



digital enlightenment  
forum

# Digital Ethics

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Workshop Report

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## 1. Introduction

Digital technologies offer many benefits to individuals and society. Yet the abrupt change brought by the evolution and take-up of these technologies mitigates, or even endangers these benefits. The speed and complexity of change seems to lead to a dilution of ethical and social consciousness and a sweeping away of accountability and responsibility for personal behaviour and its results (“it is the system’s fault”). The web as a quality-neutral platform for information and communication offers little in the way of social role models or culture-based norms.

Despite the legislative and regulatory effort being devoted to these issues, there is an urgent need for individuals and society as a whole to properly and dynamically frame ‘digital ethics’ so as to aid and complement what is achieved within the regulatory sphere. In addition, any digital ethics framework will increasingly have to accommodate decisions made by autonomous systems (robots, profiling systems, embedded and connected systems, remote control systems, etc.), which are still managed by legal persons.

This Workshop on Digital Ethics, organised by the Digital Enlightenment Forum (DEF), brought together lawyers, engineers, economists, social scientists and philosophers to consider what such a framework for digital ethics might look like and how it might be realised.

The Workshop comprised two sessions. The first focused on defining the problem and articulating the principles critical to a framework for digital ethics. The second considered potential solutions and ways forward.

The discussion was animated by a series of statements from invited panellists. It also drew on an online DEF debate on digital ethics, as summarised in a blog post on the DEF website.<sup>1</sup>

## 2. What is Digital Ethics?

A natural starting point is to ask what we mean by digital ethics. Is it ethics that have gone digital? Is it an ethics for digital systems – with or without humans ‘in the loop’? Or are we talking about an ethics for these systems themselves.

‘Ethos’, the Greek word from which ethics is derived, meant a habit or custom. At its most elementary level, ethics provides a framework for our actions in terms of what’s ‘right’ and ‘wrong’. Such terms are always subjective, however, and of little value in this debate. Instead we have to try to find some meta-perspective for formulating the role of a digitalised ethics in a digital society.

## 3. What is at Stake?

### ***Disempowerment and the loss of human agency***

One interpretation of the problems facing us is that the digital era challenges our core understanding of what it means to be human. In the modern world, the notion of autonomy and of respect for norms of equality, fairness, justice and democratic practices are under fire from all directions. Nation states, which traditionally have been the defenders of such agents and rights, are being weakened by neo-liberalism and globalisation. Increasingly their power is being passed to international institutions, such as the European Court of Justice and the World Trade Organisation, over which there are few democratic controls. In turn, these institutions struggle against the

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<sup>1</sup> See <http://digitalenlightenmentforum.com/2015/05/16/digital-ethics-michel-riguidel-jacques-bus/>

collective power of multinational corporations, such as Google, Apple, Microsoft and Facebook, which increasingly dominate the internet space. The citizen gets caught in the middle here, becoming radically disempowered. Citizen activists and NGOs can occasionally counter the drifts towards 'digital feudalism', sometimes in collaboration with the rule of law and the nation state, but they lack an effective voice.

The discussion highlighted the fact that technology is not neutral but embedded with certain values. The imbalance in power between individuals/users and service providers (both commercial and public) is leading to a loss of agency. Technology is available but we may not be controlling it to the extent that we thought we were. A crucial question is whether we can design systems that empower users, and so restore human agency, and what this means in reality.

### ***Rethinking our fundamental rights***

Others saw the issue in terms of a crisis in human rights. Taking an analogy from mathematics: at the beginning of the 20th century mathematicians thought that their field was fully mapped and understood, and that there was nothing more to be discovered. However, pioneers such as Dirac and Schrödinger showed this not to be the case. Their research not only opened new avenues, it challenged the very foundations on which mathematics was based, leading to totally new perspectives. Arguably, we face a similar situation today in relation to human rights. In the digital era, we need to redefine how we think about human rights based on new foundations. Fundamental rights to security, to privacy and human dignity, and to freedom of expression and information contain inherent conflicts and contradictions. It is not simply a matter of 'balancing' one right against another, but rather of fundamentally rethinking human rights to fit our situation.

Unwrapping these issues further, it is clear that there is no such thing as 'total security'. We should abandon the binary logic which says we are either secure or not. Rather we should think more in terms of a continuum and thresholds, with appropriate checks and balances.

Privacy, too, is an evolving concept. The notion of privacy is deeply rooted in social, historical and cultural factors and behaviours which are themselves changing. Through digital technologies, increasingly we see an overlap between private and public spaces and selves. What does privacy mean in a society characterised by massive data sharing? The idea that 'we have nothing to fear if we have nothing to hide' must be refuted. Society must allow people to do things in secret and in a private way if it is to function harmoniously. Privacy is contextual and directional: for example, we expect and adopt different levels of privacy with our doctor than with our family.

### ***Algorithms as the cornerstone of digital technologies***

Several speakers drew attention to the power of algorithms in digital technologies and the ethical consequences. Algorithms underlie products and services that we use every day, from social media platforms and search engines, to software apps and databases, and social robots. In a sense, they perpetuate the decades' old process of reconceptualising ourselves as 'just machines', and hence feed the radical dehumanisation and disempowerment.

Scholars such as Andrew Feenberg have argued that technology, like capital and power, is a medium that steers human behaviour.<sup>2</sup> In the case of technology, the steering yields prescriptions, which in turn demand compliance. Facebook's algorithms, for example, choose which pictures and adverts users are shown when they login. Users are disadvantaged not just as a consequence of the algorithmic behaviour but as a direct intention: it is 'disempowerment by design'. This has enormous

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<sup>2</sup> Feenberg, A. (1996). Marcuse or Habermas: Two critiques of technology. *Inquiry*, 39(1), 45–70.

consequences as Facebook evolves from a social media network to a commercial platform funded primarily by advertising.

Algorithms are not the same as software code, which is (or can be) made visible and subject to intellectual property laws. Algorithms permeate methodologies and business models in a way that is becoming unfettered. There is a risk that we are unable to define the ownership of algorithms and hence lose the ability to attribute responsibility for them and the actions that result.<sup>3</sup>

### ***The ethics of platforms and ecosystems***

Our society is now imbued with ‘a culture of connectivity’.<sup>4</sup> Nearly all communication is mediated by technology, especially for the young. Social media is becoming ‘connective media’, where human connectedness is gradually being replaced by an automated connectivity. This puts those who operate the online platforms in an extremely powerful position.<sup>5</sup> They articulate themselves carefully to users, clients, advertisers and policy makers, making strategic claims for what they do and do not do, and how their place in society should be understood. In short, platforms are becoming curators of public discourse and values. Yet, the ethical implications of this change have received little attention.

The situation is equally uncertain for companies operating within a business ecosystem. The growth of outsourcing and cloud services means that a supplier’s ethics can be as impactful as a company’s own policies. The Dropbox cloud service, for example, runs on Amazon servers; but the terms of Dropbox’s contract with Amazon are not reflected in its own contract with customers and hence the chain lacks transparency for end-users.

### ***Benefits and costs***

Several speakers highlighted the issue of costs and benefits as critical to the debate. Markets do not work well when benefits and costs are separated. For example, we tend to scrimp on purchasing insurance because the costs are short term whereas the benefits, in terms of payouts, are long term (or may not accrue at all). Similarly, in social terms we over-share when the benefits come first and the costs come later.

Arguably this is the case with social media: the apparent benefits are immediate – interacting with one’s social circle – whereas the costs/disbenefit (e.g. intrusion of privacy, security infringements, monetisation of personal data) are deferred and remote. Habitual behaviour is not necessarily ethical behaviour and increasingly we are being encouraged to develop behaviours that could potentially cause us harm. Often users do not know what the costs are nor even understand that there are costs at all, and so are unable to make an informed choice. We need to consider how we reinforce and encourage ethical online habits.

### ***Ethical constraints on innovation***

Ethics is often seen as a barrier to innovation in digital technologies. Are ethical constraints on innovation needed or not? Opinions differed. The assumption that ethics and innovation contradict is not necessarily true. Rather we should think of ethics as an innovation challenge and encourage

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<sup>3</sup> In the UK, the Royal Society is addressing the role of algorithms as part of its investigation into the potential impacts and applications of machine learning. See <http://royalsociety.org/news/2015/11/machine-learning/>

<sup>4</sup> José van Dijck, 2013. *The Culture of Connectivity: A Critical History of Social Media*. Oxford University Press, 228.

<sup>5</sup> See, for example, ‘*Politics of Platforms*’, Tarleton Gillespie (2010).

technologists to come forward with solutions that reinforce ethical behaviours. Moreover, the issue is wider than just data: we have to consider aspects such as software and storage as well. Without an all-embracing ‘ethics of computation’, we will miss the scientific problem.

Also, we should be aware of the paradox between the local and the global. Today’s start-ups are mobile and work in an international setting. What are the implications of this from an ethical perspective?

### ***Ethics and the law***

US Chief Justice Earl Warren once remarked that: “In civilised life law floats in a sea of ethics”. In today’s digital society the relationship between ethics and the law is in sharp relief. Is ethics an alternative to the law? In what sense are the two complementary?

Ethics is soft but not weak: it provides a rationale that constrains laws and hence constrains markets and customers. Generally speaking, engineers are looking for ethics to provide a framework for what they can and cannot do. Ethics should come before regulation rather than being imposed after the event: for example by being used as a way of challenging what engineers have produced. One participant conceived “law as being the resolution of ethics”, meaning that our laws are an expression of the ethical choices we make. This, in turn, requires informed choice on the type of society we are trying to achieve.

Just as ethics depend on habits at the individual level, at the societal level they depend on institutions. We have to think about helping to create institutions that embody ethical practices. Today’s digital society and economy requires a reconceptualization of the ethical environment to suit the modern world.

## **4. Potential Solutions and Directions**

What is to be done? How are we to progress in this debate? What sort of world do we want to leave to our children? The second part of the Workshop considered potential solutions and ways forward.

### ***A contemporary virtue ethics as a perspective for digital ethics***

Although it has many critics, virtue ethics<sup>6</sup> provides a valuable frame of reference, not least because it is a global tradition. It emphasizes the importance of ‘having a project’ and of achieving contentment in life, as well as the importance of personal judgement. These aspects require on-going, lifelong cultivation by the individual and society. Arguably, put in a contemporary, modern setting, virtue ethics confronts head-on the problems of erosion and loss of core understanding of human beings as relational agents with attendant rights, and so counters the feeling of disempowerment. As such, it provides valuable perspectives for a new digital ethics.

### ***Re-imagining justice for the digital era***

Since the time of Kant, philosophers have argued that it is justice, rather than simply peace and liberty, that underlies our political system. Justice is the cornerstone of our democracy. But what does justice look like in a society and economy where virtually all interactions and transactions are mediated by technology? This is ‘the project’ that we need to develop for the next generation;

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<sup>6</sup> Virtue ethics is an approach to ethics that is person rather than action based. It looks at the virtue or moral character of the person carrying out an action, rather than at ethical duties and rules, or the consequences of particular actions.

nothing less than a reimagining of the concept of justice for the digital era. In doing so, we must avoid pre-conceived notions ('holy cows'), such as privacy that must be protected at all costs.

Inter- and multi-disciplinary approaches have an important part to play. Such approaches should reflect technological, social/ethical and legal perspectives. Technological approaches, such as privacy-by-design and privacy-enhancing technologies are valuable but have limitations. They tend to be targeted at the level of devices and services, whereas attention is also required for making whole systems more transparent and accountable, so as to create agency (see data traceability below). We should continue to draw on Europe's long tradition of constructive technology assessment,<sup>7</sup> based on dialogue between multiple stakeholders, so as to ensure that we talk *to* citizens and not *about* them. Nor should individual users/citizens be left to shoulder the responsibility alone. Some responsibility has to be shifted back to service providers themselves, so that they too share the burden.

### ***Data traceability and accountability***

Data traceability – enabling people to find out what information is available and how it is based – can also help users to feel more empowered. We need to restore data traceability in big data, by finding new ways to ensure data controllers are held accountable. Consent needs to be transferable and to travel with the data wherever possible. Data should only be able to be bought and used if its previous origin, purpose and consent mechanism are known.<sup>8</sup>

For traceability to work, we need new accountability mechanisms at corporate level and for the ethical dimension to be integrated into the work of data protection authorities (DPAs). All of this should be articulated in policies on data ethics for businesses and governments.

### ***Guidelines and codes of conduct***

Companies may be willing to start thinking about ethical data uses but need help and examples. Guidelines and codes of conduct can be useful in translating principles into day to day business practice. Examples include the video games industry and, more recently, initiatives by European cloud suppliers. Experience points to the need for buy-in from both industry and civil society.

At what stage should guidelines be introduced? Is it better to let companies experiment and then build guidelines based on those experiences? The evidence suggests not. Scientists and engineers are, by nature, utilitarian: they pursue the benefits of technology with little regard for the societal or ethical consequences. Having guidelines at an early stage provides a frame of reference for technologists to interact with stakeholders which the law does not provide. Thus, we need to think in terms of an iterative approach: experimental guidelines framing early interactions with stakeholders, which in turn lead to robust and practical guidelines as solutions come to market.

### ***Incentive structures***

Any political economy, indeed any society, 'runs' on the incentive structure embedded in its technological infrastructures and institutional arrangements. In a networked society this incentive structure changes the ways and means of influencing and exercising power, inducing specific behaviours and inhibiting others. This requires keen attention to flesh out these incentive structures

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<sup>7</sup> For example, the GDPR requires companies to adopt state of the art solutions, such as data protection by design which is partly based on constructive technology assessment.

<sup>8</sup> So-called 'data lineage'. See *Data Lineage: a Survey* by Robert Ikeda & Jennifer Widom, Stanford University 2009, [http://ilpubs.stanford.edu:8090/918/1/lin\\_final.pdf](http://ilpubs.stanford.edu:8090/918/1/lin_final.pdf)

and rearrange them if needed. Democracy, which itself entails a specific incentive structure, serves a key function here.

Markets are not ‘natural’ things, but created by private law which creates a specific incentive structure, based on aspects such as private property and freedom of contract. In the digital society, the move from ownership to use changes the underlying support for such basic structuring. Hence, we need to think what this means for markets, democracy, accountability, etc.

Clearly, in a market context we have to consider the incentive structures that motivate actors – both as individuals and businesses – to act in a certain way. Whether through technology or through legal constraints, we have to develop means that preclude predatory behaviour.

Legislation is one such instrument. The EU’s new General Data Protection Regulation will have global reach and the ability to impose large fines. If we attribute legal liability to an actor who is not accountable then that party will change their behaviour.

Volvo has recently claimed full responsibility for self-driving cars in autonomous mode. This could have significant implications for the insurance market, as car manufacturers may end up with better actuarial data than insurers. Manufacturers could find themselves insuring their own products in situations where algorithms and software code are not transparent and open to external audit.

### ***New system architectures***

The new digital ethics should not be confined to today’s solutions. It has to be robust enough to encompass also new and disruptive technologies and system architectures that are on the horizon. For example, Blockchain – the distributed architecture underlying the internet currency Bitcoin – is potentially applicable across a wide range of applications and could bring radically new approaches to privacy. The Internet of Things is growing at an exponential rate, while new developments with very different architectures, such as graphene, quantum computers and spintronics, signal that we are nearing the end of the silicon era.

### ***Beyond compliance***

Too often ethics is seen as being simply about compliance. Compliance means conforming to the rules, whether mandatory or voluntary, yet many organisations struggle to achieve even this. They adopt a compliance mentality and end up with meaningless checklists. More forward-thinking companies, such as Cisco, focus on people instead. Their philosophy is to help people understand *why* they should behave in a certain way, so as to instil a different mindset.

Too often compliance is linked with ideas of ownership that no longer fit the digital world. Today, privacy relates not just to data *about me* but also to data about people *like me*. In the age of big data, what matters is not just personal data but collective data – data about others. We can be the subject of actions based on data about us as part of a collective rather than as individuals. Hence, we need to think in terms of ‘collective privacy’: at present the law has huge difficulties coping with such concepts.

Focusing on the ethical dimension should help us to move beyond these compliance issues to a more rounded view of ethics in the digital world.

## **5. Conclusions**

The Workshop addressed the subject of digital ethics from various perspectives and participants shared a wide range of views and opinions.

It is clear that as digital technologies continue to reshape our world, they raise important questions that call for considered ethical responses. Increasingly, the digital world throws up issues that challenge our most fundamental conceptions of human rights, such as the right to security, to privacy and human dignity, and to freedom of expression and information. It is not simply a matter of needing to balance one right against another. Arguably, **the challenges are now so profound and wide-ranging that we need to radically rethink our approach to human rights for the digital age.**

Digital tools are becoming pervasive and ever more useful. At the same time, their **deployment brings a strong sense of disempowerment and loss of agency.** Algorithms, the unseen cogs that drive digital technologies, pose significant ethical challenges. Similarly, the increasing roles of networks and ecosystems in underpinning business models and value chains, and of online platforms as curators of public discourse and values raise important ethical questions. Can we design systems that empower users and restore human agency, and if so what does this mean in practical terms?

Whilst it is too early to think in terms of detailed prescriptions, the Workshop identified a number of potential solutions and directions that may be considered promising:

- **Think of ethics as an innovation challenge** and encourage technologists to come forward with solutions that reinforce ethical online habits and behaviours.
- **Promote inter- and multi-disciplinary approaches** and multi-stakeholder dialogue.
- **Promote measures to make systems more transparent and accountable.** For example, restoring data traceability by making consent transferable and enforcing new accountability mechanisms and policies at corporate levels.
- **Adopt an iterative approach to guidelines and codes of conduct,** so as to provide technologists with an ethical framework at an early stage in the development cycle.
- **Move beyond compliance issues** to a more rounded view of ethics in the digital world.
- **Try to make ethical approaches future-proof,** so that they are able to accommodate new and disruptive technologies and system architectures on the horizon.

As one participant noted, “ethics is soft but not weak”. By providing a rationale that constrains laws and hence constrains markets and customers, ethics is highly influential. We must seize the opportunity to reconceptualise ethics for today’s digital economy and society and create a new ethical environment for the 21<sup>st</sup> century.