—sometimes (particularly among the young) hostility and dislike, but most of all lack of understanding. They have a curious distorted image of each other. Their attitudes are so different that, even on the level of emotion, they can't find much common ground.[39]

When Snow was addressing to a quintessential British ailment, the state of affairs in colonial India, which had a rich and diverse literary, cultural, scientific, and philosophical heritage, was quite different and even more complicated than probably he could think of. In ancient India, like Greece, science as a discipline was not totally separated from the other areas of knowledge. Debaprasad Bandyopadhyay writes: "Nothing was classified separately as "science" in the so called Indian tradition, though some elements of so called "Indian culture" may obviously be categorized as "science" from the European point of view."[40] In Koutilya's *Arthashastra*, the umbrella term *kala* or applied arts included chemistry, civil engineering and medical sciences as well as aesthetics, carpentry, painting, and beautician's art work. The blurring of the boundaries between the subjective and the objective, the ontological and the epistemological, and the explicable and the intuitive marked the Indian way of thinking. When modern science was introduced by the colonizers, the first generation scientists of India found themselves in-between an indigenous philosophy of the material world and an alien culture, the ideology of modern science. The foreign intervention into the colonized space of thinking and education in the name of objective/white normativity had twofold implications—the local had often been appropriated and abbreviated by a global form of knowledge, and albeit partially, the indigenous philosophy of the phenomenal world peeped through and contaminated the sanctity of the discipline of science.

Snow optimistically coined the term "third culture", an approach that would bridge the gap between the arts and the sciences. This approach was not something unfamiliar in nineteenth century Bengal. The social psychologist Ashis Nandy observes how cultivatedness in this part of the world did not refer only to crude and specialized professionalism but a deep interest in a wide array of things. The ideal Bengali gentleman or *bhadralok* was a man of multifaceted talents—a rounded personality. Jagadish Chandra Bose (1858-1937) was a physicist, a biologist, an engineer, a creative writer, a sportsman, a hunter, and a whole hearted Brahmo with deep inclination towards the philosophy of Vedanta.[41] To him goes the credit of writing the first Bengali detective fiction and he even delivered the annual lecture of the Bongiyo Sahitya Sammilani, the literature society of Bengal in 1911. In this lecture "Bigyane Sahitya" ["Literature in Science"], he talks about a movement towards an "all-pervasive oneness" in the world of knowledge:

> The tendency to compartmentalize has become popular in the world of knowledge in the West now. Each of the different branches of knowledge has arranged to keep itself isolated there and as a result the desire to know oneself as a whole has almost disappeared. This kind of classification helps in the primary stage of learning and practising knowledge because it helps to collect materials and arrange them; but if we follow this norm till the end then it does not become possible to unveil the complete image of Truth, the practice goes on but the salvation is not attained.
>
> On the other hand, India has always carefully observed so that the One does not lose in the many. Due to this long standing practice, we can see the One easily without any considerable hindrance in our mind.[42]

The scientist seeks inspiration from the poets who desires to see more than they see. They transcend the limit of biology to see the unseeable in their mind's eye. He observes how the different disciplines of science often cross the borders or transgresses the limit set by norms. In spite of the all disciplinary hazards, he sought to mix things up unapologetically in order to create a fruitful mutual dialogue to form a culture of diversity. This approach is open, curious, and does not shy away from the novel insights from the other areas of knowledge in

order to preserve the decorum of disciplinary sanctity. The Indian cultural amphibians also went back to draw sustenance from "sources that have been discarded by modern knowledge and to reframe them in terms of science".[43] Creativity in science became a trans-disciplinary exercise in thinking and knowledge formation. The chemist Prafulla Chandra Ray digged out the history of the advancement of chemistry in ancient India and Bose's works on plant physiology was influenced by the Vedantic tradition of non-dualism—the belief in the existence of one organizing principle that encompasses everything in this universe. Ashis Nandy deftly writes how some of the first generation Indian scientists tried to build an Indian way of science:

> Most of them spent their professional careers trying to build an entirely new Indian structure of science. Some gave up the task half way, finding it too onerous; they preferred to become political activists, institution-builders, or academic bureaucrats, and gave up science, if not formally, at least *de facto*. Others a much smaller group, preferred to go the whole hog and fought a losing battle against the formidable edifice of modern science. Both responses were consistent with the logic of a colonial situation, and one must judge for oneself which was the more tragic dead end.[44]

A unique product of his time and space, Bose perhaps deserved a noble prize, and that he did not, was a source of melancholia for a hesitant postcolonial cultural nationalism that always sought recognition from the west.

Ray's Shonku catches this dilemma between tradition and modernity. Often tagged as a scientist from the country of "rope tricks and snake charmers"[45] stereotyped by the west, Shonku, like Bose, aims at bridging, however unconvincingly, the two extreme cultures of knowledge formation. He challenges and subverts the European mastery over modern scientific knowledge, and against all odds, curves out a space for an ideal postcolonial agency capable of leading the world. This is a dream that Bose also dreamt off:

> The national greatness of our country that has almost vanished is still waiting for our internal creativity. To create it anew by activating the desire is within our power. The ascending speed of the glory of our country that soared high once upon a time has not ended and one day it is bound to touch the sky.[46]

Fig. 7 Shonku and the magician Chi Ching

"The appearance of the supernatural power in man is an eternal ritual of our country," says Bose in the same lecture.[47] A *rishi* has to master the six deadly foes to discard his ego—*kama* (desire), *krodha* (anger), *lobha* (greed), *moha* (attachment), *mada* (pride), and *matsarya* (jealousy). The Vedic ideals that Ray added to Shonku are *sthairjyo* (patience and calmness) and *sangjam* (self-restraint) which imparts integrity of character:[48] "I have won over greed long ago".[49] Just as Ray's famous detective Feluda, Shonku is an ideal middle-class gentleman, a *bhadralok*, who does not drink, is rarely angry and never jealous, cannot be bought by money, unmarried, and does not have a family. Bodhisattva Chattopadhyay writes:

> The masculinist emphasis in these adventures is also linked to the presentation of Shonku as a mystic, a role that often values celibacy. Moreover, Shonku almost never discusses his mother, as if he shared with the trinity of Shiva, Vishnu, and Brahma an endless loop of masculine origin—even birthing a miniature version of himself in a laboratory flask, which is presented in the story as a natural and inevitable product of evolution requiring no maternal presence ("Shonku and the Strange Creature"

> [1971]). His father, on the other hand, a traditional doctor and herbalist, appears directly as a role model[50]

Yet he is a modern man and accepts the logic of Sanders when he says that there is no shame in claiming what one deserves. The humility of not claiming one's due recognition is sheer stupidity and he does not refrain himself from proclaiming the title of the greatest scientist of the world: "No scientist in the world has ever invented so many different things".[51] Yet Shonku never wins the noble prize, probably a sentimental gesture on Ray's part, coming out of the failure of Bose to grab it in spite of his contributions to the field of science.

The Scientist as Amateur

Andrew Pickering has made a distinction between the "culture" and the "practice" in science where the first denotes "the field of resources that the scientists draw upon in their work" and the second refers to "the acts of making (and unmaking) that they perform in that field".[52] Pickering Writes:

> Where the science-as-knowledge traditions routinely think of scientific culture as a single unitary entity…Hacking insists on the multiplicity, patchiness and heterogeneity of the space in which scientists work…the production of instruments, facts, phenomena, and interpretations in the laboratory is precisely the hard, uncertain, and creative work of bringing together the kinds of disparate cultural elements that he lists.[53]

On 4th December 1865, a Belgian priest Eugène Lafont (1837-1908)—popularly known as the 'father of science in Bengal'—arrived in Calcutta. He was trained in two different disciplines—physics and philosophy—and immensely influenced the young minds at St. Xavier's College. Under his influence, Jagadish Chandra Bose studied physics but combined it with classical Latin and Sanskrit. Ashis Nandy writes how "Throughout his undergraduate days, he took a variety of courses without specializing in any."[54] This "patchiness and heterogeneity" of his resources led Bose to formulate his own uncanny way of doing science which was far removed from the existing notion of scientific knowledge.

What distinguishes one as a creative genius in science, Dean Keith Simonton suggests, is the capacity to move across disciplines which include a wide range of intellectual, cultural, and aesthetic interest—defocussed attention and self-discipline, openness to novel, complex, and ambiguous external stimuli, and unconventionality and openness even to seemingly bizarre ideas.[55] The geniuses have a border crossing tendency and the resources they draw upon are not only confined within the field of science but other fields of knowledge which Ashis Nandy deftly calls "non-scientific determinants of the scientific culture"[56]. "It is the denial of these roots", philosophical, sociological or political, writes Nandy, "in the name of an impersonal reified science, which, I believe, is responsible for many of the ethical problems of the contemporary culture of science and the limitations of the scientist as a human being."[57]

Being a cross-disciplinarian himself, Satyajit Ray did not want to align Shonku into the rigidity of the formal structure of the scientific discipline. When Shonku finishes his academic studies in physics at a very young age, his father, deeply aware about the storehouse of classical knowledge, suggests him to explore other areas: "You've studied science for long. Now study other subjects for around four years. Arts, literature, history and philosophy—are there any scarcity of subjects?"[58] Quite obviously, Shonku's friend Chris MacPherson finds him to be the most suitable person to share his unusual experience: "Everyone will not believe this, especially the scientists. I'm telling you because your mind is open and you have many strange experiences."[59] Nandy observes that fighting against all odds—personal, intellectual, disciplinary and political—Bose failed in his project to reconstruct science in an Indian way. Ray's fictional world supplements this defeat by making Shonku an indisputable genius, a product of the postcolonial environment who is honoured throughout the world in spite of his uncanny way of approaching science.

The result of this postcolonial hybridity is that here knowledge becomes a derivative and as well as a creative discourse. Shonku's knowledge of other disciplines allows him to see connections that others cannot see, he does not follow blindly what he has been taught as a student of science, and he shows a peculiar tendency to respect what he does not comprehend. Ray's attitude as well as Shonku's, Anway Mukhopadhyay writes, "suggests that a purely secular respect can be preserved for a purely religious phenomenon, even when the secular observer does not share the "structures of feeling" (Williams 128-35) setting in motion the religious event".[60] The non-rational or the unreasonable that cannot be explained in scientific terms belongs to the world of nonsense/nonscience and are unworthy of the attention of a positivist. Even if they get attention, they should be derogated with vitriolic anger. Ray's as well as Shonku's plan is not to draw a line of demarcation by eradicating the past era of mysticism with a thousand watt light of scientific certainty but embracing history in a holistic sense which will allow us to comprehend the nature of things in a different way.

"I don't believe in any other achievement except scientific achievements,"[61] proclaims the mad scientist in "Professor Shonku o UFO" ["Professor Shonku and the UFO"] and attempts to destroy the greatest sculptures of the world—Parthenon, Coliseum, Eifel Tower, and Anchor Bhatt—by using the advanced technology of an alien spaceship. The dehistoricized view of science as an impersonal, objective, pure, uncontaminated, and rational phenomenon free from the outside social, economic, political, psychological, cultural, and other influences is a conservative ideal where the excess that does not fit in is excluded and labelled as unscientific, and therefore unnecessary. Shonku believes in a science which does not bracket off arts, history, and culture. The evolutionary science of Darwin that creates a rift between the present and the past in the name of progress is replaced by a peaceful cohabitation where tradition and individual talent go hand in hand. He cannot refrain himself from learning and admiring the cavemen of Altamira, Egyptian priests who

knew the secrets of preserving a dead body, and even the mediaeval alchemists for their creativity and desire to make the impossible possible:

> After visiting the cave of Altamira in Spain, many questions about the ancient human beings have raised in my mind. I am yet to understand how the human beings who lived fifty thousand years ago and were very little different from the apes could use their hand to paint such wonderful pictures. I see one picture or other and I feel that even the contemporary artists also cannot paint so well when these human beings made them even though they could not walk straight.[62]

The Bricoleur

The French anthropologist Claude Levi-Strauss criticises the dissociation of modern science with nature in *The Savage Mind* (1962). The ancient civilizations, he thinks, had their own system of thought which were in no way inferior but worked more closely and stayed in communion with nature. This simplicity and collaboration is beyond the reach of modern science. His concept of the *bricoleur* is a critique of the ideology, activity, and ethics of modern science and technology that aims to remodel the future by transforming the world beyond recognition:

> The 'bricoleur' is adept at performing a large number of diverse tasks; but, unlike the engineer, he does not subordinate each of them to the availability of raw materials and tools conceived and procured for the purpose of the project. His universe of instruments is closed and the rules of his game are always to make do with 'whatever is at hand',… that is to say with a set of tools and materials which is always finite and is also heterogeneous because what it contains bears no relation to the current project, or indeed to any particular project, but is the contingent result of all the occasions there have been to renew or enrich the stock or to maintain it with the remains of previous constructions or destructions. The set of the 'bricoleur 's' means cannot therefore be defined in terms of a project (which would presuppose besides, that, as in the case of the engineer, there were, at least in theory, as many sets of tools and materials or 'instrumental sets', as there are different kinds of projects). It is to be defined only by its potential use (...) because the elements are collected or retained on the principle that 'they may always come in handy' ... Such elements are specialized up to a point (...) but not enough for each of them to have only one definite and determinate use.[63]

The *bricoleur* is not bounded by any one discipline; he culls disparate and heterogeneous elements from different areas of knowledge. He is an amateur who combines, recombines, and manoeuvres the disparate but limited elements at his disposal, uses minimal technology, and thinks outside the territory of the enlightenment logic of scientific reason. Any systematic blueprint of action is beyond his way of doing things. Unlike the engineer, the bricoleur has fewer choices in a finite system; he cannot have whatever he wants, yet he is never in full control of neither his elements nor his product. He follows a zigzag route to reach his point where it does not work in the same way as the primary plan:

> The bricoleur occupies a specific environment, that of the workshop; he works individually on individual objects (it is difficult to imagine the product of bricolage as a replicable object); he works with tools rather than machines, and his materials are ready-to-hand, taken from his immediate environment.[64]

Christopher Johnson writes that Strauss presents *bricolage* as "a technical metaphor for a cognitive and creative process", "a survival of ancestral ways of thinking and doing which persists in certain everyday practices of our modern industrial civilization"[65].The great works of ancient civilizations like the Egyptian pyramid or the mummy open our eyes to the limit of modern science. The *bricoleur* is limited by spatial and temporal location; his work comes out of necessity rather than business or even pure desire to know. The *bricoleur* uses 'tools' rather than 'machines.' This distinction was established by Friedrich Engels where there is companionship and love with labour in the former and alienation of the worker in the later.

Johnson also notices how the fear of the specialist and his susceptibility to the knowledge / power nexus runs as a subtext behind Levi-Strauss' concept of *bricoleur*.[66] The fear of the divorce between everyday life and specialized scientific knowledge might also be a reason behind Ray's dismissal of the specialists in his works. Shonku is closer to the human values in contrast to the modern specialist and he is more creative and alert to see connections that the specialists fail to see:

> I have never claimed to be a specialist in a particular area, but preferred to call myself a scientist because I have unrestricted access in all branches of science. The remaining four of our group are known as specialists although they are not equal in age, experience, achievement or fame.[67]

Challenger, the imperial scientist with whom Shonku engages in a metatextual dialogue and negotiation, is also equally suspicious of the specialists:

> I will not conceal from you that my opinion of experts is not a high one, and that I have usually found that a man who, like myself, has a well-equipped brain can take a sounder and broader view than the man who professes a special knowledge (which, alas, is so often a mere profession), and is therefore limited in his outlook. [68]

The creative instinct in Shonku follows his personal fantasy and his creative experience is often beyond his control. "I believe in easy way. So my machine also will be as easy as water,"[69] says Shonku. To his bewilderment, the tools he makes, like the robot Bidhusekhar, always work more than he intends them to do.

While searching for the foundation of the creative process in India, M. Mukherjee gets an interesting answer from a *mistri* (carpenter/mason)—the perfect example of Strauss' bricoleur—in Bodh Gaya: "when we want to do some work, procedures for producing the thing come spontaneously to our mind-and then we have become *visvakarmas*."[70] This kind of "spark-ing activity without any blueprint", writes Debaprasad Bandyopadhyay, has an equivalent in Indian philosophy in Bhartrihari's concept of *sphota*.[71] Without adequate funding and infrastructural facilities, Shonku works in a small laboratory at his home with home-made equipments. This reminds us of both, Bose who made his instruments with the help of a local carpenter and Ray himself who made his first movie *Pather Panchali* [Song of the Little Road], which brought him first international recognition in 1955, in sheer financial scarcity and infrastructural deficiency. Shonku is proud of his achievements within a culture of negativity: "Is it not that the whole world should know what a Bengali scientist can do with his limited resources?"[72] He does not lament for the lack of money or a modern

laboratory but overcomes all obstacles with an irresistible urge to create. However time changes his view and in a later story "Professor Randir Time Machine," we see him to fail to continue his research due to lack of instruments and money. Yet it does not change his anti-business attitude. Ray's Shonku contains all—the imagination of a poet, the logic of a philosopher, and the analytical ability a scientist. The real laboratory is "inside the mind", says Bose, and the thing one needs to succeed is *sadhana*, a "disinterested concentration" that forgets the outer world while working.[73]

Elitism and its Discontents

The everyday life is ordinary in comparison to the excitement of the laboratory. It keeps Shonku away from easy availability: "Though it sounds displeasing, I have to accept that I don't have time to chitchat with ordinary people."[74] Though he loves his solitude, being an Indian, he is not as fiercely protective of his privacy as Challenger who cannot control his anger if someone trespasses into his property and does not hesitate to throw them out. The society is a "common herd"[75] for him. The ordinary people often surprise Shonku with their talent which are beyond his reach in spite of his superior intelligence. There are three ordinary figures who immensely contribute to his life—his servant Prallhad, the neighbour Abinashbabu whom he describes as "the king of the unscientific people,"[76] and Nakurbabu, an outsider who turns out to be a close companion in his later life. Nakurbabu looks innocent as if he has least experience of the complexities of life.[77] Yet he is a rare talent who is capable of hypnotism, telepathy, and clairvoyance—an ability which he derives, as any mainstream superhero does, after being hit by an occurrence of ball lightening. Shonku does not have any explanation of his superpower but he expects that someday science will solve this puzzle. The old-fashioned and conservative Bengali gentleman Abinashbabu is hostile towards anything new, has least interest in science and often treats it as a joke: "At times it seems that Abinashbabu does not even believe that the earth is circular and it is moving around the

sun."[78] The buffoonery of this man makes Shonku a little hostile towards him at the beginning and he even punishes him with a medicine which makes one watch dreadful nightmares. He arrives without appointment, disturbs his work, irritates him, teases him horribly by calling him a quack, and asks weird questions to which Shonku does not have answer. A little jealous of his neighbour's fame, all these provide Abinashbabu a strange sadistic pleasure. In the first diary, he even demands a compensation of five-hundred rupees from Shonku because his rocket damaged his radish beds. Shonku accepts everything with a kind of resigned indulgence and treats his superstitious neighbour as a man of zero intelligence. At times, he even enjoys his company: "Today, when I'm free, Abinashbabu's company might not be bad. After all, he is a funny person."[79] Nothing exciting ever happened in Abinashbabu's life, yet this man gradually becomes a close friend and companion in many of Shonku's later adventures. In "Swapnadip" ["Dream Island"], when the alien knowledge-sucking plants start eating the brain of Shonku and all other pundits, it is Abinashbabu who remains unaffected and comes to their rescue. This man also reveals extraordinary courage to save Shonku from a cruel and insane scientist named Massingham and urges Shonku: "I just want to say that you should think if it will be safe for you if you have to go for some hazardous act without me in future."[80]

In an unfinished story "Intellectron", Shonku invents a machine which measures intelligence—an ironical gesture to Challenger's method of mapping the brain according to the size—but he accepts that it cannot measure the diversity of the human brain where honesty, sincerity, and all other human attainments remain side by side. In a scale of 100 to 1000, Shonku scores 917 but Abinashbabu scores only 377. Abinashbabu wants to know if he is an idiot and Shonku replies:

> 'No no, why would you be an idiot? I think you yourself will acknowledge that you don't have bookish knowledge. You have normal general knowledge. And the most important thing is that you are an honest person. That's not a negligible quality.'

> ‘Is it possible to get these measurements in that machine?’
>
> ‘No. I’m telling this from my experience of knowing you for twenty years.’[81]

In a similar way, he accepts that Nakurbabu’s supernatural intelligence that includes a mixture of clairvoyance and hypnotism cannot be measured by any machine. No person is a born idiot and he takes Prallhad with him in his first expedition in the outer space because he does not think that only the intelligent people are necessary in these adventures. Thinking complex things make you unaware, and at times insensitive, of the simple and everyday matters:

> Even though Prallhad is an idiot, perhaps it will be helpful if I take him with me. I don’t at all think that in these kinds of expedition only intelligent people are necessary. Often those who are not intelligent are brave because they take more time to find out the reason of fear.
>
> I don’t have any doubt that Prallhad is brave.[82]

The dialectic between man and machine is under close scrutiny in some of the diary entries of Shonku. He never tries to erase the gap between man and machine. For him, it is the human who should define the machine and not otherwise. In the technological world of Shonku, machine does not control the human world, and even if there is a little chance to do so, it is terminated at its root. Politically conservative, Ray is aware of the power of technology in shaping the human life around us and even the possibility of the construction of a ‘new humanity’. Once the robots start to think, they will not be under human control. Shonku’s competitor Borgelt ultimately realizes: “This kind of mechanical human beings should be like machines. I made my robo so much more like me that it could not tolerate me anymore.”[83] To him the existence of man is more authentic and desirable than that of a robot, and at any cost, he would not let anything overpower the human. Over dependence upon technology enslaves us, writes Martin Heidegger:

> This drive would culminate, or self-destruct, writes Heidegger, when human rationality comes to build up a theoretic representation of its own working so seemingly assured as to enable it to build its apparent duplicate…‘If humanity achieves this, it will have exploded itself…’[84]

Shonku is not unaware that the distinction between man and machine can be erased any time and it will eventually lead to disaster as the scientists do not have control over their creation: "Would the humans finally become slave to technology? I believe so."[85] In "Byomjatrir Diary" ["The Diary of a Space Traveller"] he feels uncomfortable and switches off the robot Bidhusekhar when it starts thinking independently. He knows where to stop because once the robots get the key to what makes our species human, it is impossible to control them: "I'm happy in my Robu's work. The limit to which it works is enough for me."[86]

Surprise is an emotion which often comes out of one's ability to think and make bizarre associations. The fact that Abinashbabu does not have that faculty—the literal understanding of things never allows him to be surprised—surprises Shonku the most: "It is incredible to think that a person does not possess any sense of wonder at all."[87] The world is too big and too complex to bring everything under a cognitive model. There are incidents when Shonku's pride of being the greatest scientist of the world is punctured: "there are still a few things in this planet that can surprise wise people."[88] Once a Chinese magician ruined his pride of being in full control of his faculties by hypnotizing him in his own laboratory and a whizz-kid who knows everything leaves him awe-struck. We often find him in such deadlock situations when his science fails to interpret things proving him no less an idiot than Abinashbabu is and he does not spare any chance to pull his legs: "I have seen the range of bookish knowledge now. You have been pestered enough by burning your hands with acids for twenty years. Stop this child's play and start farming potato with me instead."[89]

The most humiliating incident for the greatest scientist of the world happens in "Byomjatrir Diary" where he plans for a journey in the outer space with his servant Prallhad, cat Newton, and robot Bidhusekhar. To his surprise, the robot starts thinking independently during the journey and tells him that the inhabitants of a planet named Tafa are the most intelligent beings in the solar system. Their civilization is a few million years old, but the

trouble with them is that there are too many intelligent people at the same place, and that is why they have decided to bring a person of lesser intelligence—an idiot—from the nearby planets every year to entertain themselves. When Shonku replies that in that case they would be happy to see Prallhad, Bidhusekhar starts laughing in such an ugly manner that he switches him off. When they reach there, the ant-like inhabitants of the planet receives them graciously and let them live comfortably. To his irritation and anger, Shonku finds that they do not want to talk to him about science. They politely reject his wish saying that it is not necessary because they enjoy his simple words, which leaves a hint for the readers. With all his intelligence, Shonku fails to understand the hint and the story ends in an anti-climactic mockery of his intelligence. The adventure ends in anti-adventure:

> Getting angry I pointed my snuff-gun right at the hole of his nose and pulled the trigger off.
>
> But nothing happened to him.
>
> How would it happen? They actually haven't learned to sneeze yet![90]

The Brown Mythology

The imperialistic nature of modern science harbours a desire to "cultivate the scientific eye and the detached scientific mind"[91] and aims to bring all natural phenomena under cognition, authority, and control. The prying and 'intrusive' Professor Challenger perceives the earth as a living organism, plans to dismantle its equilibrium only because he is intellectually capable of doing this, and invites people, excluding women, "to witness a remarkable triumph of mind over matter."[92] Challenger brags:

> I refuse to entertain the most remote sense of personal obligation. Truth is truth, and nothing which you can report can affect it in any way, though it may excite the emotions and alley the curiosity of a number of very ineffectual people.[93]

Knowing the shortcomings of this attitude, Shonku diverges his way in order to work in communion with, intimacy to, and admiration for nature—a lesson derived from the classical storehouse of knowledge. This attitude is remarkably different from what Levi-Strauss calls

the “machine civilization,” which breaks the resistance of nature in order to remould it anew and carries the risk of destroying the fine balance of everything.

The enlightenment notion of the perfectibility of man through the application of scientific reason gave birth to the idea of the noble savage and the colonial rulers took the responsibility of moving them in the ladder of ‘progress.’ It was this power and authority of science along with technological advancement justified the British sense of racial superiority, global governance, and technological control over the world. Technological advancement was used as a scale to measure intelligence and worthiness of a race or even civilization which ultimately ended in a great rift between man and nature, man and animal and the enlightened and the barbarian. Joel Dinerstein writes:

> Weapons, mass production, and communication networks became the fetishes of colonial dominance and racial superiority, which were disseminated (for example) in numerous British best sellers through binary opposites of dominance/passivity: “machine versus human or animal power; science versus superstition and myth; synthetic versus organic; progressive versus stagnant.”[9] Such oppositions still inform contemporary theories of Western superiority (e.g., “the clash of civilizations,” “the end of history”). Casting preindustrial (or premodern) peoples as risk-averse and enslaved to obsolescent ideologies—that is, as not progressing—sentences them to second-class status with regard to the future.[94]

“Technology as an abstract concept functions as a *white mythology*,”[95] adds Joel Dinerstein. Severed from history, Doyle’s hero is a hypermasculine figure who believes in ‘objective truth’ and is ready to colonize any territory outside his knowledge. To use Franco Moretti’s term, by the power of the “white magic”—guns and bullets—Challenger and his alleys become supermen or men from the future to the ‘prehistoric’ inhabitants of the plateau and start rewriting the ‘blank space’ according to their whims. This ironic pleasure of discovering a territory as the first human that already exists and a desire for colonial domination over the land marks the transit point where science meets colonialism.

The quarrelsome Challenger claims that he has "never yet encountered any problem… which my inventive brain was unable to solve,"[96] but his foolish arrogance seems to be disrupted by a small tick—an aspect too little to be included in his problematization and the idea of intellectual greatness. The tick episode in *The Lost World* reveals how the scientific conviction of the imperial scientist is not immune to the minute factors external to science:

> 'You should cultivate the scientific eye and the detached scientific mind,' said he. 'To a man of philosophic temperament like myself the blood-tick, with its lancet-like proboscis and its distending stomach, is as beautiful a work of Nature as the peacock or, for that matter, the aurora borealis. It pains me to hear you speak of it in so unappreciative a fashion. No doubt, with due diligence, we can secure some other specimen.'
>
> 'There can be no doubt of that,' said Summerlee, grimly, for one has just disappeared behind your shirt-collar.'
>
> Challenger sprang into the air bellowing like a bull, and tore frantically at his coat and shirt to get them off. Summerlee and I laughed so that we could hardly help him. At last we exposed that monstrous torso (fifty-four inches, by the tailors tape). His body was all matted with black hair, out of which jungle we picked the wandering tick before it had bitten him.[97]

To his dismay, the king of the ape-men also serves as an absurd parody of Professor Challenger—the highest product of modern civilization. He frantically tries to avert any conversation regarding this astonishing similarity. First, he denies it point blank, then tries to reinterpret in his own terms, and finally, gives up and hesitantly requests Malone to suppress it in the newspaper report. They are reminded again and again of the advancement of the "natural man" in using tools as well as their sensual capacity—the power to watch, listen, and smell—that came out of sheer existential necessity. They are observed and kept in vigil by the 'Indians' from inside the deep forest, but to their amazement, they fail to see any of them: "How can they watch us? The half-breed shrugged his broad shoulders. The Indians know. They have their own way."[98] At a point when they lose way in the forest, the whole party agrees to "trust the fallacious instincts of underdeveloped savages rather than the highest

product of modern European culture."[99] They are astonished of the uniqueness and fail to determine if the secure caves are made by the Indians or by nature itself, and when the explosive bullets from the civilized world fail to pierce the body of the dinosaur, it is their primitive arrows dipped in the juice of strophanthus save their life.

Heidegger, writes Timothy Clark, "attacks on the absolutism of modernity's drive to know"[100] by the reawakening of "a fundamental questioning into the conditions, sources and limits of human knowledge"[101]. The truth for Shonku is not conformability to a theoretical model, but *aletheia*, or unconcealment in Heidegger's sense of the term: "I cannot think of any scientific discovery to be entirely human creation. The possibility is always there from before, perhaps, it was always there; either it is only by their intelligence or by sheer luck, human beings comes to know the possibilities and use them."[102] There are things about nature which will remain beyond the human reach forever, and for him, one such enigma is the human mind: "Perhaps the human mind will remain a complex mystery forever."[103] He is aware that the scientific knowledge is neither complete nor it will ever be, yet scientists have a strange capability to make intelligent machines:

> Some people would ask the question how I could make such an instrument without solving the puzzle of memory. In reply, I would say that only one fourth of what we know about electricity today was known in the nineteenth century, yet with this incomplete knowledge many excellent instruments were discovered. In the same way, my machine Remembrain has been made.[104]

Shonku knows the human limit and stands away from Challenger's positivist rhetoric of science, such as, "Man was always the master"[105] and "a great mind molds all Nature to its use".[106]

Time—past, present and future— are vertically connected in Shonku's philosophy of life. There is no clash but collaboration between civilizations is the only desirable for him. The 'natural man' of the 'prehistoric' age appears in in both—Doyle's *The Lost World* and Ray's "Professor Shonku o Cochabambar Guha" ["Professor Shonku and the Cave of

Cochabamba"]. As a follower Darwin's theory of evolutionary progress, Challenger treats them as a subhuman species; they are intellectually inferior, and therefore it is his duty to engage himself in a civilizing mission. After the final battle and the consequent annihilation of the ape men, they become the "truth makers of the plateau."[107] According to John Mackenzie, "Social Darwinian precepts ensured that the destruction and elimination of "inferior peoples" could be predicted, described, and condoned. Hence the warfare that accelerated the process was not destructive, but an evolutionary imperative."[108] Ashis Nandy also warns us against this cultural hegemony and the environmental and ethical danger of replacing the indigenous with a foreign culture.[109] There can be no unlimited progress of life and during an experiment Shonku sees the whole evolution/transformation of humanity in a flask in his laboratory which reveals to him the origin of humanity, its progression from man to a "small-Superman or Overman," and finally its regression into a thing-like being that cannot move or even think. In spite of human arrogance there is the end of everything at the end of human time:

> Is it really an animal? Is it really a future condition of the humans? A condition in which the ancestors of the humans will lie down on earth like a piece of flesh, it will not have hand or leg, it will not be able to walk, work or think, only it will wearily watch the last phase of earth with its enormous eyes.[110]

The comparative view discloses a serious cognitive dissonance between Challenger and Shonku—the representatives of the imperial and the postcolonial science. Shonku reveals love and sympathy for all human beings and animals which cannot be found in the colonial desire for human mastery over other humans, animals, and the non-human environment: "I do not support the barbarous experiments of the scientists on such animals as guinea pig. I myself have never killed animals in the name of science."[111] Going against the enlightenment notions, he accepts instinct as a vital force of life. What is natural should be left to flourish on its own without human intervention for our own good. "It is strange to think", Shonku wonders, "that despite so much education, human beings are lagging far behind the animals

in many spheres."[112] The critique of the pride and arrogance of modernity is a recurrent motive in Ray as we find in such movies as *Agantuk* [*The Stranger*] (1991). The world-traveller uncle in *Agantuk* cannot use the term barbarous for the cannibals of Africa, it is only that they have a different taste which is unusual for us. To his awe and wonder, Shonku also acknowledges their creative faculty and denies calling them 'uncivilized'. "This is also true that man has not been able to reach even in the vicinity of nature in producing complex machines,"[113] writes Shonku in his diary. Though he often breaks through or transcends the limit of the current order of scientific knowledge, he knows that there is a limit of knowability—the insignificance of the human beings in the large scale of the universe where the audacity of knowing everything turns out to be a fool's conviction.

Science, Money and Mission

The popular image of the modern scientist is one of an alienated being busy in search for abstract knowledge, or invention of new technology who often shakes off all ethical responsibilities to the earth and its living beings. If the power which is generated by the mechanistic understanding of a knowable universe joins the greed for name, fame, and material prosperity, it can have a dangerous repercussion to the world. The king's pet scientist in Ray's movie *Hirak Rajar Deshe* [*In the Kingdom of the Diamond King*] (1980) brashly pronounces his individuality—"Ami eka, ami ekok, ami ekomebadwitiam" ["I'm alone, I'm singular, I'm without equal"]. He invents only for the sake of invention and money without any earthly or human concern, which leads to social disaster once the technology he invents becomes state controlled machinery in the hands of a dictator. The Victorian man of imperial science, on the other hand, has to win name, fame, and money outside England but has to keep his motive under the guise of philanthropy. In "When the World Screamed," Challenger exclaims:

> 'Away, sir, away!' he cried, angrily. 'Raise your mind above the base mercantile and utilitarian needs of commerce. Shake off your paltry standards of business. Science seeks knowledge. Let the

> knowledge lead us where it will, we still must seek it. To know once for all what we are, why we are, where we are, is that not in itself the greatest of all human aspirations? 'Away, sir, away!'[114]

Yet when the expedition is over, they return to England with precious diamonds stolen from the plateau. Challenger and each of his teammates gets fifty thousand pounds as share that makes them super-rich in Victorian England. Being rich, however, had never been a cultural prerogative in twentieth century Bengal. When Shanku finishes his study at a very young age and starts thinking of beginning his career, his father reminds him:

> 'It does not mean that you have to earn a lot because you can. It is true that money is necessary to lead a solvent life and it expands the way of mental peace; but those who do not have that provision, do not know what is living with happiness, work hard throughout their life only to earn both ends meet, or those who by the intrigue of fate cannot earn—there is no greater significance, no greater happiness in life if you can reduce the grief of these people.'[115]

Shonku follows this advice throughout his life where renunciation becomes a value of life: "I do not have any attraction for wealth. I'll be happy if I can live an ordinary and comfortable life."[116] Less is more for him. Shonku's father also remains as a formidable influence behind his dangerous adventures to save the life: "Your life will be blessed if you can save the life of a great person."[117]

In Ray, money is often presented as a motive that is inevitably connected to power and corruption. In "Nefrudeter Samadhi" ["The Burial Chamber of Nefrudet"], he tears up the papyrus containing the formula of making diamond:

> Nobody will be able to use this formula because it is known only to the three of us and all of us know that the rarity of diamond is the reason of its price and unusual value. It is good and necessary to preserve this rarity in some cases. There is no doubt that diamond is one of them.[118]

The myth of money and its lure in a capitalist society can lead a scientist forget that his concern should be a service to humanity. Ray's is a critique of the non-utilitarian desire for knowledge and what David E. Nye terms as the grandiloquent "technological sublime". Shonku is an inventor and a globetrotter who travels around the world not to earn money as

the colonizers did but to earn honour, fame, recognition, and identity for himself and his country.

The undaunted Professor Challenger has been described by Doyle as "the greatest brain in Europe, with a driving force behind it that can burn all his dreams into facts,"[119] but translating dreams into facts without thinking about its repercussions often leads to ethical disaster. The purpose behind many of Shonku's inventions is often motivated by fantastic social hope, but he knows that wish-fulfilment is potentially unsafe if used insensibly. There is no ultimate freedom from the pain and longings of life and Shonku is doubtful about the social life of the things which he invented because as Adorno says, "the fulfilment of the wishes takes something away from the substance."[120] This is why he does not commodify the brain-storming technologies which are products of unbridled fantasy. The millionaires, mostly American, madly run after him with bags full of money, but Shonku stays away from the lure of this competitive world: "I have not made my machine to fulfil the wish of the American millionaires – I have written this to him in a polite way."[121]

The commercialization of science robs the scientist of his power over his creation. The repetition of production puts the scientific product in chain where the scientist who made it for the first time remains just as a name. The romance of the scientist with his invention is lost as it becomes a product beyond the control of the inventor, a thing in the market. Biswajit Ray rightly observes that "there is a relationship between patent with right and money, Shonku knows that it evolves into a power structure and wants to stay outside it consciously".[122] Shonku loves the robot, which he has made spending a meagre amount of three hundred and thirty three rupees. It is by no means perfect rather a little squint-eyed, yet it is unique and adds a human touch to his invention. If Shonku wanted to commercialize this product and produce them in a modern factory, each product would be a replica of the other. Shonku's non-compromise with the market makes his hand-made product unique and it

allows him an aesthetic and ethical freedom. Ray is also aware of the pitfalls of the patent law which allowed the Italian scientist Guglielmo Marconi (1874-1937) to hijack the credit of inventing the wireless telegraph from Jagadish Chandra Bose in 1901. This incident created a popular aversion for this law in the Bengali mind. The Indian government too decided to deviate from the international patent law in 1970 by keeping a few essential things outside its scope. The story of Bose is retold in Shonku's diary again and again where it is the Indian scientist who gets the credit for his invention rather than his European counterpart. In "Shonkur Shanir Dosha" ["Shonku's Bad Luck"], he takes the credit of inventing omniscope, miracurol, linguagraph, and air conditioning pill just a little before another scientist named Gropius. In "Professor Shanku o UFO" ["Professor Shanku and the UFO"], he gets the credit for his radio communication with the aliens because his paper is slated in the conference just before the Italian scientist Rodolfo Carbony (the reference to the radio and the Italian scientist to be noted) who also did the same thing. As his paper repeats Shonku's work verbatim, Carbony decides not to present his paper in the conference. When he meets Shonku after the conference Shonku tells him, had he read the paper, it could have made their claim stronger but Carbony replies:

> No. It wouldn't have been like that. People would have said that I have tried to hijack your achievement in a dishonest way. You're famous in the world, you're lucky, and beside this, your country is lagging behind in science, so as you belong to that country, your achievement attracts the West more. No one knows me. Why would people listen to me?[123]

This is just the opposite of what happened to Bose and how his contribution was forgotten and dumped into the garbage of history. This is a role reversal where it is the Indian scientist who is lauded as the champion of science. However the marketplace logic of competition and rivalry is not applicable to Shonku. With his characteristic openness and benevolence, Shonku decides to stop his research in that area and writes a letter to inform his decision to Carbony:

> I know that in this kind of jealousy what actually happens is a waste of human energy, yet it is sad that even the great scientists can commit crimes being under the pressure of this enemy. I can recount at least four from my own experiences whose jealousy had affected me.[124]

A Critique of the Present

The diaries of Shonku interrogate the nature of scientific creativity, something, which Karl Popper denied to see as valuable for the progress of science:

> The question of how it happens that a new idea occurs to a man—whether it is a musical theme, a dramatic conflict, or a scientific theory—may be of interest to empirical psychology; but it is irrelevant to the logical analysis of scientific knowledge.[125]

To him the dissociation of the scientific temperament or understanding from aesthetic, political, and ethical considerations suits the reductive logic of modern science for its own good. This search for objective truth added with human greed can cause disasters for the planet earth. Challenger disturbs the core of the earth to prove the "triumph of mind over matter"[126] and it spits out with anger. Krypton, we come to know, have been destroyed by the enormous greed of an advanced scientific culture which wanted to wrench everything out of its core. Shonku believes in a harmonious association between mind and matter, a philosophy which he derives from Bose and cultivates in his life. He belongs to the group whom Paul Feyerabend celebrates and Bertrand Russell denigrates as "wrong-headed and anarchical cranks."[127]

The institution often kills the pleasure of invention by imposing strict rules and structural rigidity. Shonku's space outside the institution allows him the intellectual freedom and his diary serves as a critique of the cultural politics behind the idea of a 'scientific temperament.' Interestingly, he is addressed as a professor yet stays out of the academia because doing science is not a job, duty, and obligation to him. For him, the scientist is a magician and an artist where magic serves as something unexplainable: "Many incidents have

happened in my life which cannot be explained by scientific reason."[128] Chandak Sengoopta rightly observes:

> For Ray, the ideal society was one where morally and socially responsible individuals could act, think and create, unconstrained by political pressures or the irrational imperatives of religious and cultural traditions. The high prominence in Ray's films and stories of mavericks and characters who refuse to fit in stemmed from his liberal conviction that 'the seeds of social good stem from individual and even eccentric initiative'.[129]

What science cannot explain should be outright rejected as useless non-science is not the logic to which he subscribes. The rich Indian storehouse of knowledge have often been denigrated in this way by the colonizers and treated with indifference when they failed to understand them. Shonku embraces everything that cannot be explained by scientific reason. His world includes planchette, astrology, ayurveda and everything that science demarcates and excludes as non-science. The ancient tradition of ayurvedic medicine is modernized into tablets as miracurol which can cure almost everything. Again and again he feels intrigued by non-reason and even wishes to bring the supernatural under the rubrics of science: "Many of our scientists laughingly discard supernatural incidents, yet they cannot answer satisfactorily how these incidents are happening."[130] In the same way, he does not understand how astrological predictions often become true though apparently there is no logic behind them: "Sometimes that kind of prediction becomes true though I have failed to understand the reason behind it with scientific intelligence."[131] It is important to preserve the non-scientific cultures, writes Paul Feyerabend, because they often possess a power to enrich and even revise the modern scientific knowledge. This failure to understand them in scientific terms or ignorance about the sociology and philosophy of their origin leads to a wholesale dismissal as it often happens in case of traditional medicine—homeopathy or ayurveda. Shonku's acknowledgment of the other ways of knowing the world often reaches on the verge of the absurd, the miraculous, and the fantastic, yet Shonku serves as a fierce critique of positivist

science in the sense that he does not discourage any possibility however fragile it might be. Derogated as a magician and not a scientist by his western counterparts, he often becomes a victim of anti-Indian attitudes and sentiment, stupidity, conspiracy, incredulity, and jealousy, yet he does not uphold any sign of reverse colonialism and bypasses everything with characteristic generosity and kindness.

"Highest type of bravery, the bravery of the scientific mind,"[132] boasts Challenger. The climax of vitalist activism, he is an example of *homo faber* (working man) who believes in controlling his own fate as well as the environment by using technology and sharply contrasts with Shonku who is a *homo ludens* (playing man) and does not equate civilization only with science but refinement in other branches of knowledge—arts, philosophy, and literature. Oblivious to the globalized version of modern science as an objective system he moves across such disparate disciplines. The 'planetary' ethic Shonku advocates in his life and work is an adventure in cultural syncretism that connects the hereditary knowledge with the acquired, the pre-colonial with the postcolonial, and finally, the spiritual with the technological where nothing is discarded forever as non-science:

> I think every scientist to whichever country he belongs should visit Egypt. It's really strange to think about the competence they showed in science five thousand years ago. There is a lot to research about this. Almost everything, there chemistry, mathematics and medicine, reached to an unbelievable consequence.[133]

To practice this new ethic in science Shonku needs to reformulate many of the idioms that govern the discipline as a whole. The bizarre idea of mixing mushroom, snake skin, tortoise eggshell and tantrum boropaxinate or aqueous vellosilica to produce a strong, light, and durable metal; prawn's moustache to make a medicine; and the desire to find out the scientific base of the supernatural may seem to be irrational but if we take it as symbolic of doing something out of the box, it does not amuse us at all. If we look at the history of science, we see that many inventions like penicillin and saccharin came into existence

accidentally when the scientists who discovered them had least idea what they were going to discover. There are also no less cases of theft of other's discovery. Many scientists tried to bribe, threat, steal, or buy his inventions but they failed: "Massingham has least idea that it is no possible to discourage Trilokeswar Shonku by threat."[134] It is his duty as a super-scientist to save the world from the excess of science as well as the scientists.

"[T]he essential function of utopia", says Ernst Bloch, "is a critique of what is present", and Theodor Adorno adds, "utopia is essentially in the determined negation, in the determined negation of that which merely is, and by concretizing itself as something false, it always points at the same time to what should be."[135] The superheroic illusion created by Ray is a postcolonial critique of the scientific culture, something that comes out of the deceptions of modernity and reveals the anthropocentric short-sightedness and arrogance of the modern world. Why does he not mass produce his inventions for the betterment of human life? Shonku himself answers the question: "All these are crafted by human hands and there is only one person who can make them, there is no second to him, he is Trilokeswar Shanku."[136] If it is so why do we see him tensed when his formulas are copied and stolen by an American millionaire? Shonku is doubtful about the social and business life of his inventions. All new inventions contain enormous potentiality to transform human life, and yet at the same time it begets irrecoverable loss. Inventions have their bitter side effects. They severe us from the past, change our habit, and destroy the old regime. Ray's modernity, criticizes Brinda Bose, emerges from "a dynamic relationship with history where there are no violent ruptures but only lessons from the past and the present."[137] When he finds a plant that produces immunity from all diseases and makes man immortal, Shonku thinks: "This immunity from all diseases…is it good for the human beings?"[138] The most ambitious desire for a utopian is to eliminate death itself, yet "if death were eliminated, if people would no longer die, that would be the most terrible and most horrible thing"[139]. Shanku looks at life both as a technical

problem as well as metaphysical. There is a *sadhu* who knows a mantra which can provide life to a dead animal, and in "Shonku o Frankenstein", a scientist discovers a formula to return after death. Shonku tries to copy the mantra but fails and realizes the inhumanity inside the very idea of immortality. What if the computer that the scientists have made to solve the human questions becomes intelligent beings with consciousness and asks us back? His words are prophetic: "If too much work is given to the machines, then a time will come when machine will not remain servant to man rather man will become technology's servant."[140]

What is progress? Only being successful in an experiment is not progress rather progress remains in the scientist's ability of not claiming the credit and bury it when its repercussions can be dangerous. Shonku invents a medicine as in Robert Louis Stevenson's *Doctor Jekyll and Mister Hyde* but suppresses it until another scientist claims to invent the same thing. When Shonku warns Danielle, the scientist who invents it after him, about the adverse effect of this medicine, he replies: "'But science cannot be halted for that reason', said Danielle. 'Experiments have to be continued. And if my experiment becomes successful, it has to be accepted that it is an example of the progress of science.'"[141] Danielle takes the medicine himself to understand how it affects the human body and eventually kills four scientists who disagreed with him in a conference. The desire to know is inevitable yet not knowing everything is an essential precondition of human life: "…there should be a limit of human greed to know everything. There should be something that can raise questions in human mind and surprise them."[142]

There is no wonder that it is Compu, a robot, which punctures the human pride by designating itself and the greatest scientists of the world who have made it as a child. Shonku accepts this with humility: "At the end of the twentieth century, we have to accept that human beings do not know more than what they know."[143] For him, nature is not a "sealed book"[144] only waiting to be decoded in time. Winning over nature and make it human's slave is not his

purpose. He looks at it as an “open book” (Galileo’s description of nature)—a source of interminable wonder. He is known as the greatest inventor of the world, yet does not think that it is fully his credit behind his inventions because they are derived from the bountifulness of nature. What guides Shonku’s life as a scientist is expressed in a wonderful Bengali word—*jijibisha*—an endless desire to know that encompasses a work ethic that goes on working restlessly but systematically without any method. “There’s no end to human inquisitiveness”[145], which urges him to transgress the limit of the possible yet with caution to erase the “darkness of the human mind”[146].

Endnotes:

[1]Jagadish Chandra Bose, "Literature in Science," in *Abyakta* (Kolkata: Dey's Publishing, 2009), 76. Translation mine.

[2]Larry Briskman, "Creative Product and Creative Process in Science and Art," *The Idea of Creativity*, ed. Michael Krausz, Denis Dutton and Karen Bardsley (Leiden & Boston: Brill, 2009), 41.

[3]Irina Paperno, "What Can Be Done with Diaries?," *The Russian Review* 63, no. 4 (2004): 572.

[4]Paperno, "What Can Be Done with Diaries?," 563.

[5]Paperno, "What Can Be Done with Diaries?," 572.

[6] Albert Einstein, *The Travel Diaries of Albert Einstein*, ed. Ze'ev Rosenkranz (Princeton and Oxford: Princeton U P, 2018), 16.

[7]Satyajit Ray, "Ascharya Prani" ["The Strange Animal"], in *Shonku Samagra* [*The Collected Stories of Shonku*] (Kolkata: Ananda, 2002), 216. All translations from Satyajit Ray's *Shonku Samagra* are mine unless noted otherwise.

[8]See Ray, "Professor Shonku o Har" ["Professor Shonku and Bones"], 38. "Professor Shonku o Golok Rahasya" ["Professor Shonku and the Mystery of the Ball"], 70.

[9]Ray, "Munro Dwiper Rahasyo" ["The Mystery of Munro Island"], 366.

[10]Ray, "Swapnadip" ["The Island of Gold"], 191.

[11]Ernst Bloch and Theodor W. Adorno, "Something's Missing: A Discussion between Ernst Bloch and Theodor W. Adorno on the Contradictions of Utopian Longing," in *The Utopian Function of Art and Literature: Selected Essays*, trans. Jack Zipes and Frank Mecklenburg (Cambridge: MIT Press, 1988), 4.

[12]Adam Roberts, *The History of Science Fiction* (New York: Palgrave Macmillan, 2006), 1.

[13]Adam Roberts, *The History*, Viii.

[14]Ray, "Ascharya Prani," 217.

[15] "In whatever danger Msaaingham is in it is our duty to save him." Ray, Professor Shonku o Gorilla ["Professor Shonku and Gorilla"], 154; See also, "It is our duty to stop him," 161.

[16] Jawaharlal Nehru, "A Tryst with Destiny," *The Guardian*, May 1, 2007, https://www.theguardian.com/theguardian/2007/may/01/greatspeeches

This desire to reawaken India and revive its lost glory found suitable expression in the nationalist songs of the famous Bengali poet and lyricist Dwijendralal Roy. i.e. "Bharat abar jagat sabhay shrestho ashon lobe" ["India

will achieve the greatest place in the assembly of the world once again"] and "Sawkol desher rani se je amar janmabhumi" ["My motherland is the queen of all countries"].

[17]Jawaharlal Nehru, "A Tryst with Destiny."

[18]Suman Ghosh, "In Defiance of the State: The Nehru Era and Satyajit Ray's Films," *South Asian Studies* 32, no. 2 (2016): 144.

[19]Satyajit Ray, "Ekshringa Abhijan", 259.

[20]Biswajit Ray, *Professor Shonkur Sesh Diary* [*The Last Diary of Professor Shonku*] (Kolkata: Lalmati, 2013), 21.

[21] Ray, "Byomjatrir Diary" ["The Diary of a Space Traveller"], 3.

[22]Sukumar Ray, *Samagra Sishusahitya* [*The Collected Children's Literature*], ed. Satyajit Ray and Partha Basu (Kolkata: Ananda, 1976), 6.

[23]Sukumar Ray, *Samagra Sishusahitya*, 7.

[24]Sukumar Ray, *Samagra Sishusahitya*, 53.

[25]Biswajit Ray, *Professor Shonkur Sesh Diary*, 45-46.

[26]Kenneth Wilson, "Fiction and Empire: The Case of Sir Arthur Conan Doyle," *Victorian Review* 19, no. 1 (1993): 22.

[27] Wilson, "Fiction and Empire," 23.

[28] Wilson, "Fiction and Empire," 25.

[29]Arthur Conan Doyle, "The Lost World," in *The Complete Professor Challenger* (Kolkata: Projapati, 2018), 6-7.

[30]Arthur Conan Doyle, "When the World Screamed," in *The Complete Professor Challenger* (Kolkata: Projapati, 2018), 251. Notice the Nietzschean influence which is quite visible in this phrase.

[31]Doyle, "The Lost World," 25.

[32] Doyle, "The Lost World," 37.

[33]Doyle, "The Lost World," 35.

[34]Doyle, "When the World Screamed," 225.

[35] Doyle, "The Lost World," 6.

[36]Doyle, "The Lost World," 181.

[37] Wilson, "Fiction and Empire," 32. See Doyle, "The Lost World," 165-66. And Lord Roxton exclaimed "I wish I had fifty men with rifles. I'd clear out the whole infernal gang of them and leave this country a bit cleaner than we found it."

[38] Stefan Collini, "Introduction," in *The Two Cultures* (Cambridge: Cambridge University Press, 1993): xii.

[39]C. P. Snow, *The Two Cultures* (Cambridge: Cambridge University Press, 1993), 4.

[40] Debaprasad Bandyopadhyay, "Making of the Indian Philosophy of science," *Margins* (Feb 2000): 59.

[41] Among the people who influenced him was Bhagaban Chandra Bose, his father, who was a multifaceted personality.

[42]Jagadish Chandra Bose, "Bigyane Sahitya" ["Literature in Science"], in *Abyakta* (Kolkata, Dey's Publishing, 2009), 74. Translation mine.

[43]Bodhisattva Chattopadhyay, "On the Mythologerm: Kalpavigyan and the Question of Imperial Science," *Science Fiction Studies* 43, no. 3 (2016): 442.

[44]Ashis Nandy, *Alternative Sciences: Creativity and Authenticity in Two Indian Scientists* (New Delhi: Allied Publishers, 1980): 20.

[45]Satyajit Ray, "Ascharjontu," ["The Stranganimal"], in *Shonku Samagra* [*The Collected Stories of Shonku*] (Kolkata: Ananda, 2002), 502.

[46]Bose, ""Bigyane Sahitya"," 83.

[47] Bose, ""Bigyane Sahitya", 83.

[48]Satyajit Ray, "Nakurbabu o El Dorado" ["Nakurbabu and the El Dorado"], in *Shonku Samagra* [*The Collected Stories of Shonku*] (Kolkata: Ananda, 2002), 415.

[49]Satyajit Ray, "Professor Shonku o Robu" ["Professor Shonku and Robu"], in *Shonku Samagra* [*The Collected Stories of Shonku*] (Kolkata: Ananda, 2002), 110.

[50] Chattopadhyay, "On the Mythologerm," 445.

[51]Satyajit Ray, "Professor Shonku o Baghdader Rahasyo" ["Professor Shonku and the Mystery in Baghdad"], in *Shonku Samagra* [*The Collected Stories of Shonku*] (Kolkata: Ananda, 2002), 172; See also Ray, "Swarnaparni" ["The Golden Leaves"], in *Shonku Samagra* [*The Collected Stories of Shonku*] (Kolkata: Ananda, 2002), 606.

[52]Andrew Pickering, *Science as Practice and Culture* (Chicago and London: University of Chicago Press, 1992), 3.

[53]Pickering, *Science as Practice and Culture*, 8-9.

[54]Nandy, *Alternative Sciences*, 35.

[55]Denis Dutton, "What is Genius?", *Philosophy and Literature* 25, no. 1 (2001): 185-86. (181-96)

[56]Ashis Nandy, *Alternative Sciences: Creativity and Authenticity in Two Indian Scientists* (New Delhi: Allied Publishers, 1980): 12.

[57]Nandy, *Alternative Sciences*, 10

[58]Satyajit Ray, "Swarnaparni" ["The Golden Leaves"], in *Shonku Samagra* [*The Collected Stories of Shonku*] (Kolkata: Ananda, 2002), 607.

[59] Satyajit Ray, "Shonkur Congo Abhijan" ["Shonku's Adventure in Congo"], in *Shonku Samagra* [*The Collected Stories of Shonku*] (Kolkata: Ananda, 2002), 442.

[60]Anway Mukhopadhyay, "Ray between Two Owls: Satyajit Ray and the Aporias of Enlightenment," South Asian Review 36, no. 1 (2015): 41.

[61]Satyajit Ray, "Professor Shonku o UFO" ["Professor Shonku and the UFO"], in *Shonku Samagra* [*The Collected Stories of Shonku*] (Kolkata: Ananda, 2002), 491.

[62]Satyajit Ray, "Professor Shonku o Cochabambar Guha" ["Professor Shonku and the Cave of Cochabamba"], in *Shonku Samagra* [*The Collected Stories of Shonku*] (Kolkata: Ananda, 2002), 134.

[63] Christopher Johnson, "Bricoleur and Bricolage: From Metaphor to Universal Concept," *Paragraph* 35, no. 3 (2012): 361.

[64] Johnson, "Bricoleur and Bricolage," 361.

[65] Johnson, "Bricoleur and Bricolage," 357-58.

[66] Johnson, "Bricoleur and Bricolage," 364-65.

[67]Satyajit Ray, "Mahakasher Dyut" ["The Messenger of the Space"], in *Shonku Samagra* (Kolkata: Ananda, 2002), 408.

[68]Doyle, "When the World Screamed," 225.

[69]Satyajit Ray, "Corvus," in *Shonku Samagra* (Kolkata: Ananda, 2002), 237.

[70] Bandyopadhyay, "Making," 71.

[71] Bandyopadhyay, "Making," 71.

[72] Satyajit Ray, "Professor Shonku o Robu," 101.

[73] Bose, ""Bigyane Sahitya", 81-83.

[74]Satyajit Ray, "Nakurbabu o El Dorado," 416.

[75] Doyle, "When the World Screamed," 251.

[76] Satyajit Ray, "Professor Shonku o gorilla," 154.

[77] Satyajit Ray, "Professor Shonku o UFO," 473. "Bhaja machti ulte khete janenna."

[78]Satyajit Ray, "Byomjatrir Diary," 6.

[79]Satyajit Ray, "Professor Shanku o Golok Rahasya" ["Professor Shonku and the Mystery of the Ball"], in *Shonku Samagra* (Kolkata: Ananda, 2002), 63.

[80] Satyajit Ray, "Professor Shanku o Gorilla," 171.

[81]Satyajit Ray, "Intellectron," in *Shonku Samagra* (Kolkata: Ananda, 2002), 642.

[82] Satyajit Ray, "Byomjatrir Diary," 6.

[83]Satyajit Ray, "Professor Shanku o Robu," 111.

[84]Timothy Clark, *Martin Heidegger* (London and New York: Routledge, 2002), 12.

[85]Satyajit Ray, "Professor Randir Time Machine" ["Professor Randi's Time Machine"], in *Shonku Samagra* (Kolkata: Ananda, 2002), 520.

[86]Satyajit Ray, "Professor Shanku o Robu," 104.

[87]Satyajit Ray, "Ascharjontu," 500.

[88]Satyajit Ray, "Ekshringa Abhijan" ["The Expedition in Ekshringa"], in *Shonku Samagra* (Kolkata: Ananda, 2002), 283.

[89] Satyajit Ray, "Professor Shonku o Har" ["Professor Shonku and Bone"], in *Shonku Samagra* (Kolkata: Ananda, 2002), 35.

[90]Satyajit Ray, "Byomjatrir Diary," 20.

[91] Doyle, "The Lost World," 104.

[92]Doyle, "When the World Screamed," *248*.

[93]Doyle, "The Lost World," 59.

[94] Joel Dinerstein, "Technology and Its Discontents: On the Verge of the Posthuman," *American Quarterly* 58, no. 3 (2006): 571-72, JSTOR.

[95] Dinerstein, "Technology and Its Discontents," 570.

[96]Doyle, "The Lost World," 131.

[97]Doyle, "The Lost World," 104-05.

[98] Doyle, "The Lost World," 73.

[99] Doyle, "The Lost World," 78-79.

[100]Timothy Clark, *Martin Heidegger*. 3-4.

[101] Clark, *Martin Heidegger*, 11.

[102] Satyajit Ray, "Professor Shonku o Robu," 101.

[103] Satyajit Ray, "Professor Shonku o Gorilla," 166.

[104]Satyajit Ray, "Dr. Shering's Smaranshakti" ["Doctor Shering's Memory Power"], in *Shonku Samagra* (Kolkata: Ananda, 2002), 287.

[105]Doyle, "The Lost World," 142.

[106] Doyle, "The Lost World," 170.

[107] Doyle, "The Lost World," 175.

[108] Wilson, "Fiction and Empire," 31.

[109] Nandy, *Alternative Sciences*, 20.

[110]Satyajit Ray, "Ascharya Prani," 220.

[111]Satyajit Ray, "Professor Shonku o Gorilla," 152. See also, Satyajit Ray, "Swarnaparni", 606. "A weapon is necessary for self-protection, but I can't bear bloodshed. That's why this pistol that does not kill the enemy but annihilates."

[112] Satyajit Ray, "Professor Shonku o Gorilla," 154.

[113]Satyajit Ray, "Kompu," in *Shonku Samagra* (Kolkata: Ananda, 2002), 380.

[114]Doyle, "When the World Screamed," 235.

[115]Satyajit Ray, "Swarnaparni," 607.

[116]Satyajit Ray, "Swarnaparni," 614. See also, Satyajit Ray, "Corvus," 246. "I don't care the thing called money".

[117]Satyajit Ray, "Swarnaparni," 621.

[118]Satyajit Ray, "Nefrudeter Somadhi" ["The Burial Chamber of Nefrudet"], in *Shonku Samagra* (Kolkata: Ananda, 2002), 553

[119]Doyle, "When the World Screamed," 227.

[120] Bloch and Adorno, "Something's Missing," 1.

[121]Satyajit Ray, "Dr. Shering's Smaranshakti," 287. Shonku never visits to America.

[122]Biswajit Ray, *Professor Shonkur Sesh Diary*, 49. Translation mine.

[123]Satyajit Ray, Professor Shonku o UFO," 472.

[124] Satyajit Ray, "Professor Shonku o UFO," 472.

[125] Roberts, *The History*, 6.

[126] Doyle, "When the World Screamed," 248.

[127] Roberts, *The History*, 8.

[128]Satyajit Ray, Shonkur Suborno Sujog," in *Shonku Samagra* (Kolkata: Ananda, 2002), 357.

[129]Chandak Sengoopta, "'The fruits of independence': Satyajit Ray, Indian nationhood and the spectre of empire," *South Asian History and Culture* 2, no. 3 (2011): 374-75.

[130] Satyajit Ray, "Don Christaboldir Bhabishyatbani" ["The Prophesy of Don Christaboldy"], in *Shonku Samagra* (Kolkata: Ananda, 2002), 592.

[131]Satyajit Ray, "Marurahasya" ["The Mystery in the Desert"], in *Shonku Samagra* (Kolkata: Ananda, 2002), 225.

[132] Doyle, "The Lost World," 74.

[133] Satyajit Ray, Professor Shonku o Egyptiyo Atanka" ["Professor Shanku and the Egyptian Terror"], in *Shonku Samagra* (Kolkata: Ananda, 2002), 21.

[134] Satyajit Ray, "Professor Shanku o Gorilla," 159.

[135]Bloch and Adorno, "Something's Missing," 12

[136]Satyajit Ray, Nakurbabu o El Dorado," 415.

[137]Brinda Bose, "Modernity, Globality, Sexuality, and the City: A Reading of Indian Cinema," *The Global South* 2 (2008): 48. Ritwik Ghatak also criticizes Ray's "clinically disinfected realism of poverty." See, Ritwik Ghatak, *Cinema and I* (Calcutta: Ritwik Memorial Trust, 1987), 15.

[138]Satyajit Ray, "Munro Dwiper Rahasya" ["They Mystery of the Munro Island"], in *Shonku Samagra* (Kolkata: Ananda, 2002), 378.

[139] Bloch and Adorno, "Something's Missing," 8.

[140]Satyajit Ray, 'Compu," 383.

[141]Satyajit Ray, "Dr. Danielle's Discovery" [The Discovery of Dr. Danielle"], in *Shonku Samagra* (Kolkata: Ananda, 2002), 579.

[142]Satyajit Ray, "Ascharjontu," 513.

[143]Satyajit Ray, 'Compu," 389.

[144] Doyle, "The Lost World," 59.

[145]Satyajit Ray, "Professor Shonku O Golok Rahasya," 63.

[146]Satyajit Ray, "Mahakasher Dyut" ["The Messenger of Space"], in *Shonku Samagra* (Kolkata: Ananda, 2002), 414.