

THE DOUBLE (H)ELIXIR OF LIFE: GENETIC CITIZENSHIP AND BELONGING IN THE 21ST CENTURY

Pramod K. Nayar

This is the age of ‘genetic citizenship’ with the making of a genetic panopticon (Heath et al 2004: 165) in the form of Genographic Projects and genetic databasing. It is also the age of personal genomics. Two recent developments in genetic citizenship frame this essay. First, the rise of private genome sequencing companies such as MapMyGenome in India and the huge success of Ancestry.com and 23AndMe abroad. Such companies provide ‘genome patris’ for a fee (Rs 25, 000/-). Second, a recently published research report that declared caste barriers and hardening of caste as genomic identity is a relatively recent phenomenon, dating back to about 1500 years ago.

What genome mapping means for identity, self-definition, kinship and belonging is the subject of much research, particularly in the case of Aboriginal and First Nation peoples. This particular essay examines the issue of belonging along two specific axes both involving genetic databasing: the horizontal one of community and the vertical one of ancestry.

Community and Belonging

Politically, genetic data can have different results for the community’s future.

Michael Kent notes: ‘indigenous populations nowadays operate within a social and political field in which they receive strong incentives to produce essentialised identities ... genetics has become a factor of importance in political debates waged around the identities of indigenous populations and other minorities (536). Thus genetics can be used to reinforce their roots, rights and such.

In other cases, the discovery of genetic linkages can be unsettling. In a particularly significant scene in geneticist Stanley Wells’ film,

Journey of Man, Wells (who is the chief geneticist for The Genographic Project, about which more later) meets Phil Bluehouse, a Navajo activist and campaigner. Wells uses the word ‘myth’ to describe Navajo and Indian creation stories, in order to highlight the contrast with scientific story he hopes to unravel in the Genographic Project. Bluehouse is clearly unsettled by Wells’ term and responds:

‘Why do you call something that a people tell you a myth as opposed to an experience that they had and relive . . . over and over?’, he asks.

Bluehouse terms myth a ‘substandard event that does not have any relevance’. Later Bluehouse does endorse the Project, especially when he sees the science as providing proof of his family’s connections in Central Asia. Yet this one moment is crucial to our sense of what genomic projects do to the self-perceptions communities possess, and have possessed, for centuries. Belonging, Bluehouse suggests, comes from a community’s inheritance but also from a horizontal sharing of the experiences inherited in the form of stories. When Wells dismisses these as ‘myth’ in favour of so-called genetic truths about ‘real’ belonging, something else is at work.

Priscilla Wald comments about this scene:

The question [about myth] asks Wells to consider stories as experiential and important to collective identity rather than simply as evidence of uninterrogated belief systems. It underscores the discrepancy between the language of ‘story’ and ‘creation’ through which Wells explains his research and the framework in which he actually understands it . . . Bluehouse does not contest the science, the evidence or the conclusions of Wells’s story; he challenges his language. (2006: 329)

Stories are experiential in the sense a community experiences these as part of its social imaginary and cultural unconscious. They are frames of interpretation in which the community finds its self-definition, self-identification and belonging. They are explanations, explications and a set of aspirations that define the community—and this is precisely what Bluehouse claims is ‘relived’. The ‘reliving’ is a sense-experience, a knowledge-sharing exercise that defines and binds a community. The scientific narrative is an interruption in this lived-story experience. It dismisses a way of knowing, a mechanism of meaning-making, in favour of a Western/white mode of meaning-making. Wells assumes, Bluehouse implies, a unitary and authoritative meaning-making model: genetics.

This rejection of a community’s narrative foundations—its stories—in favour of a unitary scientific storyline (genetics) has

provoked a consortium of indigenous peoples to oppose the Project. The Collective Statement of Indigenous Organizations Opposing “The Genographic Project” presented at the Fifth Session of the UN Permanent Forum on Indigenous Issues New York, 15-26 May 2006, states:

Indigenous peoples are concerned that the Genographic Project will discount Indigenous knowledge, oral histories, and undermine our human rights

The progression from knowledge through oral histories to human rights suggests the foundations of indigenous belonging and rights: their own modes of making sense of the world, whatever ‘truths’ of belonging and connectedness that genetics might reveal.¹

A third result of such genomic projects is the collaborative role, or otherwise, a community might have in the process. Debates about the ethics of sampling and the nature of ‘informed consent’ by those whose samples are being collected abound (see Reardon 2004, for a sample). That communities being researched should have a say in the research project—‘community consent’ as it is often called—has now been established.

A fourth result for the community stems from the particular emphasis of such projects. The aim of such projects as The Genographic Project or the HGDP is to capture and measure diversity across humanity. Yet, in this course of this project it often undermines—and this is what the indigenous peoples resolution cited above was interrogating—the unity *within* a community, crafted over centuries. Bob Simpson, in the light of these developments, posits the making of ‘imagined genetic communities’, of communitarian identities and identification built around genetic data (2000). Simpson wonders if the discovery of such genetic affiliations would drive greater policing of community boundaries in the name of retaining genetic purity of the community. Imagined genetic communities that these projects offer as possible alternative configurations to existing and older forms of community, return us to the biological essentialisms of the age of eugenics, as Simpson notes.

Genetic Ancestry and Belonging

Genetic ancestry tests are of three types. In the first, mitochondrial DNA (mtDNA), passed from the mother, and the mother’s mother, and so on, are tested. In the second Y-chromosome tests are conducted which reveal the DNA passed from the father, and

the father's father and so on. These two tests therefore examine matrilineal or patrilineal progressions only. The third type of testing surveys autosomal markers inherited from both parents and across all 23 chromosomes. The results are compared with those of others who have taken the tests to confirm an estimate of a person's ethnic background. Each marker occurs in higher and lower frequencies in different groups across different parts of the world.

The USA channel PBS' in its *Faces of America* series, hosted by distinguished professor of African American studies, Henry Louis Gates, Jr. in one of its episodes ('Know Thy Self') explored ancestry information with a whole host of Hollywood and American cultural icons, including Gates himself. Some discovered they were related to the Emperor Charlemagne. Others discovered they were connected to people they never knew.

National Geographic's Genographic Project (launched 2005) may be read in conjunction with its lead geneticist Spencer Wells' documentary *Journey of Man* (2003, also a book), both of which deal with the geographic dispersion of genetic material across the ages of human evolution. Wells traces the Y chromosome's route from the San bushmen of Africa through Kyrgyzstan, through the Chukchis of Siberia, a sub-group of Tamils near Madurai, the Aborigines of Australia, the early Europeans and to the Navajo Indians of America. The Project emphasizes that these are secondary to the *embedded* and *invisible* connectedness we all share. Catherine Nash comments: it [the Genographic Project] 'implies that an individual's ancestry is defined through the very small portion of genetic material that is directly inherited, maternally and paternally' (2012: 678).

Genetic roots become the final determinant of ancestry in the age of DNA. 'Connectedness' of the kind the Project and genomic data produce is deemed to be, then, irrefutable and irreversible. Yet ancestry is only partially about biological connections. Cultural acceptances and denials of ancestry and connections have always determined the patterns of racial, ethnic and other linkages. While genetic data can demonstrate how connections have existed at the chemical (DNA) level even when they have been denied at a cultural level, to presuppose that such biochemical linkages will hereafter offer a different sense of ancestry or roots is to reject the cultural processes through which belonging is achieved and sustained.

Ancestry is about the handing down of collective memories, from generation to generation. Thus, ancestry is about the transmission of information, as stories, songs, anecdotes that bring people into contact and connection with their pasts. Belonging is at least partially

the effect of the *cultural* transmission of stories. As Kim Tallbear puts it:

indigenous peoples' 'ancestry' is not simply genetic ancestry evidenced in 'populations' but biological, cultural, and political groupings constituted in dynamic, long-standing relationships with each other and with living landscapes that define their people-specific identities and, more broadly, their indigeneity. (2013:)

Kaja Finkler writes of the new ways of belonging enabled by genetic data:

Knowledge of one's genetic inheritance traced through the DNA can stand as a proxy for memory by connecting people to their ancestors and reinforcing continuity with them that may be absent in postmodern life, as the narratives reveal. (2005: 1065)

'DNA concretizes people's memories of family and kin', Finkler adds (1066). However,

to consider oneself part of a family chiefly because one shares its genes, in the absence of social participation and a sense of responsibility other than to provide blood samples to establish genetic linkages. (1067)

The tension, then, is between discourses of biogenetic linkages and cultural connections and embeddedness. Michael Kent argues:

feelings of belonging are related to a wide variety of factors ... shared collective territories and authority structures, relationships to ancestors and the sentient beings of the landscape and language. (2012: 538)

Even if we assume that genetic materials are stories that are transmitted and bring generations together, embeddedness is made possible by a responsibility and response to stories rather than biochemical elements. Genetic material is the langue that is enunciated (parole) as facial characteristics or inheritances of diseases. However, ancestry is not the expression or behaviour inherited biologically alone: it is the inheritance through repetition, reinscription and rewriting. Ancestry is a palimpsestic text, written over and over again, where some early texts are lost, but some come through, are adapted.

My textual analogy here borrowed from structuralist thought is meant to convey the possibility of textual transmission, whether it is in the form of the 'book of life' (as DNA is called) or the oral stories that make up one's ancestry. Just as 'my genome' is not mine alone but emanates from and connects me with my ancestors in

ways I cannot even comprehend, my sense of self proceeds from my *acculturation* into specific practices, behaviour and attitudes coming from caste, class, gender and social affiliations.

I therefore see ancestry as less biological than socio-cultural, less about filiation than affiliation.

Genetic ancestry connections ensure that the materiality of the individual body is never alienated but always connected *through* biochemical materials to an ancestral body. I propose that the body acquires a whole new corporal value because it is now perceived as a carrier of ancient genetic material. In the contemporary 'tissue economy' (Waldby and Mitchell 2006) of organ transplants and bioprospecting, the rise of a discourse of genetic belonging assigns a whole new value to the material body. It recolonizes the body in terms of its biological ancestry, whatever its cultural affiliations might be. The genetic material is a gift from the ancestor, and acknowledging this is to effectively admit that we as individuals are part of a *closed* system, or loop, of belonging, defined by blood and genetic materials alone. Genetic material becomes an inalienable yet transmissible possession. With this belonging is projected as an autonomous, closed circuit, defined and limited by its biological inheritance transmitted through vertical blood linkages alone. It ignores, say, foster parenting, community parenting, cultural and social sharing—lateral linkages—that shapes the individual's sense of belonging.

Yet, this material, strangely, is also at the heart of an exchange and an onward transmission. It is not simply about ancestry, for it is also about the *future*. For ancestry to continue into the future, the individual must belong 'responsibly' to her/his ancestors: and this means onward transmission. Genetic material is a reproducible 'object'. It can be detached from the body and sent out into the future without loss to the integrity of the body (I adapt here Margaret Lock's work on biopolitics and cell lines, 2001). Thus, genetic material becomes the foundation of an entire process of staging exchange and belonging directed at the future. It is at once a responsibility toward one's past ancestors and toward the generations to come because this is how belonging can be clearly delineated.

The discovery of common genetic bases for connections reinforces the now-established truth that all humanity descended from a common individual or group of individuals. The Human Genome Project (launched in 1991) was an attempt to trace genetic patterns among the world's populations. However, even when geneticists prove that all of us are 'African under the skin', as Stanley Wells puts it

in *Journey of Man*, the lived experience of people is different. Despite genetic similarities, morphological differences—the colour of the skin, to take the most obvious instance—have determined people's lived experiences in history. That is, even assuming genetically similar ancestry under the skin does not ensure social, economic and cultural acceptance given that specific races, ethnic groups and communities have been exploited based on morphological differences. Biological diversity and difference is *real* for many races and peoples because economic and social structures and processes in history have set them in that fashion, whatever genetic linkages science may now reveal. This means, effectively, to claim genetic similarities in the face of cultural and socially determined emphasis on biological/morphological difference demands a huge rewriting of history and rewiring of how humanity has thought about itself.

Ancestry is about shared cultural linkages, built across time and space. In developing a list of genetic isolates (genes belonging to groups who have remain isolated from the rest of the world, and therefore deemed to be genetically pure with no mixing), as the Human Genome Diversity Project and the Genographic Project do, is to assume that their isolation was self-willed and deliberate. This flies in the face of histories of numerous tribes that have demonstrated how even so-called isolated tribes were a part of local trading networks and connections: their isolation was often engineered by colonialism, imperial structures of their region and nascent nations (Lock 2001: 80). That is, they did not choose isolation: isolation was effected by social and economic structures in their regions so as to enable exploitation, discrimination and social hierarchies. Genetic isolation of the ancestors of some tribes or groups is the *product* of discriminatory socio-cultural and economic practices, and not its cause. The historical record that seeks to explain this genetic isolation is itself part of the practice that achieved the isolation.

Further, groups self-identify themselves as a homogenous unit with a common ancestor. Genetic tests might disprove this claim, and instead relocate the tribe or group into a different lineage and bloodline. However, to do so would suggest the primacy of biology over all other forms of affiliation with which the group or tribe has defined itself for social, economic and political purposes. A group or community's self-identification, accompanied by practises of endorsement, validation and reiteration of this identity—whether bodily modifications, tattoos, eating habits, songs, dress codes—is a strong force that binds its people together. In another domain, geneticists note, genetic make-up is only *partially* responsible for the immunological and epidemiological boundaries of a group or tribe.

Environmental factors, education, economic status and access to health care—social, economic factors, essentially—determine these boundaries to a greater extent, and thus are the constituents of even the biomedical identity of a tribe. With so much weightage on the side of social, economic and environmental factors as determinants of even biomedical identity and borders, to assume that genetic materials can be the sole authority for a group's self-identification is deeply problematic.

Ancestry information of the genetic kind ignores the practices that have relied on an entirely different set of parameters to isolate and exploit, integrate and amplify differences and diversity.

Joseph Pickerell and David Reach have noted how people of supposedly similar genetic ancestry and living in the same region have little similarities with their ancestors who lived in that region a few centuries ago. They conclude:

Long range migration and concomitant population replacement or admixture have occurred often enough in recent human history that the present-day inhabitants of many places in the world are rarely related in a simple manner to the more ancient peoples of the same region. (2014: 379)

Citing recent studies they write about India:

Here nearly all people today are admixed between two distinct groups, one most closely related to present-day Europeans, Central Asians, and Near Easterners, and one most closely related to isolated populations in the Andaman islands. Much of this admixture occurred within the past 4000 years. (380)

So the question remains: does the discovery of genetic similarities alter the cultural barriers and socio-economic histories of discrimination, exploitation and ostracization? Kim Tallbear who has worked extensively on Native Americans and genetic discourses says: although 'much evidence against racial purity and easy classification of races was found in nineteenth-century morphological data when physical anthropologists performed precise measurements on thousands of human crania', such scientific evidence 'did not end racism' (2007: 415). 'What does racism have to do with scientific correctness?', asks Tallbear (415).

To discover that the Gonds or the Todas have genetic similarities with Khatris or Saraswats is to say precisely nothing, because the isolation and exploitation of these tribes or peoples had nothing to do with their genetic materials. Occupations in India, for instance, have determined caste identities and vice versa—these have nothing

to do with scientific data. The horrific realities of caste and tribal exploitation are founded on economic requirements, as Ambedkar pointed out (caste—as a mode of division of both labour and labourer). Thus ancestry is determined, for all practical purposes, through the *cultural* work of integration, segregation or isolation.

There is one more dimension to the theme of genetic ancestry. I have elsewhere argued that genetic ancestry discourse, as embodied in The Genographic Project, is obsessed with origins and primordial states of human existence, treating, in a trope reminiscent of colonial eras, Africans as the first stage of humanity and evolution (Nayar 2016). If we concede this chronology then we also assume that specific groups who constitute ‘our’ ancestors have bequeathed specific *legacies* to some specific groups, whether this legacy is knowledge systems, skills, cultural practices or folk tales. From the Native American context, we see such an instance.

Yael Ben-zvi noted that 19th anthropologists such as Lewis Morgan turned Native Americans into the ancestors of their white heirs (Ben-zvi 2007). Morgan would write in 1877:

It follows that the history and experience of the American Indian tribe represent, more or less nearly, the history of our own remote ancestors when in corresponding conditions. Forming a part of the human record, their institutions, arts, inventions and practical experience possess a high and special value reaching far beyond the Indian race itself. (Cited in Reardon and Tallbear 2012: 236)

Ben-zvi argues:

In both the biological and economic sense, inheritance connects individuals or generations within particular groups so that biological and material properties are transferred from the deceased to the living members of the same group. (2007:213)

Material and cultural property, therefore, becomes central to how group identities are defined. Once a group claims a particular genetic ancestry, it can lay claim to specific material and cultural legacies *as property*. Or, once science external to the group determines a genetic ancestry, that group may be *assigned* specific material and cultural legacies as their supposed *right*. Herein lies the problem.

The consequences for social stratification such as caste have to be thought through for India when assuming that certain cultural and material legacies have been passed on to later generations through genetic ancestry. For, to belong to a genetic group would mean to ‘own’, supposedly, specific skill sets and cultural practices. More worryingly this limits the options of inheritors whose ancestry and

therefore professions, skills and practices are already set for them simply because genetics ‘proves’ their ancestry. That is, to prove ancestry in this fashion might appear as though specific material and cultural legacies are being owned but it also means that there is every risk that the group is restricted to those legacies. There is the risk that their ‘rights’ are transformed into *duties* simply by virtue of an unjust social order declaring: ‘this is *your* legacy, now live up to it’. Ownership here is not likely to be a marker of agency, especially in terms of caste inheritances. So *whether one inherits property or liabilities through a confirmation of genetic ancestry depends on which social strata—determined historically, politically and socially but not genetically—an individual or group occupies.*

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The consequences of genomic data collection and predictive personal genomics for individuals, communities, ethnic groups in India are still murky. The above discussion is centred around theoretical frameworks using analyses from around the world where issues of genetic belonging have been discussed. Given that India does not have clear privacy laws genetic privacy is a far cry. Which means genomic databasing and personal genomics need to be examined for the social consequences of data-gathering and sharing. The impact on communities whose affiliations and self-identifications will be in all likelihood irrevocably altered through new data about their ancestry and linkages also needs to be assessed.

We are clearly on the cusp of a whole new order of theoretical thinking about identity and belonging in the age of genetic citizenship.

NOTE

1. In December 1993, two years after the Human Genome Diversity Project was announced, the World Congress of Indigenous Peoples dubbed the initiative the “Vampire Project,” a project more interested in collecting the blood of indigenous peoples.

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