

Collisions in the Digital Paradigm

Law and Rule-making in the Internet Age

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Introduction

Shane Greenstein suggests that Internet Exceptionalism provided an alternative basis for determining value for investors in new technologies during the ‘Dot Com’ bubble of the late 1990s. There were two approaches. The first was that the technology was central and economic factors had a secondary impact. The second was that the Internet had its own set of economic rules that had little in common with earlier historical models. Whichever point of view was attractive, Internet Exceptionalism foresaw the replacement of existing non-Internet related activities with new entrepreneurial activities. There was a presumption that revenue would appear as activities moved into the realm of the new and improved Internet-based economy.¹

Greenstein characterises Internet Exceptionalism as a myth or an ideology that overly stresses the unique features of the technology in commercial events. Proper economic analysis is relegated to a secondary status and insufficiently emphasises or overlooks the influence of markets in fostering or discouraging innovation. Greenstein makes no bones about his position. He considers Internet Exceptionalism to be ‘just plain wrong.’²

This book argues a different form of exceptionalism. While Greenstein speaks from the position of an economist, I look at the phenomenon of the Internet and underlying digital technologies from the perspective of a lawyer. I am not dismissive of the difference between earlier technologies and those of the digital revolution. In this book I argue, however, that many of our rules and laws are based upon a pre-existing technology. I argue that in some cases the technologies of the Digital Paradigm are so different from those preceding that the validity of those rules in the context of the new technologies must be re-examined. In some cases there are collisions—where the old rule and the new are in conflict. In other cases there are paradoxes—where new digital technologies present perverse or confusing outcomes. But I am not arguing that there should be special laws for the Internet or for digital technologies. I am suggesting that when we examine the validity or applicability of some of our rules, especially those based on pre-digital technologies, we should pay careful attention to the particular qualities of technologies, especially in the cross-over from the pre-digital to the digital paradigm.

¹ Shane Greenstein, *How the Internet Went Commercial—Innovation, Privatization and the Birth of a New Network* (Princeton, Princeton University Press, 2015) 7–8 and 342–43.

² *ibid.*, 8.

When lawyers consider the communication of information they tend to consider primarily the content of the communication—what is being communicated. It is not often that they will consider the ‘how’ of communication. There may be the odd exception such as whether or not a contract for the sale and purchase of land was in writing but predominantly lawyers’ arguments will be about the interpretation of what is written. The technology of communication rarely features unless the dispute is about a patent or has a focus upon similar or dissimilar designs. This book suggests that although in many transactions the content of communication will be important, when one is considering the foundation and basis for a rule about communication one needs to look below the surface, below the content layer and consider the attributes of the technology—how it operates, what it does, what its particular qualities are—and in this consideration what I consider to be paradigmatical differences between digital and pre-digital technologies become apparent.

In chapter two I consider the analytical framework for the examination of the differences between digital and pre-digital rules based upon the qualities of different technologies. The discussion commences with an overview of an analytical framework developed by the historian Elizabeth Eisenstein in her seminal work *The Printing Press as an Agent of Change*.³ In that work Eisenstein identified a number of qualities present in print technology that differentiated the communication of information in print from that communicated in manuscript. These qualities were not the obvious ones of machine based creation of content but focused upon the way in which printed material was going to and did impact upon the intellectual activities of educated elites in early-modern Europe. These qualities were beneath the content layer; not immediately apparent but vital in considering the way in which readers dealt with and related to information and ultimately had an impact upon their expectations of information and how, in turn, they themselves used print to communicate.

It is also important to realise that many of the writings of the Canadian media specialist Marshall McLuhan have become particularly relevant in a consideration of the communication of information within both what may be called the ‘print paradigm’ and the ‘digital paradigm’. McLuhan’s famous albeit opaque aphorism ‘the medium is the message’ tells us that we must look beyond the content layer in examining the impact that a new communications technology may have. Using McLuhan’s suggestion and developing the way in which Eisenstein identified her underlying qualities of print technology, I move to consider the qualities of digital communications technologies.

I identify 13 different qualities,⁴ some of which overlap and some of which are complementary. However, rather than merely identify these qualities I have

³ Elizabeth Eisenstein, *The Printing Press as an Agent of Change* (Cambridge University Press, Cambridge, 1979) 2 Vols. Reference will be made to the 1 volume 1980 edition; Elizabeth Eisenstein, *The Printing Revolution in Early Modern Europe* (Cambridge, Cambridge University Press (Canto), 1993).

⁴ Eisenstein identified six for print.

developed a form of taxonomy or classes of qualities which are occupied by specific exemplars. For example, I have identified what I call environmental qualities. They arise from the context within which digital technologies develop and are descriptive of the nature of change within that context, and some of the underlying factors which drive that change. Because digital technologies primarily involve the development of software tools which operate on relatively standard computing equipment, the capital investment in hardware and manufacturing infrastructure is not present in the development of digital tools, although it certainly is in the development of the hardware that those tools require. Thus the development of digital software can take place in any one of a number of informal locations where the only requirements are a power supply, a computer and a programmer or programmers. This lack of infrastructural requirements enables the development of software tools which can be deployed via the non-regulated environment of the Internet giving rise to the qualities of permissionless innovation and continuing disruptive change which are discussed in detail.

A second set of qualities I have identified as technical qualities. These are so classified because they underlie some of the technical aspects of the new digital technologies. Some of these qualities are present in a different form in the print paradigm. Eisenstein identified dissemination of content as a quality of print that was not present within the scribal paradigm. I have identified exponential dissemination as an example of a technical quality—the way in which the technology enables not only the spread of content as was enabled by print, but dissemination at a significantly accelerated rate with a greater reach than was enabled by physical dissemination.

Another of the qualities that I identify as a technical one is that of information persistence, summed up in the phrase ‘the document that does not die’. Once information has been released on to Internet platforms the author or original disseminator loses control of that content. Given the fact that as digital information travels through a multitude of servers, copies are made en route meaning that the information is potentially retrievable even although it may have been removed from its original source.

Other examples of ‘technical qualities’ include the way in which linear progress through information is challenged by navigation via hypertext link in what I call the delinearisation of information; the dynamic nature of information and its malleability in digital format; the way in which seemingly limitless capacity allows for storage of a greater amount of information than was previously considered possible; the apparent non-coherence of digital information and the need for the intermediation of hardware and software to render it intelligible, and the problem of obsolescence of information caused by loss arising not from deterioration of the medium but as a result of the unwillingness of software companies to support earlier iterations of software which enabled the creation of an earlier and now inaccessible version of the content. All are aspects of technical qualities that underpin the content of digital information.

The third category of qualities are what I call user associated qualities—qualities that arise in the behaviour of users in response to digital information technologies. Among these user associated qualities is the searchability of digital information and its associated availability and retrievability arising from the development of ever more sophisticated search algorithms and platforms, and the ability of users to participate in the creation of and use of content as a result of the interactive nature of digital technologies, in particular social media.

All these qualities, cumulatively, have an impact upon our ‘relationship’ with and expectations of information and have an influence on behaviour. One form of behaviour is what may be called the online disinhibition effect which is discussed in detail. This inevitably leads to a consideration of the contentious issue of the effect that new technologies have upon the way that we think. It is suggested that the issue is not so much one of neuroplasticity advanced by Susan Greenfield⁵ or ‘dumbing down’ of attention spans as suggested by Nicholas Carr⁶ but a slightly more nuanced view of the way that the medium and the various delivery systems redefine the use of information which informs the decisions that we make.⁷

Paradigmatically different ways of information communication and acquisition are going to change the way in which we use and respond to information. And because the law and legal practice involves at all levels information exchange be it by way of client instructions, counsel’s opinion, a statement of claim or a judicial decision, this paradigmatic change in information communication is necessarily going to have an impact on law and legal processes.

So how does the law deal with paradigmatic change? Chapter three addresses part of this issue by considering the development of rules and principles within an earlier system of recorded information and provides some examples of how even written evidence was held up to question. The complex mix of oral and written material within the scribal culture gave way to the printing revolution and the development and acceptance of the printed word as authoritative. But there is a yawning gulf between the creation of the written word on a piece of paper be it by way of hand-writing or the mechanical means of the now obsolete typewriter and the creation of information by the use of digital technology. The discussion moves to consider the various ways by which this may be accomplished and the differing ‘states’ through which information must pass before it can be rendered on a screen or printed on paper.

⁵ Susan Greenfield, ‘Modern Technology is Changing the Way our Brains Work, Says Neuroscientist’ *Mail Online*, Science and Technology 15 May 2010, www.dailymail.co.uk/sciencetech/article-565207/Modern-technology-changing-way-brains-work-says-neuroscientist.html.

⁶ Nicholas Carr, *The Shallows: How the Internet is Changing the Way we Think, Read and Remember* (London, Atlantic Books, 2010); Nicholas Carr, ‘Is Google Making Us Stupid: What the Internet is Doing to our Brains’ *Atlantic* July/August 2008 Online edition www.theatlantic.com/magazine/archive/2008/07/is-google-making-us-stupid/306868/.

⁷ For a counter argument to that advanced by Greenfield and Carr see Aleks Krotoski, *Untangling the Web: What the Internet is doing to you* (London, Faber, 2013) especially at 35–36. For a deeper discussion see ch 2 under the heading ‘The Internet and How we Think’.

The reason for this discussion is that it defines the paradigmatic nature of the changes in information creation and delivery with which the law must deal and presents a challenge to two established analytical tools used by lawyers. The first area of examination is that of functional equivalence which originally arose as a way of dealing with equating digital equivalents of paper-based requirements for commercial transactions. The nature of functional equivalence and its development and use by UNCITRAL in the Model Law on Electronic Commerce is offered as an example. The argument is that functional equivalence is a very useful analytical tool when used properly and carefully, with due attention to how the function provided by the new technology is truly equivalent to the old. This involves a consideration not only of the product (or the content) but also of the way that it is achieved.

In that respect there is a discussion of the American case of *Universal City Studios v Reimerdes & Corley* where the nature of hypertext links were considered.⁸ This case provides an example of how the term ‘functional equivalence’ can be misused or misapplied. It is my argument that the Judge used the term as a convenient way to sheet liability home against the defendants where, on a strict analysis of the technology, that liability was doubtful if non-existent. To understand why, I discuss the nature of hypertext links and how they operate. Only after this examination can the various levels of functionality and the existence of equivalency be understood.

The second area of analysis involves a discussion about the use of analogy. Once again analogies must be used with considerable care in ensuring that the comparators—the source and the target—are alike. One of the problems for lawyers is that in the past they have put the medium (usually paper) to one side and concentrated on the message of the content in question. The discussion of analogies will look at the nature of the computer as a means of storage of information and the way in which cases have attempted to compare a computer with a filing cabinet. The context of the discussion will be within that of a search authorised by a warrant and the associated issues arising from the seizure of information beyond the scope of the warrant, irrelevant to the investigation or protected by privilege. The discussion will demonstrate how in fact the filing cabinet analogy collapses. Other problems involving analogies—at as high a level as the United States Supreme Court—will be discussed and considered.

This does not mean that reasoning by analogy should be abandoned nor is inapplicable in trying to achieve rule consistency between the pre-digital and digital paradigm. Rather the emphasis must be upon the proper and careful use of analogy and in ensuring that like and like are compared. The discussion on the issue of publication in the digital paradigm for the purposes of defamation will be considered in the light of a number of cases from Australia, Canada, England and New Zealand. The discussion will also demonstrate that in considering the issue of

⁸ 111 F Supp 2d 294—Dist Court, SD New York (2000).

publication, the different platforms deployed on the backbone that is the Internet differ markedly one from another. Thus publication via a Google search may be different from that on a blog. And the responsibility of the host of a Facebook page for comments posted by a third party may depend upon the level of control and the awareness of the host of the presence of third party content. Thus the 'how' of the arrival of the content becomes a matter of examination. But most importantly, the discussion will reveal that the reality of the technology, the way that it operates and its fundamental properties, must be considered and understood before we can come to determining the applicable rule. Analogy and functional equivalence are available, but as reasoning methods, must be deployed with care.

The fourth chapter deals with a discrete substantive issue. How does one control a distributed technology. What, if any, governance methods or models are applicable to the Internet? The issue of Internet Governance is one that is worth a book in itself and indeed a number have been written. This chapter looks at the issue from the perspective of some of the tensions that have arisen between what could be called traditional models of governance, usually involving nation states on the one hand and the way in which a world-wide communications technology distributed among a number of nation states may be otherwise regulated from a perspective that recognises it as a technological phenomenon.

The starting point for the discussion is an examination of the Internet Governance Forum, how it came to be and the tension that exists between that organisation and others in the global communications space. But where does the organisation and control of a technological phenomenon really lie? There can be no doubt that network engineers play an important role through organisations such as the Internet Society (ISOC), the Internet Engineering Task Force (IETF) and the Internet Corporation for Assigned Names and Number (ICANN). As a part of this discussion will be the vexed question of Net Neutrality—the argument that there should be no discrimination between the various types of Internet content. Data is data and should be treated alike irrespective of how it is disassembled and reassembled at the points of distribution and reception—an aspect of what is called the 'end-to-end' design of the Internet.

There have been a number of theorists who have written on the subject of Internet Governance and their contribution cannot be overlooked. Indeed within the various theories of Internet Governance there are collisions, differences and contentious issues. A discussion of Internet Governance would not be complete without a brief consideration of the views of these theorists. But underlying some of these theories is the issue of Internet Exceptionalism to which I have already made reference. Is there a case for Internet-specific rules and is there a case for an international specific governance model that recognises the unique character of the new technology? Or is the current 'hands-off' approach favoured by Western democracies to prevail over the more regulated approach favoured by nations such as Brazil, Russia, China and India? The reality is that the Internet challenges existing models of governance and control. The qualities of digital technologies such

as permissionless innovation and the associated aspect of continued disruptive change demonstrate that the Internet is a moving target, difficult to control and constantly changing.

The nature of 'digital property' presents a real collision in the digital paradigm. One would have thought that most of the problems in this area would have been solved by the principles underlying the rules about intellectual property. But it must be remembered that the whole concept of intellectual property in general and copyright in particular was technology specific. The Statute of Anne 1710 that created the author's right to control the copying of his or her created content applied only to control of printing and not manuscript copying. Although the continuing development of copyright law has been in response primarily to the introduction of new communications technologies, copyright is a statutorily created special property right with a number of limited exceptions that would allow for the fair and reasonable use of the author's material.

But chapter five is not about copyright, but about whether or not there is a property right in a digital file or files. This is an important issue as more and more businesses migrate their information from paper-based records to digital storage either in office based servers, remote locations or the Cloud. Intertwined with the issue of a digital file is the issue of what property right there may be in pure information. The discussion starts with a consideration of this issue and a consideration of some of the commentary and cases that have surrounded this issue.

There are essentially two approaches. One is that of Courts in the British Commonwealth which, by and large, have subscribed to an orthodox view that there is no property in pure information. That orthodox approach has been recently rejected by the New Zealand Supreme Court which has held that computer files may be property for the purposes of a specific statutory provision, but that decision, apart from being technologically incorrect, serves only to muddy the waters around the issue. In New Zealand for the moment, with the exception of the Supreme Court holding, the orthodox view prevails. In contrast an entirely different theory underlies aspects of property in information and in computer files as distinct from any intellectual property considerations. This theory is based upon the theory that there should be an element of property underlying something that is of value to someone. The American position is illustrated by a number of cases dealing with the concept of cyberproperty and the reduction in functionality as a result of some form of intrusive interference with a computer system.

But the discussion does not end there. The digital paradigm has enabled the acquisition of what may be termed 'virtual property'—items that have been 'obtained' or are associated with online activities such as games or social media virtual worlds. There is no doubt that these items have a value for they are traded between players often for value with payment by way of Bitcoin which may be exchanged for hard currency or by other forms of currency trading. The issue of 'virtual property' acquires a sharper focus in the case of the disposal of 'digital assets' such as social media accounts, the contents of file lockers along with access

to Cloud and other storage facilities.⁹ These challenge existing concepts of property, are being addressed by those practising in the cyberlaw field and provide further examples of collisions in the digital paradigm.

Chapter six demonstrates a possible future for law. I describe the way in which pre-digital technologies have enabled the achievement of the conditions necessary for the development of *stare decisis* and the doctrine of precedent. Those conditions have developed primarily as a result of the underlying properties of printed information. The chapter then goes on to consider how digital information systems challenge the technological underpinnings that have made the doctrine of precedent possible, and advances an alternative future for precedent.

To be sure there is a place for precedent in the Anglo-American common law system, but the approach to precedent in the digital paradigm will be one which is quite different and will focus upon criteria other than the issue/principle approach that has characterised precedent until recently. The chapter suggests that this model of precedent is looking towards a twilight, and a new dawn of precedent based legal analysis possibly employing artificial intelligence and data analytics is coming.

Chapters seven and eight deal broadly with evidence in the digital paradigm and the use of digital technologies in court. Chapter seven specifically addresses the issue of e-discovery or e-disclosure as it is known in England. E-discovery is a child of the digital paradigm and arises as a result of information being retained in digital storage devices rather than in a paper file. The qualities of digital information, in particular its replication and dissemination, mean that the volume of information that has to be examined has exponentially increased and is often located over a number of digital devices that form part of an organisation's communications network such as desktop computers, on-site servers, Cloud storage devices and portable devices such as smartphones, laptops, tablets and USB sticks.

The collision that this increased volume of information presents with the pre-digital paradigm is that the rules relating to discovery were developed in the 'paper paradigm'. Even then the wide line of inquiry that was allowed by the *Peruvian Guano*¹⁰ test could present its own problems where the paper trails were considerable. In some jurisdictions the *Peruvian Guano* test still applies. In others, such as New Zealand, it has been abandoned and has been replaced with a 'relevance to issue' test. The problems that have been created by the digital paradigm are capable of solution using software search and analytical tools that progressively reduce volume and increase relevance. Some of these tools are quite mundane, such as keyword searching. Others are highly sophisticated, such as predictive coding or Technology Assisted Review (TAR). The utility and applicability of these tools is still under consideration by the Courts, but given some important principles that underpin e-discovery, such as the duty of counsel to confer and consult (and if

⁹ See 'What You Need to Know About Death and the Internet' *InternetNZ* July 2016 https://internetnz.nz/sites/default/files/submissions/Death_and_the_Internet_resource.pdf.

¹⁰ *Compagnie Financière et Commerciale du Pacifique v Peruvian Guano Co* (1882) 11 QBD 55.

possible agree) on e-discovery solutions, and the principle that the scope of discovery should be reasonable and proportionate to the matters in dispute and the quantum of the claim, a relatively robust judicial approach has developed to the use of software discovery tools, especially in the United States and more recently in England.

Chapter seven will trace the development of e-discovery rules and consider particularly the influence of an organisation known as the Sedona Conference on that development. The focus will then shift to a consideration of some of the common themes that underpin e-discovery rules and the way in which these themes have been realised in common law jurisdictions such as Australia, Singapore, Hong Kong and New Zealand. The discussion will then shift to a consideration of the way in which the various rules deal with technological solutions and conclude with a discussion on the issue of predicative coding and technology assisted review (TAR) as opposed to keyword searching and the issues surrounding that methodology.

The issue of e-discovery is an interesting one within a greater consideration of how the law responds to a new technology. Technology in and of itself has not been the prime motivator for change. Rather, change has been driven by a recognition that the phenomenal increase in the costs of litigation arising as a result of paper-based rules for a digital phenomenon could not be sustained and exposed deeper issues such as access to justice and the viability and integrity of the court system as a place for the resolution of legal disputes. It is most interesting to note that the change in approach to discovery and the development of e-discovery has been driven by the courts and by those responsible for the rules of procedure rather than through legislative change. It was a problem for the courts and the courts have taken steps to address this particular collision arising from the digital paradigm.

The way in which technology can be deployed in the court environment, or indeed the way in which technology can be the court itself is considered in chapter 8. The major premise behind chapter 8 is that the court process, as is the practice of law itself, is an exercise in information exchange and processing with the objective being a decision informed by evidence and information communicated via argument.

One of the problems about trials and particularly criminal trials has been the requirement of the physical presence of the participants and the first issue that is addressed is the nature of the confrontation right and whether in fact this requires physical presence or whether the elements that underpin confrontation can be met by the use of technology. The arguments favouring the 'physical presence' model such as openness of proceedings, the underlying requirements of the adversarial trial, the suggestion that presence discourages falsehood and the associated fiction that demeanour provides vital signals for truth-telling are considered. Other arguments such as the weight of history and other symbolic elements that underpin the adversarial trial are addressed. The reality is that the citizens of the twenty-first century, growing up with technology and unencumbered by the 'presence

paradigm' as an aspect of communication will view the 'physical presence' model as a quaint archaism with a corresponding loss of confidence in the justice system.

One aspect of the 'physical presence' oral evidence model is that it relies to a considerable extent upon memory. It is well known, and has been for centuries, that memory is unreliable, and forms a poor basis for the proper evaluation of facts. Furthermore, recent research has shown that memory can reinterpret information to the point that what is recalled is not objective fact, but a very subjective reconstruction of events that bears little resemblance to reality.¹¹ There are other problems that are present within the 'physical presence' orality model that are associated with the ability to articulate, aspects of intellectual ability, problems with language and translation and the threatening and intimidating environment of the courtroom itself. It is suggested that technology may well provide answers to these issues that will result in potentially a much more reliable recounting of information.

I shall also discuss some examples of new presentational technologies that are becoming available. Although lifelike 3D holograms are not yet with us, 3D rendering is available and is already being used in certain circumstances such as crime scene walkthroughs. This part of the chapter will explore other opportunities for the use of 3D technology and also the creation of evidential items by way of 3D printing. Other possibilities such as the use of electronic bundles of documents, closed circuit TV and surveillance systems along with issues surrounding facial recognition software will be considered.

The chapter closes with a discussion of the 'technology as the court' and considers some of the issues arising from the proposals of Professor Richard Susskind for an online court. Current calls for a more affordable justice system have driven an alternative model for court hearings but this involves an innovative and transformative use of technology. The online court proposals are not simply the use of technology to imitate the 'physical presence' model by deploying tele- or video-conferencing but to use technology to shift the emphasis of the process away from a Court hearing and towards an early resolution of the dispute.

The development of technologies is not going to stop. In some respects chapter 8 provides a snapshot of the way in which available technologies may be deployed to achieve the result of better informed decision making. Other possibilities such as a crowd-sourced jury, the use of blockchain to ensure process integrity and a collaborative reimagining of the court system may well be available in the future. The chapter suggests that there are significant future possibilities offered by the Digital Paradigm that will be disruptive, transformative and innovative. It is a path we are still travelling.

Chapters nine, 10 and 11 have a common theme running through them and it is that of social media and the challenges that collaborative, sharing and distributed technologies bring to the Court system, and the way in which social media content

¹¹ See Julia Shaw, *The Memory Illusion* (London, Penguin, 2016).

may be mis-interpreted resulting in potential criminal liability for ‘off-the-cuff’ comments. There are challenges posed by social media especially to reputation and to concepts of privacy, giving rise to the theory of the ‘right to be forgotten’ or ‘the right to be deindexed’.

In chapter nine I examine the nature of social media and suggest a possible taxonomy, although it must be recognised that social media platforms rise and fall in popularity. In that respect it is probably unwise to single out any particular platform as representative. Rather I have attempted to classify the various platforms in terms of the services that they offer and common characteristics that they have. One common feature to all social media platforms is the emphasis on sharing information. Indeed that element underpins all social media activity and the nature of the relationships created on social media platforms depends very much upon the nature of the information and the extent to which it is shared. Some social media platforms have a primary focus of sharing photographs like Instagram or Pinterest. Others, like Facebook, allow the sharing of wide variety of information types.

Social media are having an impact upon the courts. Many courts are adopting social media platforms as a means of communication with court users. The ability to ‘live stream’ court proceedings has been adopted in some jurisdictions¹² and lawyers and law firms use social media for promotional purposes—a practice that is not without risk and concerning which professional organisations have suggested caution.

Social media use within the courtroom poses some unique problems especially when that involves the use of social media by jurors during the course of a trial. The phenomenon of what I term the ‘Googling Juror’ is considered along with the steps that courts can take to reduce the risk of juror contamination and the strategies that may be adopted where social media use may have an impact upon fair trial processes. In this respect it is suggested that a nuanced approach be taken, going beyond the fact of communication and considering the nature of the communication and whether it involved the passage of potentially prejudicial information into the jury room, or the communication of an opinion or point of view from the jury room to the ‘outside world’.

There are also circumstances where the use of social media may fall within the realm of prohibited conduct and two cases are considered which provide examples of the care with which prosecuting authorities should approach potentially harmful messages, taking into account nuance and context but recognising that often simple text is deprived of inflection and tone. The two cases are examples of how easy it is to ‘get it wrong’ and for prosecuting authorities to convey the impression that they are unaware of the subtleties of new communications technologies.

¹² A very recent example is a decision approving the live streaming of an appeal against an extradition decision—the first live streaming of a case in New Zealand. The application to live stream was opposed. See *Ortmann, Dotcom and Others v United States of America* [2016] NZHC 2043 www.nzlii.org/nz/cases/NZHC/2016/2043.html.

The quality of ‘information persistence’ presents some very real challenges to privacy expectations in the Digital Paradigm. Mark Zuckerberg, the developer of Facebook, suggested that privacy was no longer a social norm,¹³ but he is not the only person to do so. Scott McNealy, chief executive of Sun Microsystems suggested that ‘You have zero privacy anyway ... get over it’ as far back as 1999¹⁴ and Eric Schmidt, Chairman of Google suggested ‘If you have something that you don’t want anyone to know, maybe you shouldn’t be doing it in the first place’¹⁵ as an answer to privacy concerns.

This chapter focuses upon the collision that occurs between the nature of information persistence and the searchability and retrievability of information on the one hand and the concept of privacy on the other. It will consider the development of privacy theory against the background of technological developments as well as the tension that exists between the state and individuals and the acquisition of data by the state in the new Paradigm. I then move on to consider the classification of privacy by developing different classes or expectations of privacy and consider the effect of what is known as partial and practical obscurity, which are terms that describe some of the difficulties attendant upon the recovery of information in the pre-digital paradigm, and how these are challenged by Digital Systems.

I then pass to consider the particular issues surrounding privacy expectations and the Internet, especially within the context of social media platforms, the development of relationships by using social media and the way in which social networking sites present their own challenges to privacy, drawing upon observations about Facebook by James Grimmelmann. I give consideration to what it is about social networking that seems to drive people to disclosure of matters that would normally be expected to remain within the ‘private sphere’ and make some observations about the impact of social networking and the future of privacy.

The second major theme of the chapter deals with the impact of search engines upon privacy against the backdrop of the qualities of information persistence and the searchability and retrievability of that information. Viktor Mayer-Schönberger in his book *Delete: The Virtue of Forgetting in the Digital Age*¹⁶ challenges some of the technical realities of the Digital Paradigm, arguing that forgetting is as important a part of the human condition as is remembering and that a power imbalance has developed whereby those who seek information about another are empowered to do so, and the individual about whom information is sought is unable to control this process. Furthermore, the nature of memory and forgetfulness itself are vital qualities, allowing us to generalise rather than focus upon the detail of past events.

¹³ Bobbie Johnson, ‘Privacy no longer a social norm, says Facebook founder’ *The Guardian* 11 January 2010 www.theguardian.com/technology/2010/jan/11/facebook-privacy.

¹⁴ Polly Sprenger, ‘Sun on Privacy: Get Over It’ *Wired* 26 January 1999 <http://archive.wired.com/politics/law/news/1999/01/17538>.

¹⁵ ‘Google CEO on Privacy’ *The Huffington Post* 18 March 2010 www.huffingtonpost.com/2009/12/07/google-ceo-on-privacy-if_n_383105.html.

¹⁶ Viktor Mayer-Schönberger, *Delete: The Virtue of Forgetting in the Digital Age* (Princeton, Princeton University Press, 2011).

Whilst digital systems mean that information preservation is the norm, Mayer-Schönberger suggests that there should be a digital equivalent to human forgetting based on information privacy principles and the use of technology to imitate forgetting by placing a ‘use by’ or expiry date upon digital data. This is a controversial argument and one which I challenge. I suggest that it is a misconception to characterise information as ‘memory’. In addition, although information persistence is a characteristic of digital systems it must not be forgotten that they are not just about memory but about communication. Then there is the problem of truth. Should digital forgetting suppress the truth? This leads in to a discussion about the development of the so called right to be forgotten which, within the context of the decision in *Google Spain SL, Google Inc v Agencia Española de Protección de Datos (AEPD), Mario Costeja González*,¹⁷ did not go so far as actually deleting truthful information but rather offered the solution of de-indexing whereby a particular search would exclude certain information.

The *Google Spain* case dealt with true information, but information that was no longer relevant to the realities of the life changes that had taken place in the life of Mr Gonzales, the complainant in the case. The decision was set against a backdrop of European Union data storage rules and must be viewed in that light, but the concept of relevance of old truths to changed circumstances is an interesting one within the context of a discussion about privacy.

As an alternative to Mayer-Schönberger’s right to delete or *Google Spain*’s right to be de-indexed, a further possibility is advanced that recognises the importance of truth and the technical realities of ‘the document that does not die’ but allows an individual to reassert control over the area of personal identity. Could the solution lie in a right to update or a right to reply? This chapter offers that as a possibility.

But the real issue is whether or not there is to be a restraint upon technology and its use and effectiveness by the stifling of or restrictions upon the ability to locate information from the resources of storage platforms and servers that are connected to the Internet. Or will privacy theory stifle the extent to which information which is available in the future—information which is true and which has been available in the past?

The final substantive chapter deals with reputational harms and continues some of the themes of social media and information searchability via Google within the context firstly of defamation and how the Digital Paradigm poses certain challenges for established defamation theory on the one hand, and how other associated harms that are caused by online activity are addressed by legislation of remedies that are examples of Internet Exceptionalism on the other, but which also have, as a possibly unintended consequence, the ability to provide more immediate relief for reputational harms than an expensive action in defamation.

¹⁷ *Google Spain SL, Google Inc. v Agencia Española de Protección de Datos (AEPD), Mario Costeja González* (2014) European Court of Justice C-131/12 <http://curia.europa.eu/juris/liste.jsf?num=C-131/12&language=EN>.

I argue that the term ‘Internet defamation’ as a class of defamation publication is inaccurate and wrong. I argue that the term ‘Internet Platform defamation’ is a much more accurate term. The reason for that is that different platforms operate in different ways and use of variety of means to make content available. I suggest that this is another demonstration of the need for a careful consideration of the particular technology or platform at issue to be considered, which has already been discussed in chapter 3 and the nature of publication on Facebook and which is further developed in this chapter in a consideration of the differing and conflicting approaches to defamation on Google platforms.

Can a search result be defamatory? What position do hypertext links occupy as ‘publishers’ of potentially defamatory content? Can a return of information located by algorithm amount to publication? I discuss what I call ‘The Google Cases’ as examples of the importance of understanding the technology and the fact that the divergent approaches on the part of the courts in various jurisdictions arise from a misunderstanding of the fact that rules which developed in a different form of distributive paradigm need not necessarily apply, even *mutatis mutandis* in a new one. I close this discussion with some observations on whether there is a place for a ‘strict liability’ tort like defamation in the Internet age, especially in light of the necessity to prove ‘serious harm’ under recent changes to English legislation.

But remedies for reputational harms are not restricted to defamation actions. If Senor Gonzales had been in England, defamation would have provided no remedy for the publication of an article in an online version of a newspaper, because truth is a defence. The *Google Spain* decision relied more on the current relevance of past truthful information in concluding whether or not Senor Gonzales was entitled to a remedy. The decision to de-index had the result of obscuring the information from access and view.

Other sorts of reputational harms can arise within the context of failed relationships or unwanted attention where social media platforms are deployed to annoy, harass and develop an online persona for an individual that is incorrect. The use of remedies for harassment and revenge porn are two specific examples of what may be available and I then pass to consider legislation recently introduced in New Zealand—the Harmful Digital Communications Act 2015—designed to address cyberbullying but with the potential to be used to address reputational harms and have content removed from Internet platforms—an example of Mayer-Schönberger’s right to delete rather than Senor Gonzales’ right to be merely de-indexed. Similar legislation that is clearly an example of Internet Exceptionalism has been enacted in Australia.

The online environment also presents an opportunity for ‘self-help’ when faced with reputational harms and there are opportunities for individuals to use technology to deal with a problem raised by the technology. I discuss this as another option that the new paradigm presents although it must be acknowledged that often remedies that are available from third party providers are expensive. And as far as traditional remedies are concerned, the story is a continuing one.

This is a book that provides examples of paradoxes and collisions that arise within the law when confronted with a new and paradigmatically different set of technologies. In some cases the established institutions, especially the courts, have stepped up to the challenge and tried to resolve the problem. In some cases these have been successful—the development of e-discovery protocols is one outstanding example. In other cases, confusion reigns and this is demonstrated by the approaches of English and Commonwealth Courts to the issue of Google platform defamation.

There are some issues that may never be satisfactorily resolved. My view is that some homogeneous form of Internet Governance is one of them. The very concept of a distributed network that was developed by a community of benevolent engineers responsible to the concepts of engineering efficiency and the public interest rather than to a political creed presents an immediate challenge to an establishment which, however democratic, relies on centralised systems.

These, and the resolution or perpetuation of some of the other collisions described and exemplified in the following chapters will be collected and discussed in the conclusion wherein some suggestions for future direction will be made.