



Genethnic India

PIER GIORGIO SOLINAS
Università di Siena

Abstract

With the crucial question «who is Hindu?» that Savarkar placed at the opening of his manifesto book, Hindutva, a radical line of affirmation of Indian identity emerged at the beginning of the twentieth century. An ideology that attributes the essential and exclusive value of Indianness to the origins, to the Vedic and Brahmanical roots, to the community of blood, to religion. The question of autochthony, the controversial theory of the Arya Invasion, the persistence of the caste hierarchy as an essential cultural heritage, return today to fuel the public debate, while on a scientific level, biomolecular research on the genetic composition of the Indian population opens up new grounds for comparison. The traditional pre-eminence of the Brahmin caste, the caste of the pure par excellence, claims to be confirmed in genetic evidence, thanks to specific markers that distinguish the lineages of the «twice-born» from those of the lower castes. However, this original and persistent exclusivity, which is maintained over the centuries thanks to a caste endogamy that seeks to preserve the purity of the ascriptive identity across generations, does not find unambiguous confirmation in the results of biogenetic research. The phylogenetic network of DNA-lines that branch out across the geography of the subcontinent, in fact, turns out to be much more varied and composite than one would expect, and the alleged continuity of the elite component, than that which continues to evoke the Arya legacy, cannot find validation in biostatistical data, nor in archaeological and paleogenetic data.

Keywords: Hindutva, autochthony, ethnicity, caste, genetic flow.

India genetica

Con la domanda cruciale «who is Hindu?» che Savarkar poneva in apertura del suo libro manifesto, Hindutva, emerge all'inizio del Novecento una linea radicale di affermazione della identità indiana. Una ideologia che attribuisce alle origini, alle radici vediche e

brahmaniche, alla comunità di sangue, alla religione il valore essenziale ed esclusivo della indianità. La questione della autoctonia, la controversa teoria della Invasione Arya, il persistere della gerarchia di casta come patrimonio culturale essenziale, tornano ad alimentare il dibattito pubblico, mentre sul piano scientifico, le ricerche biomolecolari sulla composizione genetica della popolazione indiana aprono nuovi terreni di confronto. La tradizionale preminenza della casta dei brahmani, casta dei puri per eccellenza, pretende di trovare conferma nelle evidenze genetiche, grazie a specifici marcatori che distinguono i lignaggi dei «nati due volte» da quelli delle caste inferiori. Tuttavia, Questa esclusività originaria e persistente, che si mantiene nei secoli grazie a una endogamia di casta che cerca di conservare la purezza della identità ascrivibili attraverso le generazioni, non trova conferme univoche nei risultati delle ricerche biogenetiche. La rete filogenetica dei DNA-lignaggi che si diramano nella geografia del subcontinente, infatti, si rivela molto più varia e composita di quanto ci si aspetterebbe, e la pretesa continuità della componente d'élite, di quella che continua a evocare l'eredità Arya, non può trovare convalida nei dati biostatistici, né in quelli archeologici e paleogenetici.

Parole chiave: Hindutva, autoctonia, etnicità, casta, genetic flow.

The nationless civilization

Till the end of colonial rule, or, to say it better, till its phase of maximal power and expansion, the Indian society, the Indias (I take here the provocative plurality to refer to the multiplicity of people and populations that Michel Angot (2017) harboured in his massive book, *Histoire des Indes*) and overall the Indians, were scarcely interested in the question of their identity as a nation. The shared conscience of its great role among the modern cultures of the world was rarefied and elitist. The very concept of Hindu, (and Hinduness) was ephemeral, in some senses extravagant, not necessary. Of course, the Hindu people were perfectly aware of their peculiar culture, language, religion, and land, as well as the «otherness» of visitors, foreigners, conquerors, and missionaries. But, the principle of a shared, unique and pervasive selfness, of a totality of identity on the whole scale of the subcontinent, rested on a brumous and variable background. The modern machinery of the colonial state – a demographer and ethnographer state no less than a military, fiscal, judicial and economic state – induced a deep ferment of intimate interrogations among the local elites, the carriers of the intellectual Hindu capital of knowledge and thinking which were increasingly exposed to the hegemonic western patterns of living and doing.

Nonetheless, the notion of nation, even unconsciously and contagiously, filtered through an almost osmotic transfer from the imperial regime of

ruling and administration to colonized territories and society. To be sure, the existing diffusion of the Indian heritages, philosophies, symbolic sapienty and technics, poetries, languages and scripts at that time expanded to a scale no less grand than the colonizers' culture reached in their continent. The Hindu Gods were worshiped among the South Asian peoples, in the Indonesian region and southwest Asian countries, not to mention South and East Africa, while the longstanding penetration of Buddhism reached Tibetan and remote Chinese landscapes. However, it was not a national fact.

Where the colonial regimes and paradigms proceeded through centralised, imposing and uniform systems of civil conformity and mechanical control, Indian influence was ubiquitous, polymorphic and metamorphic. Nationalism's emersion needed to be accompanied by a new form of self-consciousness, by a previously unknown perception of the common identity, an ideology of the collective sameness laying under inextricable stratifications of multiple identities: local communities, castes, ethnic affiliations, languages, religions and «sects». The very name of India was a foreigners' invention, like the name «Hindu» (and Hindustan, a colonial term to designate the large geographic area from Afganistan to Burma), which fluctuated between its religious meaning (Hindu theologies, rituals and moral rules) and a more general reference to the population and populations of the peninsula.

One could say, therefore, that in the classic India, at least till the last two or three centuries, Indians did not nourish the sentiment of their Indianness, and their national identity was something inconceivable. Overall, the potential carriers of such an embryonic title of legitimacy, as personifications and representatives of *Indianhood*, were so numerous and different that the candidates to hegemony on the arena of authenticity were destined to neutralize each other and their pretensions. As matter of fact, this title and its implications pertain more to a retrospective querying of historic hypothesis than to actual results of factual evolution.

Actually, Indianhood, as an ideal of cohesive identity, and claim of independent cultural specificity, not less than of moral peculiarity, coloured the common mood of the illuminate and engaged young middle class through the last century of the imperial *raj*. This strategic symbolic field, yet, became a domain of conflict, of a moral fight, a screen of complex negative mirroring between the colonial dominant social system and the traditional hierarchy of the Brahminic hegemony. The pivotal locus of such a civilisation's synthesis (or not-synthesis) emerged with crucial

themes about the «us» linked interrogatives: Who are we? What does it mean to be an Indian? and lastly and fervently, Who is a true Indian, and/or a true Hindu? According to the common view among historians and anthropologists, this lapidary and drastic proposal is due to the engaging book of V.D. Savarkar (2009), *Hindutva: Who is a Hindu?* Published over one hundred years ago, *Hindutva* marks the turning point of modern Hindu.

This *Hindutva* manifesto condensed the essential traits of an incoming faith of the *statu nascendi*: nationalism. A civil faith, apparently, Savarkar was far from a religious bigot; he was an atheist and a sophisticated thinker. His life is intensely traversed by waves of militancy and conspiracy for independence and Hindu supremacy. Sliding between several contiguous names – Hindu/India/Indianness and finally, *Hindutva* – the semantic metamorphosis inside the proto-nationalism reached its point of critical passage with the emergence of the Hindu essential, of deep Hindu roots as the true core of common identity.

Hindutva (a syncretic linguistic fusion, the imported name *hindu*, plus the Sanskrit suffix *-tva*) alluded to a sort of ascriptive substantive being; being locally, mentally *hindu* in a sort of circular reference to the uniqueness and uncontaminated original selfness. Uniqueness and origin coalesced into the timeless coincidence of past and present, of ancestral imprinting and actual presence of the Indian people. Blood, the prominent category of western kinship systems, and idioms, emerged as well as a decisive key concept in the Savarkar predication on national cohesion. The premises of the overwhelming transcendent communion were rooted in a revised version of the classic topic «blood and soil». V. D. Savarkar's fervent book repeats many times its appeal to the identity of blood as the first element of deep unity of all Hindu Indians. The biological evocation was intensified by the conjunction with the paradigm of fatherhood and territorial roots. «The Hindus are tied together by bonds of a common fatherland, ties of blood, a common culture and civilization, common heroes» (Savarkar 2009: 84).

It is worth noticing here that the incipient reference to the national land, the native soil as symbolic hypostasis, is axed on the paternal side of kinship, the «fatherland» (*pitrabhūmi*). Its feminine parallel, *Motherland* (or *Mother India*, *Bhārat Mātā*) is prominent today in the public dialogue, as well as in *Hindutva* rhetoric.

Kinship and descent were something crucial, and, even sacral; resounding a deep motive embedded into the tradition and society of the

subcontinent. To be sure, nothing unknown was introduced by the evocation of familial and corporate solidarity among relatives. The ordinary codes of kinship communion, at different degrees of genealogical distance, *sāpinḍ*, *gotra* and *vaṃśaḥ*, were coessential to thinking and living. But the sensible passage of scale, and ethic contexts was the extension of the kinship supreme codes to the largest dimension of the whole Indian people, evoking a sort of universal brotherhood ascribed by the natural law of life and by the heritage of numberless generations. In this regard, a cultural divergence between the western centrality of blood in kinship concepts and Indian idioms of filiation, descent and consanguinity must be stressed. Indian kinship does not assume the co-sanguinity as its basic postulate, but a more complex and partially immaterial form of co-substantiality. The ritual prominence of the *sapinḍaḥ* network among the bilateral descendants of an ancestral source dominates the common representation of a shared identity of relatives. Undoubtedly a subjacent meaning of bio-genetic communion is not absent, even in the crypted form of carnal communion, as a substantial body connection, (*ek sarir*, the same body) and the sharing of blood (*ek rakta*) appears contemporary today.

Varna eugenics

The blood motive outlined above is not innocent. It is not innocent on the side of the author nor is it innocent on the side of the cultural history of the Indian country. Due to its ambiguous and liminal place between life and death, between love and hate, blood plays a role of traumatic lemma in the Hindu world, a role of fear and charming, of the sacred and horrifying. For this reason, it seems to me, it does not appear to play a really central role among the basic categories of the local ideological foundations of kinship, although its echo, reshaped today through new scientific paradigms, and the renewed languages of genetics and evolutionary bio-anthropology, emerges with strengthened impetus in the discourses on identity and Indianness.

Today, biomolecular language provides the search for identity with new tools and new goals, more sophisticated than those that in the past (in Europe, more than in India) were embodied in the ideology of blood: an ideology and a mythology saturated in eugenic values, nurturing latent strategies of racial purity, non-mixing, class and birth superiority. Translated back into the epistemic fabric of modern genomics, this complex of elements and values gave up some of its characteristics and kept, or

reshaped others. But above all its new traits and new proprieties invaded the current and popular views of life, new powerful traits, enforced by the indisputable aura of experimental truth, under the presumed authority of the bio-molecular laboratory.

Several aspects of the classic encompassing way of thinking, as far as reproductive dynamics, biologic heritage and identity are concerned, and consequently submitted to the filter of new paradigms of the DNA languages and imperatives. The continuity of lineage (*gotra*) identity, and integrity, the caste (*varṇa* and *jāti*) purity and its heritage, as well as the scale of proper levels of matrimonial unions (between families more than individual subjects) traditionally directed by the endogamic systems of selective mating, looked as a form (albeit unconscious) of genetic rationality sealed by the proof of secular experience.

The supreme ethic of eugenic control latent in the endogamic rules of caste barriers, however, was too fragile to escape the ineluctable regime of genetic assortment in the procreative process, no less than in the demographic drifts. The premise of diversity and miscegenation, rooted in the very order of sexual reproductive laws, are responsible for the potentially unlimited space of variation in genotyping and unprecedented multiple combinations of DNA heritages between families, descent groups, ethnic groups, populations: India is, and was, an immense region of migration, local circles of influence, and exchanges that have exposed it to the dynamics of generalized gene flows.

The selective strategies of endogamy – whether of caste, ethnicity, status –, rigorously controlled by the genealogical memory and the wisdom of specialists (*panjīkar*) could perhaps limit the risk of «degrading» genetic crosses within the span of five or seven generations, but they certainly could not prevent the long-term exchange between competing lineages. The very width of the interdiction area for inbreeding was, and still is, quite defined while the limits of exchanges allowed within the same caste and between adjacent castes in the status hierarchy are not so clear. The very hierarchical scale, on the other hand, was and is anything but unequivocally marked.

DNA lineages' phylogenies

Above all, the hypergamic trend that accompanies the demographic history of the subcontinent since ancient times has influenced the genetic flow between different strata of the Indian population and between groups of

different ethnic origin. The search for a husband of higher social status and ritual to whom «to give a daughter» (*kanyādāna*), usually with the payment of a large dowry in gold and money, has guided, and still inspires, the choices of families of condition less elevated, albeit of the same caste or assimilated caste. In addition, informal or secondary mating, sexual exploitation of women of inferior or servile status, incessantly conveyed the passage of genomic components from one part of the population to another, in particular the «ascent» from lower to higher levels in the scale of status. Here lies one of the earliest most salient evidence in the genotypic composition of present-day India. The most recurrent profile, both among high and low castes, shows a high frequency of autochthonous mitochondrial genetic markers which, as we know, follows the maternal line of inheritance through the generations. The mitochondrial clades, commonly classified as mtDNA haplogroups, can be treated as large genetic lineages – DNA maternal lineages – embracing long chains of genealogic sequences and diffused branching networks of descent. These maternal haplogroups are much older than the Y-chromosomal haplogroups (paternal lineages, male driven ancestral heritages). They represent the deepest layer of genomic identity among the preeminent part of the Indian population, the living witness, so to speak, of the origins. Like living fossil signals transmitted in the cells of descendants up to the present day, their extant prints indirectly provide the supporters of indigenous identity and imperishable *Hinduity* with «scientific» confirmation of their claim to authenticity, a proof embodied in the maternal inheritance kept intact from the origins. Yet, this living ancestral signature shows only one side of the phylogenetic archive. Maternal, or matrilineal offspring is not the only field of work in the search for genetic identity. The haplogroups linked to the Y chromosome, lineages, or macro-lineages in turn traceable through the markers transmitted from generation to generation in the paternal line, branch out throughout the subcontinent following the ancient migrations that over the centuries crossed the country from north to south, from west to east; from the Gangetic plain to the Tamil country, to Kerala, from Panjab to Bengal. In this case the genomic landscape is much less homogeneous, both for territories and regional areas, and for classes and status levels, as well as for ethnicity.

When we look to the network connecting the different segments of the phylogenetic history of the Indian population we cannot help but register a feeling of suspicious attraction. The web of genetic ancestry shows

an impressive power of diachronic longevity. Some of the dominant and persistent, more widespread and more ancient macrolineages that figure in the foreground, date back several thousand years. They are generally fractioned into minor lineages, these in turn divided into small or tiny sub-haplogroups that are even lower in variants of even narrower amplitude. It is important to bear in mind that we are not dealing with entire profiles of human groups, nor with the genetic identities of single individuals, but with minimal components dispersed in the boundless DNA chain, of completely negligible importance, but decisive for recognizing a line of transmission between ancestral and descendant lines and branches. They are, in fact, markers, and what they serve to identify are haplogroups, trees of biomolecular inheritance, not lineages in the social sense of the term, but lineages in the bio-molecular sense.

This means that in the same individual, in the same family, and in a greater region in the same group of consanguinity, different lines of genetic affiliation can coexist. Different Y-chromosomal ancestries coming from histories distant from each other in time and space coalesce in the individual and transindividual gene pools. There is no uniform or univocal genetic set or block that characterizes one family (*kul*) with respect to another, neither a bunch of genealogic chain (*vamsa*) of descendants, nor even less a caste (*jati*).

This is the suggestive, even seductive part of the research trail.

But we must also take into account the other part, the suspicious, and perhaps risky part of the landscape we enter by crossing the threshold of reasoning by statistical, bio-statistical approach to the ethnic, caste, and regional profile of genetic composition.

Roots, castes, migrations

It is here that laboratory and field evidence shows, and allow us to see, differences and similarities sufficiently clear to reveal significant identity gaps and, potentially, classes of bio-social distinction. In the increasingly impetuous streaming of biomolecular research on these aspects of Indian demography, two team researches published in the last two decades marked the most decisive turning points. The first, published twenty years ago by a group of scientists led by Michael Bamshad, in the United States, deals with the relationship between caste and biological inheritance (Bamshad *et al.* 2001).

The second, published nine years later, also the result of a collective work, an international research team directed by David Reich (Reich *et al.* 2009), proposed a general model of connection between the major population strata at the scale of the entire space of the subcontinent. A time and space scale at the same time, in which the history of the Indian population was summarized in its two great evolutionary components – or genetic ancestry, to use the terminology of the authors –, the two great ancestral matrices of the North and South: ANI (*Ancestral North Indians*) and ASI (*Ancestral South Indians*), the phylogenetic as well as phylogeographic pan-Indian scheme of the deep bio-identity in fact, merged with the long history of the whole subcontinent.

With these two contributions, bio-statistical and at the same time ethno-historical, it can be said that the basic lines of genetic geography in the Indian ethno-demographic mosaic have been defined. Over the past 20 years, the Bamshad's caste-oriented scansion, and the Reich's ANI / ASI paradigm have held up more or less steadily along with the progress of research which, however, has been growing and spreading not only in the United States and in the Old Continent, but also, and more and more intensively, by Indian research institutes and teams, (from Hyderabad to Kolkata). These two paradigms, although independent in terms of approach and methods, can be joined in a fairly organic synthesis, despite its inevitable approximation. Here I give a very quick formula.

First point: the biological history of the genetic-demographic composition of India is conditioned to an extent still visible and active today by the social hierarchy (of status), by the structural rules of endogamous assortment in reproduction, and by the difference in the level of flow on the marriage market between the male side and the female.

Second point: Observed over the entire territory, by comparing the regional distribution of haplogroups, the estimates of the relative antiquity of genetic lineages, and the distribution of linguistic families (Indo-European, Dravidian, Austrasiatic, etc.), two large divergent trunks emerge in the history of the population, one southern, relatively older and closer to autochthony (ASI, the southern ancestral layer), another mainly located in the north of the country, exposed to, or fed by, Central Asian and Western migratory flows that gravitate around the northern ancestral stocks (ANI)¹.

¹ «It is tempting to assume that the population ancestral to ANI and CEU spoke “Proto-Indo-European”, which has been reconstructed as ancestral to both Sanskrit

The estimated age of these two bigger genomic ramifications, which can now be associated with the map of linguistic areas, covers tens of thousands of years (from Late Neolithic to the Bronze Era, but with a difference between the date of origin of the ASI strain and that of the strain ANI of different Kya). It should be noted that between the two layers there are invariably different degrees of merging and mixture; no current lineage can be pure, that is, neither wholly North-Indian nor wholly South.

Thanks to these decisive paleogenetic explorations, the old orientalist classification that divided the populations, languages, and races of the continent between the native Dravidians and the immigrants, conquerors or colonizers Arya, seemed to receive a sort of laboratory confirmation. But at the same time, on the slippery and foggy terrain of the political destination of these flashes of knowledge, an opening opens up to the most radical and insidious questions, precisely to the point from which this text started. So, who are the *Indians*? What is the certificate of authenticity that establishes the right to represent that of the entire nation through one's identity?

The questions become even more equivocal when, to the binary model ANI ASI, and to the admixture (to the degrees of admixture) is added that of the genetic classification in relation to the caste hierarchy. We must return to the first of the two research essays, the study conducted by the group headed by Michael Bamshad, to get a little deeper into the meanings of such a correlation. The most salient datum of the survey that compared the genetic profiles of the different samples, from high caste donors (Brahmans, and downwards, *kṣatriya*, *vaiśya*) was the significant difference in the rate of specific markers, in particular in the Y chromosome, according of the status level. The higher castes, starting with the top one in the traditional hierarchy of Hindu sociology, showed a significant pre-eminence of the R1a1 haplotype, while in the lower castes there was more differentiated compositions (more hybrid one could say, but certainly this was not a term that the authors of the research would have tolerated). But another trait, no less important, came to light from the statistical comparison between the profiles, namely the fact that the assortment of markers in the DNA samples of the highest class clearly resembled that which was attributed, or recognized, to the westernmost populations of the Eurasian block. In other words, the ancestral, or ge-

and European languages, although we cannot be certain without a date for ANI-ASI mixture» (Reich *et al.* 2009: 492).

no-ancestral, identity of the upper castes remained biologically distinct, at least for these minimal but also unambiguous signals, from those of the lower castes, and beyond that it was an identity closer to that of Europe (or Indo-European) compared to that of the other castes.

The epistemic approach, and the results linked to these two research experiences were, and remain, it must be said, much richer and much more accurate (and cautious) than I have been able to report here. But, for the two or three essential points, and for the resonance they have had on the field of public reception, their dissemination in form of identity issues has moved recurring waves of ideological excitement and militant passion. I will not follow here the rather tormented events that mark the controversy against the claim of primacy or hegemony on the ground of «true» Indianity. In its most radical forms, the tone of the nationalist protest becomes frankly fanatic, and vulgar, and does not fail to make use of references and symbols that are biological or biologizing in its own way. (See for example, the charge of symbolic significance on the Hindu blood, and its value of generous universal inclusion, in the donation meetings organized by the fundamentalists as a form of sacrificial sublimation and martyrdom in the name of the Motherland, Mother India (Copeman 2009). But we must not forget the allusive, recurring reference to genetic, haplotypic distinctive, which is condensed in the esoteric acronym of the Y-group R1a1, primary pride of the Brahminic castes, at least according to some Hindutva ideologues.

It is much more interesting, and certainly more worthy, to dwell on the comparison between the different systems of thought, knowledge and representation, looking at the areas of syncretic merging between science and tradition. What is striking in this regard is the consonance between the classical paradigms of the tradition, both that consolidated in the history of Indologic studies, and that, much more ancient and profound underlying, to say so, in the *Smṛti* (the Vedic and sapiential heritage) on the one hand, and the historical reconstruction of Indian biology and demography through biomolecular research on the other hand. Both the first and the second image tell of a slow, secular or millennial process of progressive colonization, from north to south, from west to east. A process that sees the upper layers of the conquerors overlap, infiltrate, coexist and distinguish themselves, (the Arya according to the Vedic tale: the «nobles», the supreme ones) over the inferior ones, more and more sunk into the southernmost cone of the great peninsular pocket, the Dravida, or more classically, Dasyu, slaves and enslaved peoples. This very influential and

enduring main scheme has inspired for several decades the modern, historical, linguistic, religious and anthropological image of India in Western studies, to the point of dictating the categories of ethnological, linguistic and anthropological perceptions.

The first great bifurcation, Arya (now, more wisely Indo-Europeans) / Dravida, as we have seen, seems to reappear, translated into the ciphered language of the classification codes for haplogroups and fixed on the pattern of divergent ancestral branches, Ancestry of the North, Ancestry of the South. But there is an unexpected, and ideologically embarrassing correction (embarrassing for those devoted to the purity of ANI ancestry). Indeed two. The first is that, in the hypothesis of paleo-genetic reconstruction, the two branches have a common origin: they derive from a matrix branch from which they diverged at different times. The second novelty is that in the course of the long history of biological-reproductive colonization, the different heritages have been extensively intertwined and mixed to give rise to new branches of synthesis in which not only the proportion of the two hypothetical ancestral matrices varies widely, but other external contributions appear. The actual lineages, in short, are therefore invariably mixed, they are composed of different haplotypic lines. The correspondence to an ideal «all ANI» or «all ASI» can be expressed in a rather coarse scale of percentages of the various components and not as a clear correspondence between the «pure» profile of a perfect ANI (or ASI).

Origins and aboriginals

Even so, however, despite the loss of the ideal of purity to which the ideologies of pristine Hinduism must resign themselves, the defence of the best ancestral integrity, and the cult of biological memory as the guardian of a superior patrimony of identity and authenticity resists and is updated. The controversies surrounding the issue of the Arya Invasion bear the mark, and, even subjected to vibrant shocks of rejection, seem still active today. In reality, the old theory that imagined one or more waves of conquest by allochthonous peoples who brought with them, in addition to the weapons and cults of an unknown religion, the caste system, has long since lost its credibility, well before genetic research began to explore the subsoil of biological records. The fact, however, is that just working on this context of biomolecular archaeology, in bringing to light the most remote layers of the deposits of genetic identity in search of the most ancient streams of

Indian DNA, scholars have long believed that they can recognize, precisely, the prints of the passage and arrival of these antique Vedic and pre-Vedic presences, Arya (we avoid the sinister reference to the term «Aryan»), or in a larger extension, Indo-European, or even proto-Indo-European. Over the millennia preceding the Vedic age, starting from the late Neolithic (seventh-sixth millennium b c e), that is, before the hypothetical invasion, important settlements were certainly present in the region which gave rise to complexes of sedentary civilization, and then greatly developed urban areas.

It is natural that studies in archaeo-genetics and phylogeographic researches today invest this disputed territory in which references to the origins are witnessed, more or less explicitly, through the most venerable texts of Hindu culture, the four Vedas, and in particular the first, the *R̥gveda*, and scrutinized by laic and investigative eyes, open to a more secularized vision of native history. Native history and natives, primeval roots or allochthonous inputs: where did the founders of the *Civilisation indienne* (Dumont 1964) come from in the end, those proudly eminent people and castes, who «fertilized» the dark tribal kingdom of the immense peninsula? And were they, or rather the ancestry of which they were the incarnation, unquestionably internal, therefore native? Or should the authentic matrix of this process instead be sought as an intrusive wave of imposed culture whose identity was so powerful and pervasive to the point of «Hinduizing» the entire subcontinent, from the eastern borders of the Iranian world to the edges of the Southeast Asian countries?

Following the meanders of phylogenetic ramifications, through the segments in which genetic lineages divide, expand and intertwine, searching the biological memory stored in Indian DNA could help to introduce some light into such puzzling dilemmas. In the first phase of the research, the tendency that prevailed was that of tracing in the laboratory data the evidence, albeit indirect, of the scheme accredited in orientalist studies: in the linguistic evidence, in the textual testimonies and not least in the ethnic geography itself. By crossing these four observation windows it was possible not only to draw a detailed map of groups and lineages – first of all, following the articulation of the social hierarchy for the four great categories of *varna* structure, (from Brahmins to Sudra), and then the infinite crowd of the caste communities, the real castes, *jātis*, but also to look at the migration paths that these groups had followed over the centuries, and to recognize the common ancestry with external genetic landscapes, outside India. The language tree that united Sanskrit to Greek, Latin, Slavic, Celt-

ic, etc. in a common Indo-European family, could be compared with the phylogenetic map of biomolecular lineages.

The resulting framework validated the immigration theory of an allochthonous stock, precisely Indo-European, which had introduced his genes to South Asia along with his language and religion. The most prominent banner, the R1a1 haplotype, marked by a perfectly recognizable and isolable mutation in the male chromosomal DNA sequence (the mutation M420 / L146, Y215 / FGC32014, L63 / M511 and others 50.) is found in large quantities in strains from European, Middle Eastern, Iranian and, indeed, in India. The Brahminic castes are pre-eminent depositories of it and this to a greater extent than the lower castes and above all compared to the numerous «tribal» ethnic groups (*ādivāsī*) that revolve, more or less closely, around the densest nucleus of Hindu communities. Is it then possible to project the ethnic and genetic map (*genethnic* according to the neologism that inspires the title of this text) onto a model of different groups of «Indianness»? More or less consciously, the scheme has for a long time attracted the interest of researchers, who did not hesitate to use the Brahminical view as source to construct their statistical samples right from the start. The groups of DNA donors to be sequenced were (and are) almost always divided into three or four groups of origin: High, middle, low caste, outcaste (or scheduled), to which is added the heterogeneous tide of the tribals.

It is not certain that such a classificatory method necessarily reflects a basic epistemic prejudice. It is precisely to the reality of the facts, to the internal structure and to the ideology that permeates the ongoing shared ethos of Hindu sociology that that scheme belongs. But the rather unpleasant risk that the classificatory group selected in the collection of the samples prefigure together with the social class (by status or ethnicity) also the belonging to this or that set of genetic lineages appear insidiously incumbent. Classing from the preliminary phase of the investigation the DNA samples by caste, or sub-caste, or out-caste (perhaps of the «untouchables»), or of this or that *ādivāsī* community, induce to read the extremely detailed tables of frequency values of the characteristic mutations in a given line, of a given clade, referred to each of the groups of origin, as something that resembles a biological inventory of social identities.

However, I think that this risk must be faced and not removed or excised. And to do so, to get down on the slippery ground of contention, it is necessary to take in hand the problematic passages of the model or

models and explore their implications. The autochthony topic, which we have mentioned several times in the last pages, is of central importance, despite the fleeting difficulty of its definition. A genetic lineage, a branch of descent – a clade, to apply the specialized terminology, defined by its markers (single nucleotides polymorphism, short tandem repeats) – can be recognized as autochthonous if it is «born *in situ*» that is in the territory in which it is found when the samples are collected. It will be possible to be all the more certain that it was formed within that space, physical and demographic, when the absence of those same genomic profiles outside the territory considered, in this case the Indian region, or a particular part of it chosen in the research, appears with clearer evidence.

Autochthony and uniqueness, or originality, reinforce each other: a group or an indigenous line should appear also unique and, on an even stronger level, authentic. But things are not so simple, nor are the results so clear-cut. A specific local line, considered to be rooted *in situ*, inevitably starts from a major ancestral line, from which it certainly is detached as a derived branch, but from which it inherits a number of characters and which also contribute to defining it. The matrix line can result for its part, and generally results, of external origin, or distant and therefore, allochthonous. In this way, the genealogical, or genealogical-ethnic card will appear for an internal part, *in situ*, and for another external, immigrant or evolved from matrices of non-local origin. It is somewhat like a system of Chinese boxes, strain A comes from the major stock B, this in turn from an ancestral stock C etc. Everyone, thus, can be a little indigenous, compared to the Indian region, or perhaps Tamil area, or even a more circumscribed territory, but also a little immigrant, by origin of his major genetic ancestry. In the end, no one can boast exclusively local roots, because in the interminable chain of successions and migrations, the more one goes back to the oldest generations, the more one moves to other territories and continents.

It is around this history of precedence and migration that the dispute over authenticity and identity «purity» has been stirring in recent years. The role of the *ādivāsīs* on the scene of originality, of the primacy of Indianity is particularly relevant. The name itself, the name that now designates these groups in modern India, *ādivāsīs* «the aborigines», connotes the prominent traits of their modern classificatory position: minoritarian and marginal, generally confined to less developed areas, far from the big cities and major roads, they deserve the role and rank of first inhabitants.

Often this role assumes the value of a watershed: «before», before the aborigines made their appearance among the plateaus, the forests, the great rivers, no one occupied those places, there were no other indigenous natives. It should be noted that exactly this argument recurs in the self-representations that the militants of the *ādivāsī* ethnic sovereignty preach in the name of the autonomy rights of the so-called Scheduled Tribes (S.T.).

In the scientific literature, among the analysis and calculations of concordances and frequencies of genomic variants for ethnic classes, status classes and local groups, the thesis of *ādivāsī* primordiality is assumed as a sort of obvious fact: they preserve the biological memory of origins, are the representatives of the proto-Indian population, direct heirs of the primordial and most authentic identity, then overwhelmed by that, or rather by those identities that the successive waves of immigration introduced into the original demographic fabric until they completely effaced it².

Does this theory have a solid foundation? If the ethnic and genetic stratigraphy of the Indian population can really be read as a series of overlapping layers of demographic deposits, communities, cultures and sub-populations so that each kept its own genotypic imprint, then it will be enough to scan them one by one, compare their respective profiles, to reconstruct the phylogenetic history and the dates of formation in order to obtain a detailed and clear map of the mosaic of identity formation and, above all, to answer the questions of authenticity. Let's see a little more concretely. Among the hundreds of non-caste communities which today recognize the status of «scheduled tribes», those that have most attracted the interest of population geneticists and molecular biologists as standing out are some ethnic groups in Bihar, Madhya Pradesh, Jharkhand, West Bengal. Rather precise studies on the Munda-speaking populations and on the various Gond communities have seen the light in the last decade (Chaubey *et al.* 2018) and have brought to light stories of formation and immigration that do not perfectly match the hypothesis of an incontestable indigeneity of these groups. As for the Munda (or rather the many Munda-speaking groups, over eleven million individuals) what seems established is that their more distant origin is to be sought further east, in

² «The time depth and diversity of M2 lineage among the studied tribes suggests that the tribes of southern and eastern region along with Dravidian and Austro-Asiatic speakers of central India are the modern representatives of earliest settlers of India via proposed southern route» (Satish Kumar *et al.* 2008).

regions closer to Southeast Asia (Khmer in particular) than to the current population areas. Moreover, they themselves, or rather the complex of peoples belonging to this vast ethnic area, far from corresponding to the expectations of a unique origin and genetic composition, reveal themselves to be a compound of admixtures, among alien flows (Burma, Laos, Malaysia) and Dravidian contributions, always according to current classifications (Tätte *et al.* 2019).

We have already said, the grain of the Adivasi population, be it explicitly non-Hindu and non-caste, or partially or totally assimilated by language, religion and status, is so extensive and dense that it is not possible to bring together in a single overall picture the characters and demographic evolution. I cannot therefore account for the quantity of studies and research that deal with the many cases and stories that intertwine in the Indian ethnic landscape. An important aspect, nonetheless, must be highlighted before entering into other topics, that is the contact, better to say osmosis, between tribe and caste (here I am employing the obsolete term, *tribe*, to adhere to the current categories in the local context and in ordinary uses). The category S.T., *Scheduled Tribes*, today has a rather rigid administrative meaning and use, and is currently employed to distinguish the presumed natives, at least originally censused as non-Hindu, from the Hindus; it is concretely operative in social politics and in the identity consciousness itself of local communities. In history and in evolutionary dynamics, on the contrary, the distinction is far from obvious. The transition from the tribe to the caste category is an organic part of the processes of formation of Indian society. Many castes, mostly low castes, were formed, more or less rapidly, changing themselves from the original condition of tribe to that of caste, albeit marginal or out-caste caste. (An expression that betrays as never before the Indian propensity for complexity and paradox. Scheduled castes, and out-castes, that is, external castes, have to be classed in a certain sense as castes that are not castes). A process, a dynamic that has been repeated for centuries and that cannot be said to be complete even today: by adopting customs, ethical rules and lifestyles of the upper classes, the lower ones pursue a strategy of social ascent and promotion, increase their social value and leave behind their previous condition of marginality. The Hinduization process has been going on for centuries, for millennia, and it cannot be said to be linear and uniform.

It would be interesting to delve into its dynamics and comment on its variety, but now we have to open a different column, and return to our main interest in analysis.

Endogamy vs. admixture

What has this Hinduization process meant for Indian biogenetic history? We have already talked about the strategies of marriage and reproductive closure that the upper classes, and especially those of the «twice born», have pursued over the centuries to preserve their purity. Purity which must be understood in the two meanings associated with this term: purity of a moral, spiritual and mental nature, and purity in the meaning of non-mixity, of inheritance not corrupted by hybrid intrusions. The barriers placed between the couplings between different castes had to serve this purpose and to naturalize the social categories with a practice of crude selection of matrimonial partners. Some physical anthropologists, and eminent scholars, have seen in this long history of eugenic ethics a kind of grand, perhaps the only case of mass reproductive experiment, a kind of genetic laboratory based on social strategies³. Even so, but if the experiment today has a message to convey to us, this goes exactly in the opposite direction from the ideal of genetic purity. Two streams of exchange have left and are leaving their unmistakable imprint on the phylogenetic maps of Indian populations. The first, vertical descendant, from the upper to the lower classes (and, to some extent, from castes to tribes) is found in the contributions of patricentric inheritances, from Y-lineages, masculine, to the lower castes. The second, in the opposite sense, and this time transmitted in the maternal line, from the lower classes to those, next or adjacent, higher. In the first case, it is the upper caste men who infiltrate their genes in the lower strata, both with occasional and informal mating, and with improper marriages (it is interesting to remember that the traditional moral precepts clearly sanction the two types of marriages, *anuloma* and *pratiloma*, i.e. those correctly hypergamic and those incorrectly hypogamic). The first type of union, that of a man of low origin with a woman of noble birth, is severely condemned as abominable. In the second case, this time according to completely normal and recognized patterns of conduct, it is women, brides «donated» to higher-ranking families, who carry their genomic heritage upwards. Of course, the perfect model would like the closest caste proximity, indeed the same caste identity among the partners, but the ideal must be measured against reality: marriage costs, or, let's say

³ An immense, genetic experiment, unique in the human history according to the great biologist Theodosius Dobzhansky «The caste system in India was the grandest genetic experiment ever performed on man» (1973: 31).

better, the groom costs: the price of the groom supplies one of the primary sources of wealth for families with sons to offer on the marriage market. And you have to play a double game: the dowry received from the daughter-in-law's family will be used to pay the dowry to be given to the future son-in-law's family when it comes to giving and not receiving a *kanyā*, a daughter in marriage.

It would be easy to summarize the whole of this grandiose exchange system in a two-pole scheme, a socio-bioreproductive space crossed by two diffusion waves, one inversely compared to the other: the hegemonic one towards the base, from male-driven lineages to the lower strata of the indigenous population, and that which, in the opposite direction, exports its mitochondrial, maternal components to the upper strata of the class scale. Too simple of course, but to some extent useful. It is not uncommon, moreover, that in their hypothetical reconstructions, on the basis of the different epochs of lineages formation and estimates of the relative duration of the different branches or clades, scholars propose a tale that resembles a modern myth of origins. A myth (*mythos* in fact, story) that sees on the one hand the founding mothers, a small group of maternal ancestors who in the mists of time have made their way in the colonization of the country, together with their men and who have transmitted their genetic heritage to a vast network of lineages⁴. On the other hand, the shorter waves of the fertilizers, the lineages of paternal descent, which follow one after the other, supplanting the previous ones and propagating downwards. According to this story, the two sexes, the two regimes, the matricentric one and the patricentric one, are, so to speak, complementary and inverse. The Y-chromosomal lineages are invasive, competitive and active, while the mitochondrial part is passive, receptive and long-lasting. A less naive version of the model, or of the myth, should introduce other variables, perhaps the same ones that we mentioned earlier: the ANI ASI hypotheses, the Northern/Southern migration and demographic dynamics. It is a work to be done without a doubt, especially in an anthropological perspective

⁴ «The most parsimonious explanation of these findings is that there was a small number of founding female lineages in Indian populations. The small number of founding female lineages may have either resulted from a founder effect caused by a small number of women entering India or, possibly more likely, caused by the group of founding females, irrespective of the size of the group, being drawn from an ancestral population with a relatively homogeneous pool of mitochondrial haplotypes» (Basu *et al.* 2003: 2279; see also Basu *et al.* 2016).

that takes into account the interdependence between culture, biology and history. I will limit myself here to taking up just one aspect, that relating to the issue of autochthony and the claim to authenticity.

Until a few years ago, the prevailing thesis, if not the only one, was that of the external origin of the founders of the Indian identity, of the current image of classic India, luminous and strong in culture, in its religious and civil forms, the «wonderful India» for excellence. This thesis was supported by the laboratory findings. The great network of Eurasian ancestry revealed such precise convergences between the strains of Central Asia, of the Middle Eastern and Iranian blocs, of the European extension, along the great collector of the R lineage (Ra, Ra1, Ra1a etc.) as to leave little doubt about the common belonging of the different branches to a shared family, genetic family, linguistic family, family of ancient populations⁵. The Indian line, Vedic and then Brahmanic, was but one of the branches of the tree, and its path in time and space could be read by following the geography of its advance from north to south and its creatures of synthesis, the localized descents.

The propagating nucleus of this inexhaustible identity energy thus were conveyed by the descendants of the mysterious nameless progenitors who had introduced in a virgin country an inestimable capital of civil and religious purity, but above all, the treasure of their superior DNA. In parallel, in truth, ancient doctrines and texts had assigned names to these ancestors, semi-divine figures from which the entire Brahmanic progeny was born; the seven *rishis* which the various top sub-castes still refer to today. It is necessary to move with caution in this borderland, or rather this hybrid band in which myth, history and bio-molecular phylogeny seem to infiltrate each other. The risk of getting lost in the forest of caste DNA, of confusing genetic lineages and ethnic lineages, appears at every step of the investigation. There is no shortage of the most fanatical voices of those who, influenced by the research results, hoist laboratory reports as evidence of the continuity of an «Aryan DNA» that today sounds obscenely provocative to our ears, and to those of Indian progressives.

⁵ «We conclude that paternal lineages of Indian caste groups are primarily descended from Indo-European speakers who migrated from central Asia 3,500 years ago. Conversely, paternal lineages of tribal groups are predominantly derived from the original Indian gene pool. We also provide evidence for bidirectional male gene flow between caste and tribal groups. In comparison, caste and tribal groups are homogeneous with respect to mitochondrial DNA variation [5, 6], which may reflect the sociocultural characteristics of the Indian caste society» (Cordaux *et al.* 2004: 231).

External origin then? The imprint of an «Eurasian» heritage, from the West and from the boundless stock assigned the seal of superiority to foreigners, eminent source of perfection and purity, of blood and spirit. The «true Indians» are therefore Hindus and the Hindus are the custodians of the Brahmanic tradition, in the higher castes. Surnames and titles of stirpes that still occupy the scene in the Indian public space, Kaniakubja, Mukopadhyay, Dasarath, Gangopadhyay, Chitpavans, to name just a few. It is often a question of vast networks of thousands and thousands of people, of families scattered in the territory of origin and in the global diaspora that today meets in every part of the world. The «genetic signature» of which they are proud, often with the proof of commissioned tests that can be obtained from American or European screening companies, finds its brief professional supports in the research of the various consortia and laboratories that scan the genotype composition on a sample basis of the different groups. For the most part, of course, this signature appears as one component among others in the genomic familial heritage. In addition to the great R1 strain, with its different joints (R1a, R1a1, etc.), other veins of different origin cross the mosaic of the ancestral identity of a family, a mosaic made up of percentages and frequency rates of the mutations related to each great genetic lineage. The genetic identity that studies and tests return, reveals the history of the mix of intertwining ancestries that produced it, a plot of biological and genealogic flows where nature and culture blend with a pervasive continuity. It is here that the most advanced turning points open research towards new perspectives.

Back to in situ

Two points come into question in this phase of intensified historical-bio-demographic attention. The first, again, the question of allochthony, the second that of the mitochondrial basis, the maternal background under ethnic and demographic evolution. The dogma of civilizer foreign immigration already began to falter several decades ago, along with the paradoxes and contradictions of the Arya invasion theory. The conjectures relating to an imaginary Indo-European population, settled in some distant area, in Central Asia, Anatolia or elsewhere, have never been supported by archaeological evidence, still less historical, or ethnographic. The linguistic families of Indo-European stream are certainly linked by a common origin, but at the top of the chain of descent nothing justifies the existence of a mother-peo-

ple, the Indo-Europeans, from which would derive all the modern branches of the supposed Indo-European demographic and ethnic tree. What has happened in the meantime in genetic and paleogenetic research?

The new, more striking trend is what we could define as the return to the internal roots, and with this, to the unification of Indianhood and Hinduness under the sign of a decisive reappropriation of the genesis, of local autogenesis. In this sudden movement of regression to the beginnings, the work of microbiologists intersects with that of archaeologists and scholars of prehistory. If the former search for phylogenetics, for the echoes of genesis in the deepest faults of biological memory, the latter rummage underground, beneath the crust, even millenary, of the most solid Indian culture to look for other antecedents, other traces. The former thus discover that the hierarchical system, with its impressive discriminatory ideology and the apparently inviolable law of caste endogamy, did not always exist in India. On the contrary, there had been an epoch, a much longer epoch and much more widespread, in which intermixture was prevalent, unions between partners of different origins were a normal thing and, in fact, genes mixed from one part of the population to another without dead ends. Endogamy started with castes, and with endogamy progressed a systematic genetic selection that had to produce, or perpetuate, classes of biological and moral identity, so to speak, in captivity. Thus, we can explain the intertwining of disparate haplotypic inheritances in the ancestral baggage of today's Indians.

The great transition from freedom of mating to caste endogamy is contextual to the appearance of the first forms of Vedic culture and religion. The texts speak of it quite explicitly; above all *Manu* and the *Dharmaśāstra* not to mention the treatises of politics, law or customs like Kauthyilia and Yajnavalkya, throughout the development of Brahmanic culture, a few centuries before and after Christ⁶. Then, it can be assumed, the class structure of the R1a1-centered hierarchy had been consolidated for many centuries, to the point of appearing, and being felt and practiced as a natural order of things, natural and supernatural. Every man and woman were of high or low rank in birth, body and soul, social identity and spiritual nature, and such were their sons and daughters. Hence the rigid moral mechanics of class incompatibility. Moral and vital: reproducing by crossing hered-

⁶ On some critical topics on shastric literature see the recent book by Wendy Doniger, *Against Dharma* (2018).

ities of incompatible nature⁷ (*janma*: birth) was something shameful, it produced monsters. Nonetheless, these monstrosities did happen. Indeed, they were part of the possibilities, of the reality of this world. The social galaxy had its core of purity, the most eminent, in its centre, and then on the periphery a swarm of degrading fringes that are always possible, made up of hybrids, and new margins of opprobrium. Indeed, precisely by expelling its own waste of impurities and letting it reproduce at the margins, in an inexhaustible band of negativity, the purest and highest part renewed its eminent capacity for transcendence. The best needed the worst to reproduce their valuable capital.

The system, therefore, in its own dynamic discipline, provided for, if not fed, hybrids. Paradoxically, the biogenetic reading that scientists are now able to extract from their minute laboratory observations can find here a more than promising window of comparison. The Indian world has known and treated for centuries the crossings of ancestry, that's why it represents a rare domain of interest, a case study, with its incredible redundancy of new sections, new castes as a result of intersections (we can think of the theory of sets).

We are not far from this fundamental paradigm, logical and bio-logical, when we walk through the pages in which today's scholars, the most up-to-date and most aware, treat the composition, or the history of Indian genomic geography as mixing. «Mixing of East and West», as internationally renowned geneticist David Reich titled of one of the central paragraphs of his chapter on India in a recent book (*Who We Are and How We Got Here: Ancient DNA and the new science of the human past*). We have already mentioned Reich's the theory, now generally accepted in the scientific community, of the two-sided composition of Indian demography, one North-ancestral and one South-ancestral. His image and history of this genomic composition unequivocally shows an intertwining of hybrids and mixture; there is no group that can be called «pure»:

We showed that the ANI and ASI had mixed dramatically in India. The result is that everyone in mainland India is a mix, albeit in different proportions, of ancestry related to West Eurasians, and ancestry more closely related to diverse

⁷ The seminal study by S.J. Tambiah (1973) analyzes precisely this dynamic of intersecting original different castes as origin of inferior and hybrid new sections. Savarkar himself, in his *Hindutva*, refers to the system of mixed unions, as a beneficial process of biological fertilization and civilization, from the noble to the lower part of the national community.

East Asians and South Asian populations. No group in India can claim genetic purity (Reich 2018: 135).

Reich does not speak here of castes, nor of outcastes, or of stigmatized groups. He speaks of populations and subpopulations, substantially of genetically composite classes and of great ancestral stocks. We can draw a decisive lesson from conclusions like this: the demographic history of the immense Indian space of differences and intersections has not succeeded in carrying out the project of creating biological classes of the lowest value. The endogamous obsession has failed. This does not mean that it has renounced imposing itself on the choices of individuals and on the life of communities. It is here that anthropology is offered the opportunity to test some of the concepts, rather, of the postulates that have always been part of the Indological and Indianistic doctrine in Western studies. The first, perhaps the key postulate, is that which takes for granted a relationship of functional and causal dependence between the class, the caste, and its selective strategy in marriages. Endogamy is a product of caste: is it the community of blood and identity exclusion, already formed and governed by a superior logic of self-closure and repetition that activates codes of behaviour, delimits borders, promotes and discriminates the supply and demand on the matrimonial market. According the old scheme of the Arya invasion, Indo-European or Vedic if you prefer, the system was already given, it was part of the conquest and intrusion of non-native peoples in the indigenous space. The newcomers carried their hierarchy with them, and grafted it on the terrain of conquest. The caste was already ready to reproduce itself among the subordinates and the colonized, imposing the reproductive barriers between classes of rank, between categories of ritual purity, between classes of profession, not to mention between masters and servants; they did nothing but translate every single category into closed clusters. Even today, in the search for appropriate partners, the criterion of belonging to a specific *jāti*, or *varṇa*, but also of ethnic origin, is frequently included among the qualities required in marriage announcements: online, in newspapers, and in the catalogs of marriage candidates that brokers present to families who are looking for a husband for their daughters, or a wife for their children. Reserved websites, by surname and by class community, collect requests from interested parties, with the aim of selecting candidates: the Chitpavans will preferably choose Chitpavans, Lingayath will look for Lingayath. Caste, therefore,

appears as the presupposed factor, and historically, it is the source of endogamy. It precedes endogamy.

I confess I feel a hint of mould in this theory. I wonder if it is not appropriate to also consider a different hypothesis, indeed the reverse. A hypothesis that takes into account the slow times of cultural change, particularly sticky in the domain of kinship dynamics. And that takes into account the fact that the mythical image of the conquest, and the traumatic superimposition of an intruding population on an indigenous one, now seems to have definitively fallen. The alternative hypothesis I am interested to discuss, suggests that it was not caste that generated endogamy, but on the contrary, that the caste hierarchy system was fed, if not generated by the strategies of distinction and exclusion that have established themselves in behaviour, in the competitive confrontation between families, between parental solidarity groups fighting to increase and conserve their social capital. The history of the system, moreover, does not fail to give us proof of its changing permeability: if it is true that we are born and die with an indelible connotation of status – we are born as untouchables, Chamar (the caste of the leather workers) or as Sudra, or Valmiki, or Ganguli – it is also true that every depreciated, stigmatized or fallen class strives relentlessly to rise up, to transform itself and become what it is not yet, or is no longer. There are many ways in which you can try to increase your status level, perhaps to regenerate your baggage of identity and get yourself a new charge of value. Adopting new dietary habits, lifestyle, and morals, even turning from one circle of worship and devotion to another, practicing styles and morals more in line with Brahminic ideals (vegetarian, nonviolent, refined and close to renunciation) is one. But it is especially the marriage models, and the search for higher and nobler partners to improve one's offspring, those that open the way to regeneration, an arduous and contested road on all sides, of course, but obstinately pursued by the inferiors to get closer to the superiors. Ethnography shows innumerable examples of this: I myself see the emergence of such a permeating trend in my research experience in the innermost areas of West Bengal, where the gap between tribals and caste people is particularly marked, and the status scale between the castes is maintained despite the fact that the law and the official conception formally ban it.

Let us leave the question to future perspectives of research. All in all, we could for now keep both components – the system of exclusive endogamic clusters and the search for status promotions – as mutually active, and con-

current functions. Now, in resuming our path, and heading towards two final questions, conclusive but rather decisive, we take for granted the principle of potential miscegenation in its broadest sense, not as interbreeding, or cross-breeding between «races», as the dictionaries say, but as an openness without class impediments to the mixture between lineages and genetic clusters. We also accept, on the basis of the most recent paleo or archaeogenetic reconstructions, the hypothesis that caste barriers are a recent evolution in the scene of the genomic past of the continent. Recent, of course, on the scale of the *longue durée* that must be kept in mind in this scenario: a few thousand years, let's say four, five thousand, compared to the tens of thousands that must be considered in estimating the deepest phases of South Asian demography.

So, what about the theories concerning invasion or non-invasion in this perspective? What intertwining of demographic and gene flows can be compatible with current geography, social and ethnic geography, and if the term has a meaning, genetic geography? And again, what role did castes have, and maybe do they have, in this scenario? The marks of biological caste identity, we have already seen, have the value of very minute, and in fact negligible, variations of detail in the genome. They are only fleeting signs, devoid of any phenotypic content. This does not prevent the identity pride of this or that caste, especially the higher ones, of course, from underlining the exclusive traits of its own distinction. The *Ks* or the *Bs*, or the *Ts* will be pleased to present themselves as types with fine and harmonious features, rich in talents and characters of high moral or perhaps social value, boasting eminent ancestral histories and so on. Well: on the proscenium of this modern heraldry of prestige, and above all of symbolic competition in the race for the primacy of national identity, the results of the laboratory play an influence that is increasingly incisive.

As far as the subject of origins is concerned, especially for the large and oldest ancestral trunk that branches off into the Eurasian space and for the markers that along these genetic trails reach the Indian subcontinent, the debate is far from closed. The entire framework of the hierarchy-Hinduization-endogamy paradigm seems to lose the compactness of its functional joints. It has already yielded one of the basic pillars, the immigration-invasion theory; now two other supporting beams threaten to yield: firstly the «original» link between the profiles of the dominant Y-chromosomal lineages and their correspondents, or Eurasian counterparts, between India and the hypothetical genomic homelands beyond the Himalayan massif and Iranian highlands. The similarity between the elite DNA of the twice-

born custodians of tradition, religion and lineage on the one hand, and the European or Central Asian one on the other, does not necessarily imply that the roots lie elsewhere, that the ghost of allochthony comes back to the fore. Indeed, we will immediately see that a strong wave of autochthonous genetic studies and mapping is spreading without shyness in the scientific community. Secondly, the role of civilization, or Vedic-Brahmanic culture as primum of Indian history, as the zero point of the magnificent, incomparable wave of civilization that has impregnated the entire peninsula, and beyond, enters into crisis and must face in turn the competition of other, and equally deep civilizing, or self-civilizing waves.

We will dwell on these two points, to close (but it is a somewhat brutal closure since the issues that the reconversion of the paradigm drags along would require much more extensive speeches and discussions). We will pause once again calling into question the emerging biomolecular research. The most incisive trait that the research results bring to the attention of the historian, and of the anthropologist, has all the air of an overturning of the theses, hegemonic until yesterday, which assigned to R1a, and to R1a1 a distant source, perhaps widespread or not very localizable, but in any case belonging to extra-Indian spaces, latitudes and cultural environments. Already two or three positions, and authoritative scholars, have challenged this thesis, starting with Thomas Kivisild (see Kivisild *et al.* 2003, among these *et al.* there are names of great weight, L. Cavalli-Sforza, and P. Underhill), and sometime later, Sharma *et al.* 2009. The very title of this research essay: *The Indian origin of paternal haplogroup R1a1 * substantiates the autochthonous origin of Brahmins and the caste system* (Sharma *et al.* 2009) published in the prestigious *Nature*, announces the turning point. The roots of the haplotype R1a1, the most widespread haplotype among the Brahminic lineages of the North, Bengal, Maharashtra, Rajasthan, are indubitably Indian.

The authors of the article are quite adamant in explaining their conclusions, expressly alternative to the then prevailing theses: the analysis data, the estimates relating to the dating of the different clades in the haplogroup differentiation tree, and the high degree of secondary differentiation show that the early root formation of the R1A1a haplotype in India is unequivocally local, and is considerably older than in the other Central Asian segments:

The observation of R1a* in high frequency for the first time in the literature, as well as analyses using different phylogenetic methods, resolved the controversy of the origin of R1a1*, supporting its origin in the Indian subcontinent.

Simultaneously, the presence of R1a1* in very high frequency in Brahmins, irrespective of linguistic and geographic affiliations, suggested it as the founder haplogroup for the population (Sharma *et al.* 2009: 51).

No less explicit, and programmatic, was the essay first signed by Thomas Kivisild which establishes an intrinsic link between aboriginal populations and groups of castes, as both bearers of a common genomic inheritance, transmitted by the most ancient occupants of the region (Kivisild *et al.* 2003). Tracing these original components that bring together in a sort of prehistoric biological communion the primeval Indianness prior to the introduction of the hierarchy and the barrier between Hindus and tribals, is something that borders on provocation in the eyes of the most orthodox custodians of the *dharmic* ontology or, to be more adhering to the rooted ideology of *āśramadharma*, the theology of the hierarchical distinction between classes and degrees of ritual perfection in society and in the life span of the best. And they, in fact, react, not so much by entrenching themselves in the fortress of genetic identity tests, (Y-genetics screenings that science can offer to a large area of customers), but by adding to the collection of prominent qualities the newly acquired property of autochthony. Laboratory resources are not lacking, indeed, they themselves are located and gain scientific prestige in Indian consortia and research groups, no longer subordinate to the great American and European research centres.

The recent discovery of new markers within R1a1-M17 has allowed Eastern European Ylineages to be differentiated from those in Central / South Asia, locating the oldest expansion times with this lineage in Indus Valley populations, suggesting an earlier, possibly autochthonous origin of this HG in South Asia (Arunkumar *et al.* 2012: 13).

The descent towards more remote levels of identity, buried in the material and cultural underground («blood and soil», again we could epitomize), through excavations and historical research finally allow us to go back to the past and cross the consecrated threshold of the Vedic foundation, mother of every Indian story – Indian because Hindu – introduces new, vibrant problems to the battle for autochthony. Or rather, to the already corroded amalgam of the trinomial, autochthony-authenticity, inclusive hegemony. The Indus Civilization, the Harappa culture, the vast and increasingly surprising urban complex that archaeology has begun to

unearth for many decades, is now mobilizing its entire charge of revision of the founding paradigm. Before, well before the Vedic expansion and its irresistible, ritualistic, sacrificial, sapiential spread, an entire civilization, complex, structured and ordered, had imprinted its cultural and material imprint on the territory that would later become the elective homeland of the new Arya masters (Haryana is the name of the modern state, where the capital of the Union, Delhi is located). Indigenous peoples and cultures, therefore, this time not residues of marginal primitiveness, but real centers of evolving civilization.

What appeared to be the zero line, the primary platform of the Hindu-India identity, yielded to deeper layers, not infiltrated by external hybridizations. The Indus Valley, today the border between Pakistan and India could thus reveal itself as a new cradle or matrix of the roots repeatedly glimpsed, several times isolated in the key mutation of the R1a1 lineage, and in alternating phases baptized as Indo-Aryan, Iranian, Central Asian or of the peoples of the steppes. So now it was a question of updating the map of the roots, demographic, cultural, ancestral roots.

It was observed that the age of R1a1* was the highest in the Indian subcontinent. Interestingly, among different groups, the age of Y-haplogroup R1a1* was highest in scheduled castes/tribes when compared with Central Asians and Eurasians. These observations weaken the hypothesis of introduction of this haplogroup and the origin of Indian higher most castes from Central Asian and Eurasian regions, supporting their origin within the Indian subcontinent (Sharma *et al.* 2009: 54).

The earth, the subsoil returned the tangible testimony of a dense, evolved human fabric and, as far as one could suppose, a candidate for the role of ancestral deposit. But the continuity between the archaeological traces and laboratory findings remained to be consolidated with biogenetic confirmations: an exemplary knot of intertwining (or mutual testing) between the material findings and the molecular evidence. In two ways: firstly, the scanning of the genetic profiles of the current population in the areas on which the material traces of the Harappa culture insist; secondly with the examination of biological samples from those excavations. In short, current DNA and fossil DNA. The past as a (presumed) deposit of current identity, and the present as a replica and vital memory of that legacy.

We can consider it here as our point of arrival: the two parallel paths, that of the archaeologists and that of the geneticists who interface and

dedicate themselves together to the discovery of new links on the shared ground of biological fossil traces and contemporary survivors. This is what, it seems to me, has emerged in recent years, at least according to the intentions and works of the protagonists:

The ancient Harappan genome, sequenced and described in the journal *Cell*, was compared to the DNA of modern South Asians, revealing that the people of the IVC were the primary ancestors of most living Indians. Both modern South Asian DNA and the Harappan genome have a telltale mixture of ancient Iranian DNA and a smattering of Southeast Asian hunter-gatherer lineages. «Ancestry like that in the IVC individuals is the primary ancestry source in South Asia today», co-author David Reich, geneticist at Harvard Medical School, said in a statement. «This finding ties people in South Asia today directly to the Indus Valley Civilization» (Handwerk 2019).

The new fact, the discovery of human genetic samples extracted from the prehistoric sites of the Indus Valley finally allowed to compare the ancient DNA with the modern one and, above all, to verify if, and to what extent, the indigenist model of Indian identity corresponded to the picture that the microbiological analyses were bringing to light. The autochthonous turn had now definitively closed the door to the hypothesis of Anatolian, Iranian, Central Asian origins, always following the trail of the great «original» lineages, the Y-lineages of the mythical founders and their successors. It was a question of seeing how much this more remote level of ancestral inheritance was faithful to the mark of excellence, if, that is, that precious distinctive coat of arms, the M17 mutation (to this one gradually adds others following further segmentations, other secondary branches of the macro-group) would have emerged, even below the zero level, before what until then had been considered the zero degree of Indian history, Indian as Hindu. The answer was not long in coming, and was, once again, disturbing. The bones of the ancient inhabitants of the Indus Valley, some 4500 years old, did not contain the slightest trace of either type R1a1 or type R1a. Carefully, the researchers who scanned the findings, extracted the genomic sequences, and returned a detailed reading of them limiting their analysis within the bounds of the biostatistic report. In spite of partisan expectations, their responses did not take a position on the question of origins or authenticity; rather, they pointed out the evident independence of the Harappan genomic matrix with respect to the still current images of external intrusion, both Iranian-Anatolian and steppe-Central Asian.

The link with the Vedic-Hindu brand of origin was irreparably loosened, and new yet unknown exploration scenarios opened up for research. A research that proposed a sort of *regressus in infinitum*, in search of the lost ancestors, browse by browse: beyond the old inaugural network, and even further back, in a forest of admixtures where the object of desire, the myth of the *unicum*, of the mother of every identity fabric revealed itself to be hopelessly multiple, and never definitive.

The effect that the archaeological and archaeogenetic discoveries had brought to the attention of the public was, nevertheless, explosive. The militants of Hindu supremacy, of Hindutva, had long preached that «there is only one DNA in Bharat and that is Hindu». Now this pseudo-scientific myth was shattered in favour of a reality free from identity dogmas and openly exposed to the uncertainties of contamination. I don't know if with this, the tight mesh of the polynomial grown around the ghost of the «Aryan gene» (arya gene > vedic / Hindu ancestry > Brahminic hegemony > Indian national identity) has lost its ideological energy. I'm afraid not. The fundamentalist and crypto-racist thought of which that form is an expression has shown and is showing an inexhaustible capacity for adaptation. The leaders of the RSS, the most extremist and also the most powerful and widespread organization, today speak a more inclusive and more flexible language. They are no longer the reincarnation of the ancient caste pride, and no longer preach the awe of the least. New hegemonic classes take up the witness of the hierarchy, of new, dynamic economic, social and cultural hierarchies, capable of cultivating with modern techniques and strategies what has always been the dream of the elites, increasing their status value and reproducing it within the circle of their own equals.

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