



Book Review

Roof, Judith. 2007. *The Poetics of DNA*. Minneapolis: University of Minnesota Press.
243 pp, Paperback, \$22.50 (US). ISBN 978-0-8166-4998-3.

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In 1995, Dorothy Nelkin and M. Susan Lindee published *The DNA Mystique*, one of the first treatments of the cultural implications of scientific research into DNA. Given the time in which it was published, however, *The DNA Mystique* had a tendency to claim greater import for its cultural objects of study than they could necessarily bear; arguably, the cultural impact of genetic science was still rather limited. Since then, much has happened in the field of genetic research including the cloning of Dolly the sheep and other animals, the completion of the Human Genome Project, the emergence of the genomics industry, the spread of genetically modified food products, the CSI Effect, and so on. Today, DNA is a more central cultural signifier than it was in 1995.

In the introductory chapter of *The Poetics of DNA*, Judith Roof pays homage to Nelkin and Lindee, and other pioneering works in the field of genetic science and culture. Her argument is a familiar one within that field: DNA, as a signifier in culture, draws upon pre-existing narratives and metaphors, some quite ancient, that transform DNA into an answer to many of our most fundamental questions about the origins of life, personal identity, difference, and gender. Consequently, it is a mirror of how Western culture thinks about knowledge and itself, a repository of truths about who we are as individuals and as a species. In the light of scientific objectivity, however, DNA does not provide answers to any of these questions. Our answers have strictly ideological origins and operate to sustain older ideas while merging them with the new.

While others have made this argument, Roof goes further than previous works by analyzing the deep structure of DNA figurations, showing their roots in the distant past and the ways in which they have persisted to shape both scientific and popular understandings of DNA. In this way, Roof delivers what previous treatments have only promised – a detailed analysis that traces out the philosophical, linguistic and rhetorical mechanisms by which certain cultural meanings have come to be attached to representations of DNA. Our scientific understanding of DNA, she argues, results from the convergence of three strains of Western thought: the reductionist analytic atomism of hard science inherited from the ancient Greeks, the structuralist dialectical philosophy of the nineteenth and twentieth centuries, and the scientific method of the Enlightenment. The result has been a conception of DNA as a set of particles that act as organizing agents to produce a code or language of life. From this flows a scientific and cultural perspective that imagines DNA as textual – as something that can be copied, corrected, and edited.

Roof proceeds to argue that because DNA molecules are generally defined as organizing agents in the body, a number of cultural narratives with gene protagonists have emerged as lenses for understanding DNA. These include narratives about proper gender roles and the scientization of gendered behaviour,

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homosexuality and the problems it poses to genetic explanations of sexuality, the erasure of race as a genetic category with a corresponding increased emphasis on genetically-based gender differences, visions of immortality through the passing on of genes within families, and eugenics and ideas about reproductive fitness. These and other genetic narratives have the effect of reproducing basic ideologies about life, behaviour, values, and proper social roles and legitimating them through reference to DNA. Roof points out that when DNA or genes become the protagonists in a story, they also exemplify complex, culturally situated value systems.

The result of the dominant perspective on DNA and the cultural narratives that surround it is to cast it as an agent of “pseudoscience.” Our stories about genes are fantasy narratives about genetic causality, curative ability, and overall determinative power. Through pseudoscientific understandings of DNA, wishful thinking and belief in the miraculous take the place of a better understanding of genetic science as one of systemic complexity and uncertainty: scientists do not know how DNA is involved in the production of proteins and other bodily processes. At best, after the Human Genome Project, scientists have a parts list, but they do not know what the parts do and how they fit together.

Although Roof does not directly address issues of surveillance in the book, her work certainly has implications for the field. There is a short section in Chapter 5 discussing forensic dramas and here, Roof argues that the effect of these dramas, such as *CSI*, is to turn probability into certainty, to give the illusion of instantaneity and immediacy, and to define science by the technology that it employs. This discussion could be extended further to argue that in the field of surveillance, DNA is becoming the locus of a narrative of security – a means of fixing the identity of criminals, terrorists, and deviants of all sorts in the traces of their bodies. However, fixing identity in this way contributes to a return to a modernist notion of stable identity grounded in the body, with all of the resulting ideological implications.

The strength of *The Poetics of DNA* is its methodology. By analyzing central scientific and public understandings of DNA through the lens of literary and rhetorical devices, Roof demonstrates how metaphor, metonymy, and synecdoche operate to transfer meanings from one register to another in a way that imports ideologically grounded understandings into a scientific concept. It is a good case study of how to conduct a cultural critique of scientific claims and public understandings of science while convincingly showing the role of culture in the construction of scientific truth.

One potential drawback to this form of constructivism is that it leaves little room for progressive politics around developments in genetic technologies. Any criticisms of the products of DNA research are simply more narratives based upon preceding culture stories and are no truer than any other stories. As a result, Roof is left at the end of the book without a conclusion to the problematics of pseudoscientific understandings and regressive ideology that she has identified. She suggests that attempts to further public understanding of how genetic science operates might be helpful, but does not engage with the reflexive nature of the relationship between publics and science in late modernity and the problems this poses for an acceptance of purely scientific claims. This criticism aside, *The Poetics of DNA* is a very thought-provoking work and should be read by any social science and humanities scholars interested in genetic science, biotechnology, and science studies.