Short outline paper

Law and Governance in the age of technology[1]

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Abstract

The presence of technology in law and governance debates is not new. With each technological development in warfare, for example, the political and academic debate often referred to the challenges and changes the technology posed to international governance. Debates on arms races and control over proliferation of weapons apart, this paper focuses its attention on technologies often associated with the "Information Age" – the Internet, biotechnology, information gathering systems etc. These technologies, it is argued in this paper following Fukuyama and Wagner and Mordini, are different from previous technological developments: they are de-centred, dispersed and disseminated and their control and use depends on individuals, civil society, commercial entities and to a lesser extent with governments. These differences in technology influence the relationship between technology and governance changing the traditional role of technology in the law and governance process. This paper tries to identify the role(s) of technology in current day governance. The paper recognises three possible roles: technology as subject of governance; technology as regulator in the governance process; and technology as an enabler in the law and governance process. In conclusion, the author argues that the three roles are often intertwined, involving multiple actors in using technology for 'better' governance.

Introduction

On 10th June 2011, a headline on the front page of a leading newspaper in the United Kingdom read "British bin cameras encourage students to recycle".[2] In summary, the article reported on how by installing cameras in the bins of student houses in Newcastle and linking the videos of the emptying of the bins to the students' Facebook page, the students ended up separating their waste and recycling more of their garbage. My first reaction to this story was 'Is this yet another Orwellian use of technology?', is this an invasion of students' right to private space/private life? Putting aside my focus on privacy for a minute, this short report also brings home the increasing presence of technology in law and governance. Deconstructing the report we can identify the following – an existence of a policy, perhaps also a law, favouring recycling and waste separation; social behaviour, mostly ignoring the policy or law but policy/law following in reaction to social pressure/peer pressure using technology (online social network services); technology – bin cameras and picture transmission technology. The interaction, dare I say the interdependence, of the multiple 'parties', come together in the governance of waste within society.

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[1] This is a work-in-progress. Kindly do not cite or use without the author's permission.
[2] http://www.independent.co.uk/life-style/british-bin-cameras-encourage-students-to-recycle-2295669.html

The presence of technology in governance in the governance debate is not new. With each technological development in warfare, for example, the political and academic debate often referred to the challenges and changes the technology posed to international governance. Debates on arms races and control over proliferation of weapons apart, this paper focuses its attention on technologies often associated with the "Information Age" – the Internet, biotechnology, information gathering systems etc. My choice is not only determined by the fact that these technologies are the most prevalent in the 21st century but also because of the 'features' that make these technologies different from the ones before them. I use here Fukuyama and Wagner's argument in their RAND report on "Information and Biological revolutions". What distinguishes information and biological technologies from other technologies is "that the individual is more in control of the use and application of these technologies than of many active and reactive machines, in which the systematic nature of the technology often requires collective action to be put into use." Furthermore, they argue "The fact that collective action is not required to use these technologies makes them particularly difficult to govern." And "the level of control that is in the hands of the individual makes social governance much more complex than for technologies that require collective action to build, use, or maintain."[3]

Or as Mordini eloquently put it *"IT and biological technologies are post-modern technologies, in the sense that they are de-centred, dispersed and disseminated, and their control and use are largely in the hands of the individuals, citizens' groups, and small enterprises. Namely, they are network technologies. In comparison with technologies that drove the industrial revolution - which were complex, based on collective action, social infrastructure, and technical know-how - IT and biotechnologies are lighter. The governance challenge is no longer democratic control over centralized systems— as it was in the 20th century, with such technologies as nuclear weaponry and energy, telecommunications, pharmaceuticals, medicine, and airlines—but governance over decentralised, distributed systems. The current political and legal infrastructures – shaped on "hard" technology - are inadequate for dealing with global changes in IT and biotechnology."* [4]

This is however, only one aspect of technology and governance. One which deals with the governance of technology itself. There are other connections between governance and technology, apart from the technology governance issues. Taking a multipartite approach to governance, involving *inter alia*, law, policy making, individual behaviour and technology, this paper attempts to trace the different roles of technology in law and governance.

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[3] Fukuyama, Francis and Caroline Wagner (2000) RAND report Information and Biological Revolutions: Global Governance Challenges – Summary of a Study Group. Available at
http://www.rand.org/content/dam/rand/pubs/monograph_reports/2007/MR1139.pdf
[4] Mordini, Emilio (2004) *Global Governance of the Technological Revolution* Available at
http://www.cssc.eu/public/Global.pdf

What is the role of technology in current law and governance?

A. Technology as subject of governance

The most evident technology and governance relationship is the governance of technology itself. If one were to take the Internet as an example, debates on Internet governance have led to, for example, to the World Summit for the Information Society where governments, civil society and commercial interests came together to discuss the control, direction, shape, and regulation of the technical structure known as the Internet and of certain kinds of activities.

There are three main 'oppositions' that characterise technology in the Information (technology) age: (1) global vs. local, (2) public vs. private, and, (3) use vs. misuse.

Global – Local: The opposition between global and local is key in new technologies. If we were to look at the Internet as an example, one can note this contraposition of a global network, allowing global access (or quasi-global access) to information, while at the same time it consists of many local realities and effects, empowering individuals and common interest groups.

Private – Public: Information technology and biotechnology seem to reduce public space, or more specifically, they lead to a blurring of the distinction between what is public and what is private. The bias is in favour of private, individual or community oriented spheres. This blurring is problematic from a regulation perspective, especially when one considers that many of our present regulation depends on the public/private distinction – certain behaviour in a public space may be considered illegal while the same behaviour in a private space perfectly legal. Private conduct may be seen as somewhat outside the scope of law. "In the Internet world, it is quite impossible to distinguish seriously between public and private spheres. The two spheres fade and overlap." Yet online participants seem to hold on to a concept of private space even when there is growing evidence that not only is the space not private but it is globally accessible. Behaviour on online social networks is a key example. Why do persons continue to share private events and thoughts with their community of five hundred friends? And other examples of this ilk.

Use – Misuse: The features that make these technologies 'useful' (global access of information, ease of sharing of information etc.) also make the effects of their abuse potentially greater than those of other technologies. The use of the Internet for criminal purposes, misuse of services, invasions on informational privacy are but small examples of the counter-side of the positive effects of the technology. ["This holds true also for risks entailed by biotechnology. The knowledge needed to weaponise a germ is essentially the same that is needed to understand how that germ causes disease and how to create an effective vaccine against it."[5]]

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[5] Mordini at pg590

With the increase of technology and increase of complexity of technology, the governance of technology has become increasing unwieldy.[6] Often there is not enough information, not about the technology itself – that is increasingly accessible, but about the risks and unknowns that it brings. Governance seems to depend not really on facts but on reasonable (or emotionally) disputed claims of unknowns, potential dangers and uncertainties about technology.

Governance of new technologies is complex. It requires the working together of governments, the private sector and civil society to develop a knowledge base, social cohesion and competitiveness at the same time.

[To be developed further]

B. Technology as regulator or 'Code is Law'

We are all aware that the architectural shape of a building determines how people move and use the building, how they congregate in and around it and so forth. Similarly the way roads are planned regulate the flow of traffic within them, if a roundabout is placed in the middle of the round, drivers are forced to slow down, if the road is wide and has multiple lanes drivers may think that they can drive faster than in narrow single lane roads etc. Technology (or technical designs) effects behaviour. Arguably the effect of technology on behaviour is similar to that of law, in particular when we have no choice but to follow the rules imposed by technology.

In the information age context, Reidenberg[7] calls regulation by technology, *lex informatica*. *Lex informative,* in summary, is a collection of rules controlling, *inter alia*, information flows, which are imposed by technology and not be classical systems of regulation. Lessig[8] uses a more emphatic way to point out to the regulatory effect of technology. He claims that 'code is law', arguing that the technical architecture, in his example, of the Internet is an instrument of social and political control. The design of the service, programme, biotechnology determines the way we use and behave online. One simple example here: the design of online social network services, e.g. Facebook – Facebook is designed in a way that 'pushes' users to share personal information that would otherwise not be shared, including the multiple obligatory questions in the registration process (this is the transparent part of disclosure of information), and the way the system registers and tracks each of our activities while using the service (this is less evident, we get a glimpse of this through the advertising and apps offered to us).

From a governance perspective, there are a number of observations to be made.

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[6] Gibbons J.H. and H.L. Gwin (1985) *Technology and Governance*, Technology in Society Vol 7, Issue 4 pp.333-352
[7] 1998 article
[8] Code is Law 1999

Private governance: The argument most found in literature is that *lex informatica* constitutes a form of private governance not only of the technology itself but also of the set of activities it seeks to control. While it is principally private groups who create the technical structures, the sources of the rules is not always private. There are at least two trends: 'rules' coming from commercial entities, or developed to meet the needs of commercial entities – as the Facebook example above reflects; 'rules' inspired by legislation – the concept of 'privacy-by-design' is a good example of this. Essentially 'privacy-by-design' means that privacy implications of a service are already taken into account as early as the design phase and designed to favour privacy options in the implementation and use of the service.[9] This concept is being pushed forward by Data Protection Authorities in several countries including all EU Member States, Canada and Israel. Using principles and rules already formulated in the wider privacy governance context, designers (and commercial entities using their services) are 'encourage' to integrate these rules within the technical set-up of the service. [This to some extent also implies a shift from post-ante to ex-ante regulation (at least in the privacy context).]

[To be developed further]

C. Technology as enabler in law and governance process
Tool in enforcement: together with social/individual behaviour: Returning to the scenario at the beginning of this outline – the cameras in student bins scenario – technology can be seen as an enabler of environmental policy goals. An 'enabler'', in most definitions, is a person who through his or her actions allows someone else to achieve something. To some extent the same can be seen in the camera bins example – the use of the cameras together with the posting of the videos online, assists in achieving a goal in environmental policy – refuse/garbage separation.

Together with other social behavioural traits – competition between students, peer-pressure, fear of fall-out etc., technology enables the enforcement (or reach) of the governance goal.

Tool in re-evaluation of governance: together with social groups/civil society and policy makers: The same scenario has potentially another governance aspect – in redefining or in the development of governance goals in a particular sector, technology as a tool in enforcement, or identifier of behavior, or as part of the regulation process, can be considered a 'party' in multipartite governance. [To be developed further]

Tool in governance: together with legislation and policies: especially if technology is considered another form of regulation. [To be developed further]

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[9] The Dutch Data Protection authority gives this definition "The concept of 'Privacy by Design' means that privacy-sensitive elements are already taken into account as early as the design phase and that sufficient privacy guarantees are implemented to properly protect and secure personal data." http://www.dutchdpa.nl/Pages/en_pb_20100420_privacy_by_design.aspx See also Privacy by Design: 7 foundational principles http://www.ipc.on.ca/images/resources/7foundationalprinciples.pdf

Technology 'forces' rethinking of governance: [To be developed further]

The term enabler is also part of the larger definition of codependency. [To be developed further]

Provisional Conclusions [To be developed further]
The three roles (or facets) are interlinked.

In each multiple 'actors' participate.

Deconstructing technology and relations can lead to 'better' governance (including openness, accountability)