Nuffield Foundation
80 YEARS

Ada Lovelace Institute

NUFFIELD COUNCIL ON BIOETHICS

Changing lives for the better

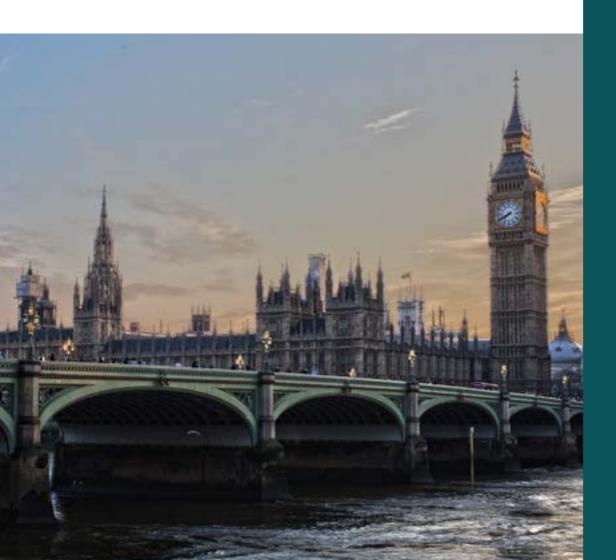# The future of **artificial intelligence** and data-driven technology

Fran Bennett

The Nuffield Foundation established the Ada Lovelace Institute in 2018 to provide interdisciplinary expertise on the social impact of the rapidly evolving fields of data-driven technology and artificial intelligence (AI). Now more than ever, our research – which informs high-stake decisions in this area – is becoming more pertinent.

Recent technical breakthroughs have opened up surprising new generative AI capabilities that will define the future.

Governments, and societies at large, are grappling with their responses:

Should they use this technology, and if so, how? What might oversight of it and the organisations building or deploying it look like?

The UK and EU have set out new approaches to the regulation of AI, and the UK declared in June 2023 that because international co-operation is also critical here, they are going to host the "first global summit on AI Safety".

How is AI shaping our society?

We expect the impact of AI to **expose and amplify patterns and questions** that are already present in our society, for better and for worse.

It can automate away significant quantities of unrewarding work, remove skills barriers, bring more equality of opportunity, and offer a human-like conversation instead of a static set of reading material for education and discussion.

On the other hand, it can entrench social and economic gaps, poison the information environment, concentrate power, and replicate and ramp up biases in the existing material it was trained on.

Fran Bennett
speaking at the
Changing lives for the better launch event

It can also expose difficult questions – for example, if an AI or predictive technology trained on human decision-making is biased, does that mean we should suppress the technology, or should we consider that it tells us something about the human system that we need to address?

At Ada we have substantial research on the many dimensions of these questions. We have studies on how data and AI play out in practice in contexts such as healthcare systems; during the Covid crisis; in biometric technologies; and looking at algorithmic accountability.

In all of our work, we bring in multiple research methods, including ensuring we include the voices of the least powerful, who are often on the losing end of such technologies.

An interdisciplinary approach with the voices of people at the centre is the only way to tackle such difficult questions.

We see some patterns repeat themselves. The complexities and contradictions of the interactions between data, AI, and human society.

The need for good regulation and for workable industry practices to make data and AI benefit all of society.

The challenge for regulators and institutions of keeping up with technical and social change, and of developing what 'good' looks like and enforcing it in the right ways.

The endless diversity of people and social systems, and the many consequences that has for how data and AI affect them.

In many ways, this is the same thing that the Nuffield Foundation has always done – rigorous, independent research aiming to address inequality and to improve lives.

Making data and AI work for people and society is one of the grand challenges of our age. We're excited about this next stage, and hopeful that we can progress towards a better path.

Understanding challenges to humanity through bioethics

Professor David Archard

The Nuffield Council on Bioethics was created by the Nuffield Foundation in 1991. Since then bioethics has come to encompass public health and our non-human environment.

> The biomedical problems facing humanity are also rightly recognised as global in scope and necessarily global in their solution.

Nowhere was this better demonstrated than by the COVID-19 pandemic.

The Council's current strategic mission is to put ethics at the centre of decisions about biomedicine and health so that we all benefit. We are focusing on three priority areas: mind and brain; reproduction, parenthood and family; and, environment and health. These topics illustrate what

some of the emerging trends in the biosciences might mean for humanity and our shared world over the next 20 years, as we face the real prospect of not just significant changes to what it means to be human, but existential threats to humanity.

Neural technologies including brain-computer interfaces that enhance brain functions may radically change what it is possible for humans to do. Developments in bioscience and technology may cause us to question what exactly the limits of human reason are. At the same time, the possibilities of cognitive and volitional enhancement raise profound questions – not just familiar metaphysical ones of free will, but normative ones of justice.

There have been enormous changes and ever new possibilities in human reproduction. Louise Brown was the first test tube baby born in 1978. Now, parents can choose healthy babies by screening embryos for
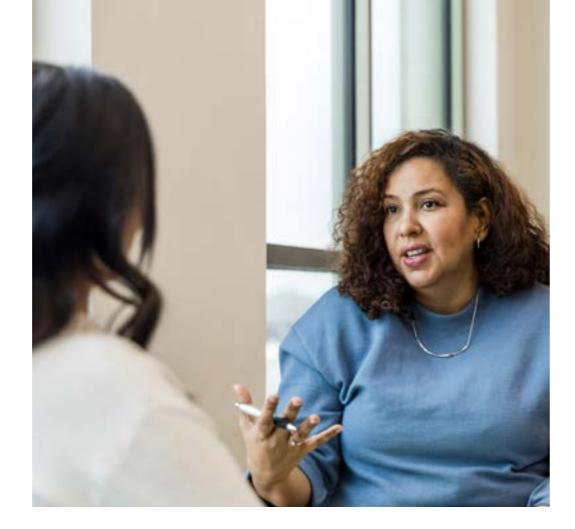
inherited genetic conditions. We can prevent mitochondrial diseases by the so-called three-person method, whereby the eggs of a second 'mother' are used to create IVF embryos. All of this is licensed. In principle, scientists can even genetically edit embryos – although it is not permitted in practice yet. They can also create artificial gametes and – most recently – derive embryo models from living single stem cells.

On the further horizon is ectogenesis; the growth of an organism in artificial wombs outside the body.

Some of the extraordinary changes in what counts as a parent and how a family can be formed are down to social, economic and legal changes. But some are due to developments in reproductive technology, thereby providing a good example of how the work of the Council may intersect with work done elsewhere in the Foundation on family justice. Human reproduction is changed fundamentally and forever.

Lastly, we have emerged from a global pandemic. We know that the next will be "zoonotic" – that is, linked to animals. It will be caused by the way in which human beings are worsening the global environment, through ever increasing deforestation, climate change, the collapse of biodiversity, and encroachment into the lived spaces of non-human animals. The challenge now is to address the causes of further deadly viruses.

> ## Rapid advances in science and technology does not mean ethics is being left behind.

Bioethics is even more relevant to the understanding and evaluation of the challenges to our humanity that science continues to pose over the next twenty years. We must work together internationally, building on our relationships so that we can take a global perspective. Scientific challenges bring us closer together as a species inhabiting a single world. To paraphrase Norma Desmond in the film Sunset Boulevard: 'Ethics is big. It is just the world that got smaller.'

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About the authors

Professor David Archard is Emeritus Professor of Philosophy, Queen's University, Belfast. He is also currently a member of the Clinical Ethics Committee of the Great Ormond Street Hospital for Sick Children and is Honorary Vice-President of the Society for Applied Philosophy. He has published extensively in applied ethics, moral and political philosophy, and jurisprudence.

Fran Bennett is a founding member of the Institute's Board. Previously Fran was Vice President of Data at Healx, a company which uses AI to find treatments for rare diseases, and cofounder of Mastodon C, a data science consultancy that supports local and central government to realise the potential of their data.