Social Singularities in Cosmic Environments: Engendering Big History

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According to archaeologist André Leroi-Gourhan, *humanized space* can be understood on multiple levels – for meeting basic survival needs, to establish a social system, and as a starting point for understanding the wider conceptual universe.[1] In our own social ecology work, we have found that gender is integral to the spatial dimensions of human life, and so the question arises:

Is Gender also Central to the Study of Big History?

Can we represent gender, so it addresses synergies and symbiotic relationships of the cosmos, as well as concerns for the conservation of ecology and heritage? These questions correlate well with Big History's consideration of the universe's varied environments, making the study of humanized space a key factor in self-understanding.

At Saint-Xavier's College in Mumbai, big-historian Orla Hazra also believes this connection is possible. After teaching the course, 'Awaken to Cosmic Compassion,' as a form of Big History, she reported:

> The experience allows them (students) to reflect on issues in an integral way and to understand that they are part of the global bio / psycho / social / spiritual problem, but more importantly and inspiringly, are also the solution, through right action.[2]

Our article engages with such contexts and finds that there are gaps that need to be bridged. Environment, religion and culture intersect with gender to create vulnerabilities, taboos and marginalization on one hand, and identities, roles and knowledge on the other.

The need for peace, diversity and sustainability are significant, while food security, human space/s and reproductive health are interconnected and are not gender-neutral. As eco-feminist Vandana Shiva writes:

> The displacement of women from productive activity by the expansion of development was rooted largely in the manner in which development projects appropriated or destroyed the natural resource base for the production of sustenance and survival. It destroyed women's productivity both by removing land, water and forests from their management and control, as well as through the ecological destruction of soil, water and vegetation systems so that nature's productivity and renewability were impaired. While gender subordination and patriarchy are the oldest oppressions, they have taken on new and more violent forms through the project of development. This involves, a recognition that categories of 'productivity' and growth which have been taken to be positive, progressive and universal are, in reality, restricted patriarchal categories. When viewed from the point of view of nature's productivity and growth, and women's production of sustenance, they are found to be ecologically destructive and a source of gender inequality.[3]

Food is a powerful tool for studying the social and cultural fabric of communities. Let us look at India's historical landscape as an example. Forests had traditionally complemented agriculture and cattle-rearing, but British colonials and their allies destroyed forests, food security and sovereignty for economic gain, as officials forced farmers to plant indigo, opium and cotton for export, leading to a loss of land for sustenance. Soil degradation and food scarcity resulted, along with a crisis in animal husbandry, with decline in grazing land. Then commercial agriculture gave way to monocrops, as a result of the Green Revolution in the late 20th century.

Despite this legacy of ecological destruction, the cultural landscape of India is littered with food. Besides a biological necessity and an economic commodity, food is a primary ingredient of ritual and social transactions, a medium of family and social engagement, and a marker

Figure 1: Rice planting in paddies, Shakrori, Himachal Pradesh, July 2010. Photograph by Richa Minocha.

of social boundaries. Food is an ecological and socio-cultural reality. Different parts of the country have evolved their own cuisines and balanced diets. Diversity persists, as same-titled foods, such as *chutney*, are made of varying ingredients in different parts of the country. Cooking skills are central to the identity of Indian women.[4]

Besides being the ones who convert food into meals and feasts, women are central to agricultural production. Indigenous food knowledge lies with women, as they know that food eaten in the right season and cooked in a certain manner can be healing. They nourish, take care, and heal through food. During lactation and pregnancy, they convert their own bodies into food for their offspring.[5] Despite such a central role, women are barely acknowledged as farmers by the general public.

This cultural erasure of women's participation in cultivation took place through an eco-historical process. The shift from swidden to settled agriculture led to a decline in the status of women, as traditional matrifocal life led to patrifocal society. Food became a basis for this discrimination, with menstrual taboos and notions of what to eat / not eat during menstruation and pregnancy bringing about women's subordination. Women's ability to contribute to agriculture crucially depended on their access to land, but they were and are now disadvantaged because of male bias in inheritance laws and restrictions on their access to land through government land programs.[6]

Nonetheless, during ecologist Richa Minocha's field survey in Shakrori village in Himachal Pradesh in 2007, women celebrated the agricultural festival of *Bishu ki Sajji*.[7] The prime spring harvest day, it honours the crops, water and soil, giving thanks and hope for continued abundance, health, and fertility. After the harvest, water-filled earthen pitchers are gifted to married daughters and priests. The floor of the house is plastered with fresh cow manure and special meals are made of sugar, rice, pulses, and homemade clarified butter. The new agricultural produce is shared with Brahmin priests and married daughters, and the leftovers from the previous season are distributed among lower-caste communities.

While the festival itself does connect communities and celebrates fecundity and womanhood, it has discriminatory elements, since it excludes lower-caste women. In her pioneering work on Brahmanical patriarchy, historian Uma Chakravarti argues that women's sexuality was restricted in order to safeguard caste. Women were considered 'gateways' into caste, which needed to be policed to protect its 'purity.'[8]

Women in Shakrori expressed how much they relate to the Goddess Sita, who was worshipped at water sources and as an agricultural Goddess and daughter of the Earth. Sita had refused the fire test that her husband Ram wanted her to undertake in order to prove her purity, and, instead, she invoked Mother Earth and buried herself alive. Focusing on archetypical female figures from traditional Hindu texts can be problematic, whether they are goddesses, epic heroines like Sita, or *viranganas* (women warriors). This is because these accounts exclude women from minority religious communities as well as Dalit (lower-caste) women.[9]

In 2010, the women in Shakrori, however, overcame caste barriers and united to stop the French conglomerate, Lafarge, from setting up a cement plant near their village by giving evidence how it would destroy the ecology and their livelihoods. Another success for women's solidarity has been in how tribal women in Odisha mobilised to save their forests from being taken over for development projects, arguing that their woodlands were the source of their food security and sovereignty, so they had a vested role in conserving them. Kondh women in Odisha also took on the might of the conglomerate, Vedanta Resources, and protested when the government gave preference to bauxite mining over their livelihoods.[10] As the Kondh activists saw it, the forests are their means of life, livelihoods and space for their community, and specially the women.

The Feminine Principle and Menstruation Myths

There is an array of literature in the Shakta-Hindu tradition that explains the nature of the Goddess Sita as an all-pervading reality, manifesting herself in different and diverse, but interrelated, aspects of the world. She is especially revered by women.

> Sita is also worshipped throughout India as a spouse goddess, the wife of Rama, an avatar of Vishnu, the Preserver God of the Universe. Her story appears in the epic, Ramayana … when she is adopted by King Janaka, who finds her while ploughing the land of his kingdom during a drought. The drought ends and Sita's auspiciousness is established. Sita later marries to Rama, the crown prince of Ayodhya. She spends fourteen years in exile with her husband, during which time, she is abducted by Ravan, the king of Lanka. When Rama finds her, she is asked to enter fire, to prove her fidelity to him. She comes out of it unscathed, but, after their return to Ayodhya, she is abandoned again by Rama. Sita moves to Saint Valmiki's Ashram, where saints and religious people live, raising her two sons. It is a haven. When Rama finds out about this, he wants to take back his sons, but asks Sita to prove her purity a second time. She refuses and prays to Mother Earth to take her back to the place from where she was born before being adopted by Janak.[11]

There are many folk versions of Sita's story, and women relate to Sita as a goddess protecting water sources, a great preparer of foods, and a virtuous woman. This integration of existence is explained by Gargi, a historical woman philosopher in dialogue with a male counterpart, Yajnavalkya, in a convocation, about 800 BCE. She spoke about the connection of water and earth to the feminine principle. But she was silenced by the men and noted their refusal to listen.[12]

During *Raja Parba*, a menstruation festival dedicated to the Mother Goddess Earth in Odisha in June, when the hot weather is at its peak and the monsoon rains are about to arrive, the earth itself is said to be menstruating.[13] It is believed that to plow or dig the earth during Earth's menstruation period violates her and makes her unhappy. However, while this ancient festival honours women's fertility, nature and the continuity of life, dimensions of power changed. Male control over society, natural resources

(like land and water), and women's bodies (and labour) took place. It was no accident that this gendered power-shift was the result of increased agrarian commercialization and specialization, a trend that continued in modern industrial and post-industrial gendered disparities.

Art historian Ananda Coomaraswamy pointed out how the capitals of Ashokan stone pillars, erected across the expanse of India's first empire – the Mauryan – over 2200 years ago, represented an inverted lotus. (Fig. 2). He noted that the lotus had been drawn from the 'oldest Indian cosmology, that of water … ,' where '… we meet at once with the idea that water is the source and support of all things, particularly the source of life, and the support of the earth.'[14] In other words, the perception of water as infinitely potent and fertile had been built into these monumental structures.

The origin of the myth of women's impurity during menstruation and childbirth has its origin in the Vedic period. Sanskrit-scholar Wendy Doniger O'Flaherty states: 'The Rig Veda is a book by men about male concerns in a world dominated by men; one of these concerns is women, who appear throughout the hymns as objects, though seldom as subjects.'[15] Menstruating women in Indian societies came to be looked upon as filthy and unhygienic. Because they had little information and awareness of puberty, menstruation and reproductive health, it was difficult for women to overcome socio-cultural taboos and attitudes.

Women were prohibited from going to the mandir (temple) or masjid (mosque) to participate in prayers and religious ceremonies. They were forbidden from reading holy books and were told of the importance of bathing rituals after menstruation. Over time, the ancient, positive festivals were corrupted into events prejudicial to women – instead of a well-worshipping ceremony to celebrate the source of water and the feminine principle, bathing rituals

Figure 2a: Left – Top of the Ashoka pillar from Sarnath, Uttar Pradesh (India). Dated to 250 BCE, the inverted lotus provided a base for the circular abacus and lions. From Daya Ram Sahni, *Catalogue of the Museum of Archaeology at Sarnath*, Calcutta: India Government Printing, 1914: Plate 4; courtesy of Wikimedia Commons.

Figure 2b: Below – Ashoka pillar at Vaishali, Bihar (India), 2007. A view of how the Sarnath pillar might have appeared when standing. Courtesy of Wikimedia Commons.

became a purifying rite to cleanse women of their male-perceived contamination.[16]

The social stigma attached to menstruating women was highlighted by interviews with women in the village of Shakrori, who said that they were not allowed to cook or touch sweet and sour foods such as pickles. They couldn't enter kitchens and were sent food in their isolation from households. Many of the restrictions were said by Brahmanical prescriptions to insulate men from defilement. The women still spent their time working in the fields and resting in livestock sheds or backyard rooms. Anthropologist Mitoo Das looked into the world of menstruation and taboos among Hindu women in Simlitola, Assam. She writes that it is ironic that the menstruation of the Earth Goddess, *Mother Kamakhya*, is worshipped by men and women both, while the menstruating women themselves are forced into seclusion.[17]

The Indian courts, however, have agreed that how society sees menstruation is a problem. Public interest litigation (Nirjhari Sinha v. Union of India), in 2020, led to an order by the Gujarat High Court that the state should end menstruation taboos and discriminatory practices. The court proposed nine guidelines, the first of which read: 'Prohibit social exclusion of women based on their menstrual status at all places, be it private or public, religious or educational.' The guidelines also outlined the state government's responsibility for creating public awareness about these issues through campaigns for community sensitisation and by incorporation into school curriculums.[18]

While all women might *obtain* the same laws, socio-cultural traditions can still maintain discriminatory systems. For example, non-dominant-caste women can remain impure in the eyes of not only upper-castes, but even among themselves, as a form of internalised discrimination. Human-rights activist Deepthi Sukumar argues that, while upper-caste women might be seen as impure during their periods, she herself – as a Dalit woman – will always be seen as *impure*: 'At their core, the menstrual taboos are designed to maintain the systems of caste and patriarchy for the dominance of the touchable caste men. Menstrual behaviour and taboos are part and parcel of the caste and patriarchal design to maintain the hierarchy of caste structure by propagating and using the belief system of purity and pollution.'[19]

Abortion and Contraception: Gendered Contexts

Unintentional miscarriages were called *sramsana* and were accepted.[20] However, ancient Indian texts denounced induced abortion as a sin, as in the *Rig Veda*, *Dharma Sutras*, and *Smritis*. Aside from instances where abortion was permissible in order to defend pregnant women whose lives were in danger, abortion was denied.[21] Indeed, sexual relations in general were intertwined with spiritual concerns, such as *karma* (cause and effect), *dharma* (divine observance) and *ahimsa* (non-violence), along with reverence for human life and the environment.

The law of *karma*, for example, saw abortion as depriving a person of a cycle in their birth / rebirth, and so *brunahathya* and *garbhahatya* (abortion) implied the intentional act to be *hatya* (murder) or *hinsa* (extreme violence).[22] Attitudes towards contraception and sexual activity without reason were also seen as immoral, but the use of contraceptives and even surgical procedures were used to prevent conception in ancient India. This can be seen in the *Atharva Veda* (c. 1000 BCE), as contraceptives were advised for insertion in the *yoni* (female genital tract), which was a basic intrauterine device.[23] So, unlike abortion, contraception was ambiguous in its moral implications.

Rishi Charaka, a founder of Ayurvedic medicine and compiler of the *Charaka Samhita* (c. 100 CE), recommended contraceptive methods based on reproductive physiology. His text includes uses that we would today describe as safe periods, anti-implantation agents, inhibition of ovulation / spermatogenesis, intrauterine devices, and antizygotic drugs. Most Hindus accept the duty to have a family during their life-stage as a householder, but economist Sriya Iyer argues that, in Indian society, contraception use is neither controlled by women nor intended to further their autonomy; instead, contraception has classical roots that served to control women's bodies.[24]

In 1964, an Abortion Study Committee was established on the advice of the Indian Government's Central Family Planning Board. Their report, two years later, recommended legalising abortion for humanitarian and medical reasons, in order to protect women's health and lives. The law was approved, with some modifications. Then the Medical Termination of Pregnancy Act of 1971, a liberal and progressive abortion law, was enacted and is now part of the Indian Penal Code.[25]

Since then, it has undergone three amendments, the most recent of which was approved in March 2021. It permits increasing the upper gestation limit for abortions from

20 to 24 weeks for special categories, including survivors of rape, incest victims, the differently-abled, and minors. It also requires the opinion of one healthcare provider for the termination of pregnancies up to 20 weeks and of two healthcare providers for the termination of pregnancies between 20 and 24 weeks and includes a confidentiality clause. All reasons for abortions are permissible, and it ensures universal access to comprehensive medical, eugenic, humanitarian, and social care.[26]

However, there is still the issue of social stigma (particularly for single women) and there are major discrepancies in location and cost that compound the problem. India had 15.6 million abortions in 2015. Of these, 3.4 million (22%) took place in medical institutions, 11.5 million (73%) outside medical facilities but used medical techniques, and 5% by other techniques. In India, where 73% of abortions are unsafe, there is a high prevalence of danger for women. [27]

Conclusions

In his essay, 'A New Design for Living,' geographer Barry Rodrigue unambiguously calls for a revaluation of our priorities and ways of viewing ourselves and our needs on a planetary scale. He describes Big History as a paradigm that seeks to break down categorical knowledge and education domains, allowing us to see through the walls of nation-states and even our species. Likewise, big-historian Antonio Velez situates the production of knowledge in social systems and helps us understand the role of gendered hierarchies in what gets regarded as learning.[28]

Palaeontologist Nigel Hughes draws attention to the realms where Big History is characterised, as he outlines facts about the Earth's history and the evolution of the Earth's Life System. He writes how ancient changes demonstrate how important it is to understand the past for predicting our future. Ecofeminists have raised similar critical questions about the interconnectedness of all living beings, including humans, nature as a whole, and the evolution of biological and cultural histories. They see a feminine principle at the base of interconnectedness.[29]

Hence, big-historians and ecofeminists alike call for revaluations and a better understanding of our past in order to reconceive our present. In referring to the interlinkages and interconnectedness around the planet, big-history artist Paula Metallo talks of unifying geographical and historical extremities, to reveal as visible the things that were once invisible:

> To me, the most fascinating aspect of modern culture and Big History is the awareness of interconnectedness, the weaving of everything together on our planet and beyond, which provides a new place to contemplate. Our universe demonstrates this perspective, one that today's communication systems imitate, allowing us the vantage point from which to appreciate the fullness of things. Anything that one can point to in nature is composed of small patterns that are all part of larger patterns. The new age of communications can provide us – no matter where we find ourselves – with a means to transcend our own patterns and to stand back from a mosaic. [30]

Engendering Big History is important in any attempt to give meaning to our spaces and boundaries. Feminisms and grassroot initiatives foreground big-history's approach to such interconnectedness. As the Kondh women of Orissa testified, they and their ancestors have not only been conserving but have been belonging to the Niyamgiri forests and hill range for centuries, and often times it has been survival strategies of women and not technologies that have helped them survive through fierce weather and drought and rains. These women can be considered grassroot feminists who are practicing Big History, when they insist that policymakers should be posing questions differently, such as asking what survival strategies poor households adopt in order to survive, rather than just asking poor tribal households of what they have been deprived.[31]

Notable sights on the occasion of *Gudi Parwa*, the spring harvest festival in Maharashtra, include street processions, dancing, festive foods, and colourful floor decorations, or *rangoli*. There are also the *Gudi* arrangements kept by each household, as well as a special *Gudi Dvaja,* which is a saree or piece of cloth wreathed with flowers, mango and neem leaves, sugar-crystal garlands called *gathi*, and topped with up-turned silver or copper vessels. The upturned pot (*handi* or *kalash*) signifies achievement. The arrangement is hoisted outside each household and are believed

Figure 3: A *Gudi Dvaja* set up by Richa Minocha and Kanchamma in Dr. Minocha's house on the occasion of Gudi Parwa. In Pune, Maharashtra, India, 22 March 2023. Photograph by Richa Minocha.

to ward off evil, and to invite prosperity and good luck into the house.

According to the Hindu Jagriti Samiti, a conservative nationalist organization, the Gudi Parwa festival celebrates the victory of male Maratha warriors. It is also believed that, on this day, Lord Brahma (with Vishnu and Shiva) created the universe. However, the *Gudi Dvaja* is unmistakably a feminine frame representing fertility and productivity – with its pot, mango and neem leaves, and sugar garland representing the connections of life, water, food, women, and ecology.

Furthermore, the neem leaves are essentially bisexual, the mango leaves either male or bisexual, and the sugarcane reproduces through asexual modes or vegetative propagation. Hence, the *Gudi Dvaja*, in its manifestation and original interpretation accepts diversity in nature and looks at humans as complementary to nature. The bias of compulsory heterosexuality is challenged in this symbolism.

In this kind of analysis, archaeologist Sada Mire connects fertility and kinship rituals in Somalia, through the lens of Big History, with landscapes, objects, and the sufferings of women. She describes how relatively modern religions and ideologies attempt to manage disorder, by assigning meaning to almost every aspect of life.[32] Among these are patriarchal restrictions and taboos imposed on women. While these modern meanings still symbolically link women to productivity and fertility, they also impose an inferior status on them.

In the course of discussions with big-historians at the 2021 Global Big History Conference – the IBHA's Fifth Conference – we authors thought deeply how engendering Big History could be a way to not only better understand social singularities and empower singular groups, but to better spread the inclusive vision of Big History. How this might happen is a dialogue that needs to take place. Some issues are known but have been changing.

For example, at the start of the IBHA, there were few women big-historians – only one served on its first board of directors, now there are three from different countries and different disciplinary backgrounds, along with active members of parallel organizations.[33] The question arises, how might differently gendered perceptions effect research priorities, agendas and projects, not to mention our vision of Big History itself?!

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5. Chakravarti 1993.
6. Chakravarti 1993. Agarwal 1995. Deere and Leon 2003.
7. Sharma and others 2007. Bishu is the second month in the Hindu calendar, while Sajji is the day of the month when the Sun leaves one zodiac sign for another.
8. Chakravarti 1993. Das 1976.
9. Rajan 2004.
10. Minocha 2015: 352. Deccan Herald 2012. Mishra 2018. Saxena and Bahl 2014.
11. Minocha 2022: 299–300.
12. Patel 1994.
13. Frederique Apffel-Marglin and Purna Chandra Misra have critically presented their fieldwork on the menstruation festival (Raja Parba) in the Indian state of Odisha. Apffel-Marglin and Chandra Misra 1991a, 1991b.
14. Meister 1992: xviii.
15. O'Flaherty 1981: 274.
16. Chawla 1994.
17. Das 2008.
18. LatestLaws.com 2021.
19. Sukumar 2020.
20. Mohan 1975. Aramesh 2019.
21. Yadav 2022. Sri and Ravindran 2012
22. Aramesh 2019. Bharathi and others 2009.
23. Srikanth 2000. Kumbhar 2018.
24. Srikanth 2000. Iyer 2002. Bharathi and others 2009.
25. Mohan 1975. Stillman and others 2014.
26. India Ministry of Health & Family Welfare 2021.
27. Singh and others 2018. Guttmacher Institute 2017.
28. Rodrigue 2015. Sulkin 2015.
29. Hughes 2015. Bove 2021.
30. Metallo 2016.
31. This engagement with Kondh women as vital resources to inform the world about survival is not dissimilar as to how Japanese architect, Kyohei Sakaguchi, interviewed homeless citizens and street-dwellers in Tokyo about survival in a crisis-driven world. This led to his best-selling book, *Build Your Own Independent Nation* (2016).

32. Mire 2016.
33. The woman on the founding board of the International Big History Association in 2010 was American historian Cynthia Stokes Brown. In 2023, the women board members are physicist Priyadarshini Karve (India), geologist Olga García Moreno (Spain), and philosopher Marie-Rubeth Ronquillo-Hipolito (Philippines). An example of women leading parallel big-history organizations is educator Jennifer Morgan and her Deep Time Network <https://dtnetwork.org/>.