Back to Article page

London Review of Books

Trust me

Steven Shapin

French DNA: Trouble in Purgatory by Paul Rabinow
Chicago, 201 pp, £17.50, October 1999, ISBN 0 226 70150 6

The DNA molecule is as interesting in social theory as it is in science. It is the great Modernist molecule: the ultimate chemical basis of our common humanity, what makes biologically equivalent all those whom the Enlightenment supposed to be created equal. The fact that we know these things about DNA testifies to the authority of the greatest Modernist cultural enterprise, the natural sciences. DNA is also an anti-Modernist molecule: a molecular warrant for all the natural differences the conservative thinker could ever want to identify and insist on – differences between unique individuals, between the sexes, races and nations. From this point of view the idea of French DNA – its distinctive populational characteristics – makes as much sense as the idea of, say, Bill Clinton's DNA. And DNA is a Post-Modernist molecule, since fragments of our contemporary expert culture insist that the reflexive condition for believing these things about DNA, or indeed disbelieving them, is ultimately ascribable to the workings of DNA itself, while the knowledge of those workings is an authentic item of our culture. So what are the intellectual, institutional and legal schemes of things in terms of which the Frenchness of DNA might come to be insisted on?

The question at issue is no longer what anthropologists and sociologists should make of biology: whether they should seek 'consilience' and model their inquiries on those conducted by their more influential colleagues in the natural sciences, so pursuing the reduction of human action to biological bases. That's an old argument, though biological reductionism – recovering nicely from the embarrassments of eugenics and Nazi science – is enjoying a notable return to social scientific favour.

The new question is one that has not confronted social scientists before because the realities that occasion it have not existed before: what sense should they make of a world in which biomedical science bids to create not just new social realities but new sorts of social actor? Exotic infertility medicine produces practical challenges to the integrity and adequacy of existing kinship categories. More ordinary biomedical technologies require both theoretical

and practical responses to questions about the Rights of Man unimaginable to Jefferson or the Jacobins. Under what conditions may human body parts be commodified – seemingly mundane bits like skin, blood and corneas as well as fancier ones like eggs, sperm, fetal tissue, kidneys and, crucially, genes and personal genetic information? What place in our social classifications is to be made for the hybrid entities that bio-medicine is ushering into being – prosthetic, transfused, transplanted, transgenic? Who *are* we as biological entities, and how do we make descriptive and prescriptive distinctions between the inalienable components of self and the commodifiable bits of not-self? What are the rights and values pertaining to this 'we' whose configuration advances in biomedical science require us to decide on and even to enshrine in law? Who can alienate our biologically constituent parts and under what circumstances?

We're familiar with both the hype and the paranoia, and the scepticism they engender is wholly healthy. It may be some-years-to-never before we, or our clones, become immortal, while the best defences against a biotechnologically empowered Big Brother remain the democratic responsiveness of political institutions, the transparency of political decision-making, and the will of the media to create an informed populace. But between the hype and the paranoia the realities are already slipping less noisily upon us, whether our legal structures and cultural sensibilities are ready for them or not. And the realities are quite wonderful – and disturbing – enough.

If physics occupied the leading edge of scientific modernity-making fifty to a hundred years ago, biomedicine plausibly does so now, presenting social scientists concerned to describe and interpret the present order of things with a series of related questions about the biomedical sciences. What does late modernity look like from the point of view of these sciences? What kinds of social world are they helping into existence? What social configurations are they using to effect their ends? And, given the enormous influence possessed by biomedical scientists, who are these people and what is the nature of the institutions in which they work? What moral warrants stand behind their claims to truth and their authority to realise the consequent technologies?

The Berkeley anthropologist Paul Rabinow has been describing modernity and its truth-speakers for many years now. His first subjects were a group of religious leaders in post-colonial Morocco, and *Symbolic Domination* (1975) was an account of the complex interplay between rural tradition and French colonial modernity as the descendants of a charismatic 17th-century saint tried to assert their diminished, but still considerable, *baraka*, or embodied spiritual power. This was followed by the influential *Reflections on Fieldwork in Morocco* (1977). Here the truth-speaking credentials of the anthropologist were laid on the table, and the purpose of ethnographic engagement was said to be – following Paul Ricoeur – the comprehension of the modern self 'by the detour of the other'. *French Modern* (1989) was offered as a 'history of the present' and 'an anthropology of modernity', a study of how the

'norms and forms' of the French social environment emerged during the 19th and early 20th centuries, together with new, resolutely non-charismatic élite classes of technocrats and Foucault's 'specific intellectuals'. In 1996, Rabinow's *Making PCR* brought the anthropology of reason back to Berkeley and up to the present. Given the importance accorded to science and technology in social theorists' accounts of modernity, you would have thought Silicon Valley and its biotech suburbs would be heaving with anthropologists. As it happens, Rabinow is one of only a handful who have moved their inquiries into the lab.

Making PCR described the specific assemblages of science, technical skill, law, finance, salesmanship and quirky personality in the Bay Area biotech company that discovered and patented the polymerase chain reaction – the key technique in contemporary DNA research. That book was explicitly offered as an ethnographic meditation on a theme from Max Weber, and so, too, is *French DNA*. In his 1917 lecture 'Science as a Vocation', Weber explored the tension between virtue and expertise, autonomy and institutional discipline, in the changing identity of 20th-century intellectuals and in the moral warrants for their knowledge. How to represent science as a practice and as a vocation? Who, as Rabinow puts it, 'has the authority – and the responsibility – to represent experience and knowledge' in late modernity? And how do we cope with a situation in which 'those authorised to speak the truth require vast sums of money to practise their sciences and thereby to produce those truths on which we so firmly believe ourselves to be dependent'?

The site for *French DNA* is the leading genomics laboratory in France, the Centre d'Etude du Polymorphisme Humain (CEPH); the charismatic presence is the Tunisian-French-Jewish scientific director Daniel Cohen; the time is early 1994, when genomics entrepreneurship – spurred on by the US Government-funded Human Genome Project and venture capital-fuelled commercial competition – is frenzied. The CEPH had been founded in the 1980s as a hybrid entity – partly academic, partly governmental, partly a foundation – and by the early 1990s it was augmented with funds raised by the Association Française contre les Myopathies (AFM), an aggressive dystrophy patients group whose fund-raising activities were modelled on the comedian Jerry Lewis's American telethon. Dystrophies belong to the class of so-called 'orphan diseases', conditions too rare to attract the profit-oriented attentions of the big pharmaceutical companies. The AFM decided that the best way of alleviating children's suffering was by way of basic scientific research and, ultimately, were convinced that mapping the entire human genome was more efficient than hunting for the genes specifically responsible for the dystrophies. They had 100 million francs to spend for research in this area, and, in French terms, that's a lot. A social movement was predicated on the science of genomics, and, in turn, that movement became a resource for extending genomic knowledge. The mercurial Daniel Cohen seized his chance, and late in 1993 announced – with the assistance of a US public relations firm – that the CEPH had won the race to produce the first physical map of the human genome. America had been leap-frogged.

Cohen invited Paul Rabinow to the CEPH to act as 'philosophical observer'. Observer and observed met on equal terms: scientists at the CEPH seem to talk a startling amount of high-toned philosophy and the resolution of philosophical and political-theoretical issues concerning the identity and rights of the human person presents itself here as a practical matter. It was a propitious moment to be an observer. Cohen's ambitions were huge – he talked of a 'Manhattan Project' for the CEPH and described himself as the 'Henry Ford of biology' – and it soon became apparent that France alone could not supply the resources required to do genomics on the industrial scale he envisaged. He proposed to take the CEPH into an agreement with the new American biotech company Millennium. Together they would start by hunting for the genes responsible for diabetes, and later perhaps target other multi-factorial diseases. What the CEPH had to offer – besides its genius – was a valuable bank of systematically collected genetic material assembled from a group of French donors.

Alarm bells went off all over Paris. There was a series of nested problems with the CEPH-Millennium collaboration. First, Millennium was a profit-making business and the CEPH was not. The Americans were relatively tolerant of such blurred institutional boundaries but for the French this was 'treacherous terrain'. Fears were expressed that commercial links would compromise the purity of French research and the benevolence of its purposes. It was no secret that Cohen sat on Millennium's board of directors and owned shares in the company. Where were his allegiances? Could benevolence cohabit with profit? Second, the sense of treachery was heightened because the proposed collaboration was with an American company. *Le défi américain* had come to assume specially ominous forms as agile American high-tech and biotech companies threatened to obliterate potential French competition. What Cohen advertised as a genuine collaboration seemed to some a national sell-out, a base pairing indeed. Third, there were strong and entrenched French cultural sentiments that bridled at making human biological materials into objects of commerce, even if the ostensible purpose of the commerce was to alleviate the misery of French children.

The DNA which the CEPH meant to bring to the American collaboration was French DNA. That is to say, it had been collected not just from French people but within a distinctively French system of institutions and cultural understanding. The genetic material is a derivative of blood; blood is a gift; and in the French setting that gift is charged with meaning. In America, people may give blood or they may sell it, but in France they are understood only to give it. Blood is regarded as *hors du commerce*, and the significance of its gift is embedded within high-minded sentiments about the bases of social solidarity, paternalistic stipulations about the role of the state in guaranteeing French human dignity, and nationalistic attitudes about what is corrupt, threatening and pathologically modern about the American way of doing things.

Moreover, the official history of the French Resistance also involves blood being *hors du commerce*. In that history the Maquis was richly supplied by a network of patriotic donors –

'les bénévoles' – while collaborationist Vichy paid its blood donors with an *Ausweis*: a pass giving donors extra rations and privileges. A joint commercial enterprise with the Americans – indeed, a *collaboration* – to exploit French gifts of blood and its derivatives was deeply problematic. The implication invited here is: America = Vichy. Malicious and unsupported gossip was spread around the cafés that Jean Dausset, the Nobel Prize-winning founder of the CEPH, was a collaborator during the war. And while blood traditionally enjoyed, so to speak, an analogical relationship with individual and racial identity, DNA was now claimed to stand in a digital relationship with the person: it is a synecdoche of the self, a part which not only stands for the whole but which encodes the whole and brings it into being.

Unsurprisingly, there is at least some mismatch between French rhetoric and reality. The HIV-contaminated Factor VIII scandal of the 1980s hit France hard. Anti-commercial rhetoric notwithstanding, Factor VIII was an internationally traded commodity and the French bought and distributed their share of contaminated stocks. When the American pharmaceutical company Abbott Laboratories developed its antibody test for HIV, the French cabinet delayed a licence, buying time for the Pasteur Institute's own test, at the cost, as it turned out, of French haemophiliacs' lives. Protection of the French market and scientific institutions was apparently as pertinent as ideological resistance to the idea of screening French 'bénévoles'.

American law has tended to set great store on individual rights and autonomy in the disposition of the body and body parts, while in France the state stands between the market and the dignity of the person. The French idea opposes the right of individuals to own their bodies and to dispose of them as they see fit. 'The body and the person are one: their guardian is the state.' The proposed CEPH-Millennium collaboration was a conflict of moral economies, and the state had a legitimate interest in its terms, or even its possibility.

By March 1994, the diabetes collaboration had become a public scandal. *Le Canard enchaîné* punningly announced that 'une société américaine voulait se sucrer' – wanted to sweeten itself, i.e. get rich – 'avec les découvertes françaises sur le diabète,' and misquoted Cohen as saying that 'the DNA does not belong to researchers, it belongs to the financiers.' *Libération*, *Le Figaro* and *Le Monde* joined in; the Government was asked to rule on the ownership and proper disposition of the DNA and other biological materials gathered from French families. A disenchanted CEPH scientist asked the Prime Minister, Edouard Balladur, to prevent the transfer of 'this national patrimony' to the mercenary American company, and, essentially, stop the collaboration.

The rebellion succeeded; the Government – which had ministerial seats on the CEPH's governing board – instructed it to break off contact with Millennium; and the American company found solace in an $80 million investment from the pharmaceutical giant Hoffmann La Roche. Cohen, frustrated by what he saw as a rigid and unimaginative environment for entrepreneurial genomics research in France, mulled over lucrative offers from the States, but

in the end decided to throw in his lot with the new French biotech company Genset. Tellingly, the news of Cohen's move was prominently reported in both *Nature* and the *Wall Street Journal*. In June 1996, Genset raised more than $100 million in an IPO (Initial Public Offering) on Nasdaq, and in September it entered into a research collaboration with an arm of Johnson and Johnson.

The larger politics of nationalism, ideology and economic competition was stimulated by the smaller politics of organisational identity. What kind of place was the CEPH? What was its form and what were the pertaining norms? A genomics lab is an anomalous sort of place no matter where it is situated. It does scientific research, but often in a highly mechanised way and on an industrial scale utterly unfamiliar to biologists brought up in older, artisanal traditions. Its research-objects belong to the most fundamental level of biological inquiry, but the results can have enormous cash value and drug companies are often far more willing than governments to supply the piles of cash that have to be 'burned' in research before a penny of profit appears. The utilities of genomic knowledge include the cure of sick children, but it is not clear that humanitarian motives can be effectively acquitted without transitting the commercial nexus. In France these anomalies could be seen as intolerable antinomies. Even as Cohen pulled the CEPH towards American-style hybridity, forces within the organisation insisted that matters be institutionally normalised and that one could not serve benevolent science and Mammon at the same time.

Rabinow poses as the key question: 'How does such an assemblage operate?' It is a good question and an important one to pose for understanding the late modern world. Yet one aspect of the answer is bound to unsettle many modernity theorists. Cohen's sheer force of personality – his *baraka* – held the CEPH together for a remarkably long time. In Max Weber's terms the CEPH was undoubtedly characterised by a charismatic form of authority. Everything had to go through Cohen, yet Cohen himself refused to be made predictable or to make his policies transparent. A 'restless cosmopolitan', never there when people want to talk to him, he then descends from the transatlantic plane bearing the tablets of a biotech future. The characteristic gesture of the charismatic: 'It is written, but I say unto you.' Some of his CEPH followers called him 'the visionary of the biosciences'. And when Cohen's *baraka* was challenged, the internal rebellion seemed less like a changing of the company guard than like a betrayal.

For Weber, modernity was marked not just by 'disenchantment' but by the disappearance of charisma. Yet, far from disappearing, charismatic authority thrives right at the heart of the institutions that are busily making late modernity what it is. Neither the CEPH nor figures like Cohen seem in any way unique. From wartime Los Alamos (Robert Oppenheimer) to Sony Electronics (Akio Morita) to Apple Computer (Steve Jobs) to the controversial Icelandic genetics database company deCode (Kári Stefánsson – Rabinow's next subject), ambiguous forms and uncertain norms were given a practical solution through embodied personal

authority. An organisational concomitant of late modern technoscience is a heightened sense of uncertainty in the sites where it is done: what kind of place is this? How is it proper to behave here? And, into the vacuum of routine rules, regulations and traditional precedents, steps charismatic authority: 'It is not written, but I say unto you.' Trust me.

Where is the ethnographer in all this? He is in the narrative but not obtrusively so. The reports back to the home culture are enlightening, though I would have preferred a much richer picture of persons, practices and quotidian institutional life. Some readers will find the interspersed philosophical meditations exasperating distractions; others will see them as an exhilarating experiment in ethnographic writing. (I have sympathies with both.) Rabinow proposes that a legitimate role for the ethnographer of such sites is assisting practitioners themselves in understanding the forms and norms they are creating. And if this assistance is requested, then why not render it and report to others how the conversations went? If some cherished canon of ethnographic purity has been violated, so much the worse for purity. It makes a pleasant change from confrontation or celebration as the common modes of engagement between the ethnographer and the technoscientific subject.

In *French Modern* Rabinow approvingly quoted Baudelaire's 'you have no right to despise the present.' Nor does *French* DNA betray much uneasiness about the norms, forms and scientific agendas of late modern genomics, even in its American modes. Writing about the anxieties of a French bioethics committee, Rabinow takes off the gloves: 'A humanism that is highly suspicious of human intervention is a humanism that has lost its nerve.' If that's not celebration, at least it's a more willing embrace of the possible human consequences of scientific and technological change than has been customary among academics in the Other Culture. Let's not prejudge what humanity is before we see where humanity is going. It's always going somewhere hard for any of us to imagine and, therefore, hard for us fairly to condemn. That's clear enough, and it's a crucially important thing for a humanist to say – and to be heard to say. But, at the same time, there's no reason to equate the direction in which humanity is going with where Hoffmann La Roche (or Monsanto) might be proposing to take us. We don't have to go there if we don't want to, and one of the best resources we have to help us decide between a Luddite loss of nerve and a wholly warranted apprehension of biotechnology spinning out of control is rich, detailed and disinterested reporting from the field.

Vol. 22 No. 9 · 27 April 2000 » Steven Shapin » Trust me (print version)
Pages 15-17 | 3462 words

 ^ Top