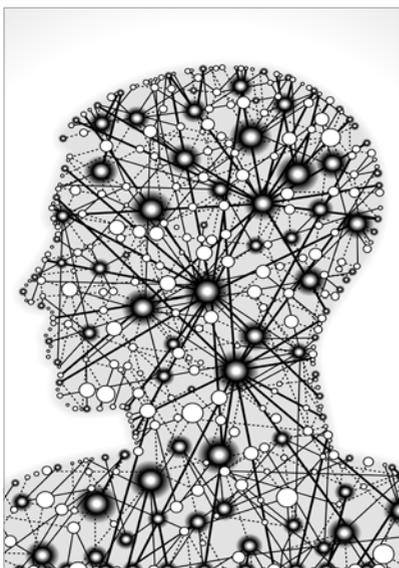


# Beyond the Gene

## Epigenetic Science in 21st Century Culture

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SCIENCE IN CULTURE



A team of researchers drawn from the humanities and the biomedical sciences have been exploring the implications of moving beyond the genetic model of inheritance to focus on the shift that is taking place as we are discovering that fixed genetic inheritance plays a relatively small part in making us 'who we are'.





“The award enabled us to hold two workshops which provided an exceptional opportunity for leading medical and biological researchers in epigenetics to exchange ideas with a historian, a philosopher of science and literary scholars. These unique encounters led to an enhanced appreciation of the importance of communications between the sciences and the arts and humanities.”

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This cross-disciplinary project brought together researchers in the biomedical sciences with researchers and writers in the humanities to explore the implications of moving beyond the genetic model of inheritance that dominated biomedical research in the twentieth century. Two workshops were held at which leading researchers in epigenetics debated these issues with scholars in literature and the history of science, and with creative writers. The workshops were followed by a high-profile and fully-booked public event held at the Linnean Society in London. ‘Beyond the Gene: New Perspectives on Inheritance’ featured Tim Spector (Professor of Clinical Genetics, Kings College, London), the eminent philosopher of science, Professor Evelyn Fox Keller (MIT), and the novelist Jeanette Winterson where they explored the science of inheritance and its social and cultural implications. During the course of the project collaborative links were also formed with the Progress Educational Trust and with the Cafe Scientifique.

The research focused on the shift that is taking place as we are discovering that fixed genetic inheritance plays a relatively small part in making us ‘who we are’. The genetic determinism which marked the C20th has been largely superseded as it has been shown that human development is shaped by epigenetic changes to the genome, which work in concert with regulatory networks derived from non-coding DNA. Human beings, then, are not the result of a template fixed before birth, but are shaped by modifications to the genome in response to subtle environmental cues. This understanding has major implications which cut across disciplines and provides opportunities for future collaborative, cross-disciplinary research. Epigenetics requires us to question our most fundamental assumptions,



notably the dichotomies between fixed inheritance and the environment and between nature and nurture. It also has significant implications for our understanding of family relationships. If DNA is not a programme, and if our development is shaped by continuous interactions between the genome and its environment, then the fact that we share our DNA with family members is a less salient factor than previously thought. The project team’s future research will build on these insights to explore the social and cultural entailments of what has been called ‘the epigenetic revolution’.

The project website outlines the themes and research questions of the project. It includes the statements of the workshop participants, the programmes for the workshops and details of the public event held at the Linnean Society, together with links to related projects and a bibliography. See [www.southampton.ac.uk/beyondthegene/sharepoint.page](http://www.southampton.ac.uk/beyondthegene/sharepoint.page) for further information.

