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Ayurveda, Preconception, Biological Plasticity, and the Re-conception of a Nation

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Sitting in my home office in Melbourne, I attended the first ever online international conference on [Ayurveda and Epigenetics](#). My PhD project, which began a few months ago, addresses the circulation of epigenetic and postgenomic models of life in India. An international conference on the factors 'that bring about epigenetic changes and the tools available through Ayurveda to restore and maintain balance and health' seemed to be the perfect place to start. The conference menu was very generous: 16 international speakers would cover diet and nutrition, pregnancy, Vastu (Indian architectural science), stress, cancer, chronobiology, the gutmicrobiome, personalised medicine, medical astrology, EFT (emotion freedom technique), and massage, to name a few. As I watched each presentation, I saw two different worlds beginning to collide: the latest advancements in molecular biology married with centuries-long language of imbalance and purification. In a tangle of epigenetic buzzwords and Ayurvedic herbs, cleanses and practices, the virtual audience was presented with diagrams, journal papers and clinical observations connecting the ancient science of Ayurveda and the modern science of epigenetics. However, as the conference progressed, it became apparent that the science of epigenetics was nothing new to many of the presenters. Indeed, many claimed that Ayurveda has worked alongside an epigenetic framework for centuries and that modern science is finally validating what Ayurveda has always known.

Over the last two decades there have been large shifts in understandings of genetics. Epigenetics has been at the forefront of these shifts, challenging the once firm and solidified notion of the gene and replacing it with a plastic and porous one (Meloni 2016). To put it simply, epigenetics is how the environment regulates gene expression without changing the DNA sequence. This regulation is commonly referred to as turning genes 'on' or 'off.' The 'environment' can come in many forms. It may be the direct environment in which you live, the gestational environment inside the womb, or even the food your grandparents ate (Mansfield 2017). In this formulation, the body is understood as porous, plastic, and responsive. However, the appreciation of the porosity of the body is not a new concept and has been embraced by premodern biological understandings of the body which traversed medical traditions from

Europe to the Middle East (Meloni 2018).

Ayurveda is a Sanskrit term meaning 'knowledge (*veda*) of longevity (*ayus*)' and is commonly translated as the 'science of life.' It is a form of holistic medicine that grew out of the Indian subcontinent with systematic medical theory forming around 400 BCE (Smith & Wujastyk 2008). As a science of life, Ayurveda maintains that 'health' encompasses the mind, body, and soul. A common phrase in Ayurveda is *Yatha Pinde Tatha Brahmande* or 'as is the microcosm, so is the macrocosm.' Ayurveda considers all aspects of a person's life and provides health advice to individuals across their lifespan, from preconception to old age. Ancient Ayurvedic texts, such as the *Charaka Samhita* and *Sushruta Samhita*, provide a basis for Ayurvedic practice and give detail on 'the physiology and interrelated systems of the body, variations in human constitution, surgical techniques, use of herbs and herbal mixtures, and many other modalities for achieving and maintaining health' (Sharma, 2016, p.87). Although Ayurveda relies on these texts, it is important to note that the practice of Ayurveda has been dynamic in its formation and evolution (Smith & Wujastyk 2008).

A key feature in Ayurveda is the defining of body type or constitution. Each person is born with a unique ratio of *doshas*, which are 'psychophysiological principles that govern various aspects of the human body' (Sharma, 2016, p.88). The ratio of the three *doshas*, known as *Vata*, *Pitta* and *Kapha* will differ for every person. A person's unique constitution of *doshas* correlates with an individual's phenotype. Depending on the *doshas*, each person will respond differently to their environment and have a different predisposition to disease (Sharma 2016). This is why Ayurveda has been attractive for other areas of genomics too, including personalized medicine (Prasher, Gibson & Mukerji 2016).

However, in Ayurveda's marriage with epigenetics the emphasis is more on lifestyle intervention. Encompassing all aspects of a person's life, Ayurveda places importance on one's environment, including a person's behaviour and social environment. Practitioners give instructions for daily and seasonal routines, when to exercise, eat and sleep, and offer recommendations for 'proper behaviour and how to deal with peers' depending their phenotype (Sharma 2016, p.88). This has obvious parallels not only with contemporary epigenetic advice of eating better or doing more exercise, but with the Galenic tradition of the *six non-naturals* (non-innate things that one can change, such as air or food) that shaped the relationship of premodern bodies with their humours until the rise of the modern biomedicine (Meloni 2019).

As the conference unfolded, it became clear that epigenetic terminology was being compared with the ancient Ayurvedic texts. As one presenter

noted, ‘there is an old saying in Ayurveda that goes, “what you see, you become.” It’s an ancient take on epigenetics’ (Sabharwal, Dada & Prakash 2018, p.22163). The development of epigenetic research integrates the social as a ‘causative factor for the biology of humans’ that has been rarely seen in genetic research (Landecker & Panofsky 2013, p.333). Moreover, epigenetics markers are thought to have greater impacts at different times or ‘windows’ during development. These temporal aspects illustrate how the once static genome is ‘acquiring a life-span’ (Landecker & Panofsky 2013, p.339). Researchers claim that the environment can not only impact your health, but could also impact your children and grandchildren’s health through transgenerational mechanisms. This epigenome — often described as flexible, responsive, porous, plastic and bringing together multiple generations — is reviving interest in traditional medicines, such as Ayurveda.

Health in the Ayurvedic framework is holistic and is not an entitlement but a responsibility. As the conference progressed, I noticed that the importance responsibility in Ayurveda was not limited to one’s own self but is also extended into the reproductive arena. Referencing the Development Origins of Health and Disease (DOHaD) theory, which explores how maternal experiences can influence epigenetic changes, presenters stressed how the connection between Ayurveda and epigenetics affected pregnancy. Indeed, using epigenetic and Ayurvedic terminologies, presenters emphasised how maintaining a healthy lifestyle may also influence the health of future generations and called for parents to practice ‘responsible reproduction.’

Indeed, the meshing of epigenetics and Ayurveda is happening on social, political, and biological levels, particularly in the arena of reproduction. It has been reported in India’s English language newspapers that the ancient tradition of *Garbh Sanskar* or ‘education in the womb’ has had a recent revival (for parallels with the Western tradition, see Pentecost and Meloni, 2020). Clinics such as the ‘Garbh Vigyan Sanskar’ are offering parents the chance to create their *Uttam Santati* or ‘ideal progeny’ through a series of Ayurvedic techniques and procedures (Bhardwaj 2017). The clinics offer parents the chance to produce ‘customised babies’ by taking pre-conception measures, which include massages, diet plans, meditation, prayer, abstention from sex and visualization of the type of child that they desire. The timing of conception is decided on an alignment of planets and guidance from the program can last after the pregnancy until the child is twelve years of age (Das 2017). Proponents of these procedures claim they increase the IQ of babies and produce tall and fair children (Bhardwaj 2017). Indeed, proponents emphasise that families should seek to have a ‘baby by choice, not by chance’ (‘Garbh Sanskar: “Baby by choice, not by chance”’ 2019). It is clear that these clinics aim to provide families with their idealized, healthy child; what else

are these clinics producing in the process? What kinds of families are being constructed? What kind of mother is being produced? What ideas are being reproduced and imbedded in the gestational belly and in generations to follow?

The motives behind the preconception clinics were echoed by presenters at the Ayurveda and Epigenetics Conference, who called for 'reproductive responsibility' and argued that children should be planned and not spontaneous. Indeed, presenters on the topic of pregnancy claimed that by subscribing to preconception protocols, parents can have epigenetic influences on the child in various aspects of their physical body, personality, and intelligence. These claims parallel those of the preconception clinics hoping to deliver a certain kind of child to participating parents. Practitioners at the Garbh Vigyan Sanskar clinics acknowledge that these ideas bear similarities to genetic engineering but claim that the project is a natural process, in which the body does all the work by cleaning its own cells (Kohli 2017). Unsurprisingly, this places the mother at the centre of responsibility for producing an 'ideal progeny' and places a large burden on her actions, before, during and after pregnancy. At the same time, the concept of an 'ideal progeny' is not universal but contextualized and displays in a rich historical, social, and political tapestry.

Indeed, these clinics are situated in the middle of Hindu nationalist policy. The Garbh Vigyan Sanskar programs have been linked to the Rashtriya Swayamsevak Sangh's (RSS) health wing, Arogya Bharati (Das 2017). The RSS has been described as 'the ideological godfather' to Narendra Modi's Bharatiya Janata Party (BJP) government (Andersen & Damle 2019, p. ix). The group has also been described by *The Guardian* as 'both the arbiter of theological meaning and the architect of a Hindu nation-state' (Subramanian 2020). It is the 'holding company' of Hindu nationalism, or Hindutva, as it is commonly known. The voluntary organization was founded almost a century ago and currently has at least 4 million volunteers (Subramanian 2020). The RSS's 'nation-building effort has been almost exclusively focused on promoting a sense of unity among Hindus' (Andersen & Damle 2019, p.250). The connection between the clinics and Hindu nationalist policy creates an additional layer of complexity to pregnancy and motherhood.

The nationalist aspect to the programs are not a secret, with practitioners claiming that 'Our main objective is to make a samarth Bharat (strong India) through uttam santati' (Bhardwaj 2017). The practitioners also actively recognize the similarities of the program with other nationalist projects, such as Nazi Germany. (Bhardwaj 2017; Subramaniam 2019) Indeed, as one practitioner stated, "Just because Hitler spoke about something similar, why is it considered wrong?" (Das 2017). Bringing

together aspects of Indian mythology and modern biology, these clinics combine aspects from the ancient past and the modern present to (literally) produce a new India. As Banu Subramaniam (2019) suggests, these clinics are a perfect example of an ‘archaic modernity.’

Subramaniam describes this as ‘a melding of science and religion, the ancient and the modern, the past and the present into a powerful brand of nationalism’ (Subramaniam 2019, p.7). This process involves mobilizing science and religion for a ‘political Hindu nationalist vision’

(Subramaniam 2019, p.7). Thus, modern science is embraced wholeheartedly, rather than being rejected by or clashing with religious thought in an ‘archaic modernity.’

By bringing together ‘a modern vision with an archaic vision’ Hindu nationalists seek to return to ‘Hindu values while incorporating Western and Vedic sciences’ (Subramaniam 2000, pp.73–74). For example, the clinic’s aims bear resemblance to the mythological tale of *Abhimanyu*, who learnt the art of a military formation whilst in his mother’s womb. (Bhardwaj 2017 in Subramaniam 2000). By incorporating modern bioscientific terminologies alongside the famous myth of the *Mahabharata*, the clinics appeal to this particular feature of Hindu nationalism (Subramaniam 2019). This feature also places the pregnant woman in a central role as a mother to both the child and the nation. Indeed, the RRS chief Mohan Bhagwat has illustrated the importance of women in this project, promoting the concept of ‘Matru shakti,’ or what he described as ‘the ‘Bharitya’ idea of women’s empowerment.’ Differing from Western ideals, Bhagwat states that ‘women play an important role in nation building and to ensure more respect and empowerment for them, they should be seen as mothers’ (“Matru shakti ensured more respect for women in India” | Jaipur News – Times of India’ 2018). The modernizing of Ayurveda through the womb illustrates how Hindu nationalist ideas are imprinted on both the body of the mother and the cells of the growing fetus.

This has major implications for religion and science but also for gender roles and narratives in India. The clinics advise the woman on what she should do, watch, and eat. For example, one article states that ‘the pregnant woman is asked to stay away from western music as it results in an “angry and irritable” child, and avoid watching ‘saas-bahu’ soap operas to prevent negative emotions’ (Kohli 2017). As Subramaniam notes, these mechanisms serve to control the pregnant woman, creating a happy and docile individual (Subramaniam 2019). The clinics also reinforce gender narratives and conceptions what it means to be a family. As one patient at a clinic stated, women are generally held responsible for not producing a family, “After all, no one will ever blame a man. In our society, only a woman is blamed for not having children, isn’t it?”(Kohli 2017) This is reflective the practice of nation building, as Yuval-Davis

argues: 'it is women... who reproduce nations, biologically, culturally and symbolically' (Yuval-Davis 1997, p.2). The preconception and gestational period can then be considered as a crucial time for intervention by hegemonic groups.

The 'preconception' period has become a site of renewed interest in public health (Waggoner 2013, 2017; Mansfield 2017; Pentecost & Meloni 2020). The Developmental Origins of Health and Disease (DOHaD) theory suggests that environmental factors in 'critical windows' during development influence health and developmental outcomes via epigenetic mechanisms (Godfrey, Gluckman & Hanson 2010). Historically, DOHaD theory was interested in the biological perspective, which focused on the days before conception, and the individual perspective, which focused on the intentionality of the couple to conceive. However, the widening temporality of the preconception window as a site allows for the preconception population to become 'a key operator for the implementation of a capillary form of biopower' (Pentecost & Meloni 2020, p.9). Indeed, everyday lifestyles and actions, which are the bread and butter of the epigenome offers a new foray into the conception of normativity and what is considered normal in given populations. Unlike the reductionistic view of generation in genetics, it has the potential to 'revive frameworks that typically connected health to moral disciplining, particularly in the case of women as a special site of biological impressionability.' (Pentecost & Meloni 2020, p.10)

As Salman Rushdie wrote, 'to understand one life, you have to swallow the world' (Rushdie 2008, p.145). Indeed, the influence of both our social and physical environments is becoming more apparent to our biology. The Ayurveda and Epigenetics Conference and the pre-pregnancy clinics illustrate how epigenetic research situated in unique social environments has the potential to evolve and reshape notions of the maternal body. As the saying goes, 'as is microcosm, so is the macrocosm' – from the nation, to the mother, to the cells of the grown fetus, everything is connected, intertwined and fluid.

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Works Cited

Andersen, W & Damle, SD 2019, *Messengers of Hindu Nationalism : How the RSS Reshaped India*, C. Hurst and Company (Publishers) Limited, Oxford, UNITED STATES, retrieved from .

Bhardwaj, A 2017, 'RSS wing has prescription for fair, tall "customised" babies | India News, The Indian Express', retrieved April 1, 2020, from .

Das, P 2017, 'An "immaculate" conception: A day in the life of Garbh Vigyan Sanskar clinic', *The Indian Express*, retrieved May 7, 2020, from .

'Garbh Sanskar: "Baby by choice, not by chance"' 2019, *Hindustan Times*, retrieved April 1, 2020, from .

Godfrey, KM, Gluckman, PD & Hanson, MA 2010, 'Developmental origins of metabolic disease: life course and intergenerational perspectives', *Trends in Endocrinology & Metabolism*, vol. 21, no. 4, pp. 199–205.

Kohli, N 2017, 'Customised delivery', *theweek.in*, retrieved May 13, 2020, from .

Landecker, H & Panofsky, A 2013, 'From Social Structure to Gene Regulation, and Back: A Critical Introduction to Environmental Epigenetics for Sociology', *Annual Review of Sociology*, vol. 39, no. 1, pp. 333–357.

Mansfield, B 2017, 'Folded Futurity: Epigenetic Plasticity, Temporality, and New Thresholds of Fetal Life', *Science as Culture*, vol. 26, no. 3, pp. 355–379.

"Matru shakti ensured more respect for women in India" | Jaipur News – Times of India' 2018, *The Times of India*, retrieved May 21, 2020, from .

Meloni, M 2016, *Political biology : science and social values in human heredity from eugenics to epigenetics.*, Palgrave Macmillan, retrieved from .

Meloni, M 2018, 'A postgenomic body: histories, genealogy, politics', *Body & Society*, vol. 24, no. 3, p. 3.

Meloni, M 2019, *Impressionable Biologies : From the Archaeology of Plasticity to the Sociology of Epigenetics*, Routledge, retrieved May 29, 2020, from .

Pentecost, M & Meloni, M 2020, "'It's Never Too Early": Preconception Care and Postgenomic Models of Life', *Frontiers in Sociology*, vol. 5, retrieved May 29, 2020, from .

Prasher, B, Gibson, G & Mukerji, M 2016, 'Genomic insights into ayurvedic and western approaches to personalized medicine.', *Journal of genetics*, vol. 95, no. 1, pp. 209–228.

Rushdie, S 2008, *Midnight's Children* 1st edn, Vintage Publishing, GB, retrieved May 27, 2020, from .

Sabharwal, P, Dada, R & Prakash, C 2018, 'CANCER AND EPIGENETICS INTERRELATIONSHIP IN PREVENTION AND CURE', vol. 08, p. 6.

Sharma, H 2016, 'Ayurveda: Science of life, genetics, and epigenetics', *Ayu; Jamnagar*, vol. 37, no. 2, retrieved January 11, 2020, from .

Smith, FM & Wujastyk, D 2008, *Modern and Global Ayurveda : Pluralism and Paradigms*, State University of New York Press, Albany, retrieved April 6, 2020, from .

Subramaniam, B 2000, 'Archaic Modernities: Science, Secularism, and Religion in Modern India', vol. 18, no. 3, pp. 67–86.

Subramaniam, B 2019, *Holy Science*, University of Washington Press, retrieved March 1, 2020, from .

Subramanian, S 2020, 'How Hindu supremacists are tearing India apart', *The Guardian*, retrieved May 21, 2020, from .

Waggoner, MR 2013, 'Motherhood Preconceived: The Emergence of the Preconception Health and Health Care Initiative.', *Journal of Health Politics, Policy & Law*, vol. 38, no. 2, pp. 345–371.

Waggoner, MR 2017, *The zero trimester : pre-pregnancy care and the politics of reproductive risk.*, University of California Press, retrieved from .

Yuval-Davis, N 1997, *Gender and Nation : SAGE Publications*, SAGE Publications Ltd, London, retrieved May 11, 2020, from .

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