

LAW AND THE DIGITAL WORLD

Cour de Cassation seminar: being a Supreme Court Justice in 2030

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Date: 16 April 2021

INTRODUCTION

1. I am pleased that we have been able to hold this seminar today, even if we have had to do it through virtual means. It is valuable for supreme court judges from different jurisdictions to meet and share ideas on topics that are on the horizon. I will focus on the relationship between law and the digital world. This is one of the key topics with which judges and lawyers will have to grapple over the coming decade. How should legal doctrine adapt to digitalisation and what role do judges play in this? In particular, I will discuss (i) the impact of global technologies on legal regimes and concepts; (ii) smart contracts; and (iii) contracts made by algorithms.
2. Obviously this topic is vast. I want to use my 15 minutes to direct attention to this dimension of the legal world which Supreme Courts will increasingly have to deal with. It is something we should all be aware of. I will address some of the questions posed for this seminar in the context of this discussion.

1. GLOBAL TECHNOLOGIES

3. One of the fundamental distinctions between law and technology is geographical impact. Put simply, legal regimes are national whilst technologies are increasingly global. The tensions and contradictions between legal and political systems that are limited by territory, and the inherently global (and often privatised) nature of emerging technologies, are well-recognised and have been the subject of much academic commentary in recent years.¹
4. The UK Supreme Court recently engaged with some of these tensions in a judgment of 2020 in the case of *Unwired Planet International v Huawei*.² The appeal concerned potential infringements of patents relevant to the international telecommunications market. These patents were claimed to be Standard Essential Patents for the operation of mobile phones. I will call them “SEPs”. The SEPs are patents relating to technology which must be used in order to achieve inter-operability and compatibility of mobile phone systems. Compatibility of operation is secured by compliance with international standards set by certain

organisations, in this case the European Telecommunications Standards Institute, or “ETSI”. In other words, it is not possible to make, sell, use or operate mobile phones and other equipment which is compliant with these international standards without infringing the SEPs. It follows that there is a risk that owners of SEPs could disrupt the international telecommunications market by refusing to license their technology or by charging excessively high royalties for their use. ETSI therefore requires its members to declare any such patents which might be used in a telecommunications industry standard. Under the ETSI regime, in return for including an SEP in its standards ETSI requires the SEP owner to give an irrevocable undertaking to license the patented technology on terms that are “fair, reasonable and non-discriminatory”, or as it is called, “FRAND”. The irrevocable undertaking is governed by French law.

5. In this case, it was Huawei which wished to make use of patented technology covered by a portfolio of SEPs owned by Unwired Planet. But it could easily have been another mobile phone company which wanted Huawei to give it a licence to use Huawei’s portfolio of SEPs. Portfolios of SEPs typically include patents in many jurisdictions for the same technology. The reality of the international telecommunications market is that operators hold portfolios of hundreds or thousands of patents, and it is not feasible to test the validity and infringement of all of the patents. The practical solution is for a portfolio to be licensed, rather than dealing with licensing patent by patent on an individual basis. The licence fee includes a discount to allow for the fact that a proportion of the patents in a portfolio would be likely to turn out to be invalid if they were subjected to rigorous testing in court. This portfolio-based approach to licensing is standard practice in the mobile telecommunications industry.
6. The UK Supreme Court was asked to consider whether English courts have jurisdiction to determine the terms of a global FRAND licence of a multi-national patent portfolio. So, for example, could an English court determine the FRAND terms applicable to a portfolio which might predominantly be made up of Chinese patents? The general position is that jurisdiction in relation to enforcement of patents is national. Simplifying a bit, questions concerning the validity and infringement of a patent are within the exclusive jurisdiction of the courts of the state which has granted the patent. However, here the irrevocable undertaking given by members of ETSI meant that a contractual regime was laid over the top of that national jurisdictional picture. It was the ETSI framework that governed the court’s jurisdiction to determine the terms of the global FRAND licence of the multi-national patent portfolio. On our construction of the ETSI rules, the English courts did have jurisdiction to determine the terms of this licence. It was sufficient that Unwired Planet had a valid UK patent which it could seek to enforce in the

UK, and that Huawei's defence against such enforcement was to rely on the ETSI irrevocable undertaking to licence on FRAND terms. There was a dispute about what the FRAND licence terms should be, so the English court had to resolve that. The undertaking was interpreted as looking to industry practice to determine what was fair and reasonable and this led to the conclusion that FRAND terms would be on a portfolio-wide basis covering all of Unwired Planet's SEPs across the globe. So the English courts had to determine the licence terms on a global basis. It followed that they did have jurisdiction to set the terms of the licence for the full portfolio and we thought that it was a "sensible way of dealing with unavoidable uncertainty" in relation to the quality of patents in the portfolio. The ETSI licensing policy was intended to have international effect, as indicated by this context and the language of the policy itself.

7. Our approach to legal doctrines and concepts has to reflect the reality of the world in which we operate. In this case, we interpreted the ETSI licensing rules in a manner which acknowledged the worldwide nature of telecommunications technologies and markets. However, this interpretation is not without its own difficulties. For instance, if it is accepted that one national court is able to determine the terms of a FRAND licence on a global portfolio, the next question is which court should do so? The dispute in the *Unwired Planet* case could have arisen in any country in relation to which there was a valid patent in the portfolio. Should national courts be seeking to work out which court between them might be best placed to determine the FRAND terms for the portfolio, or in practice is it to be left to the choice of one of the parties? To what extent should the English courts have reservations about implementing the licence terms set by other national courts and vice versa? These questions show that global technologies put pressure on traditional rules of conflicts of laws and the concept of comity between courts.
8. An issue might be raised in terms of legitimacy. The scholar Gregory Sidak describes the situation as one where "*jurisdictions are competing in a tournament for resolving FRAND licensing disputes*".³ He sets out to make a case for the US courts, arguing that "a leading candidate is the existing body of US contract law". This simply serves to underscore the fact that jurisdictions are developing distinct responses to these issues. However, it is clearly desirable to have international cooperation to provide common legal standards for effective cross-border regimes in relation to such contexts. It is possible that states might enter into international agreements to agree standards which are then implemented in national law.⁴ This is something that our courts will have to be alive to over the coming years. Absent a treaty, national courts should seek to keep themselves

informed about developing court decisions in other jurisdictions, both as a source of ideas and to see if international standards are emerging by that route.

2. SMART CONTRACTS

9. Smart contracts are another increasingly significant topic which the judiciary will undoubtedly have to grapple with in the coming decades. The term has been used in a number of different ways, but it is generally taken to refer to processes by which the generation, execution and enforcement of contractual obligations can be automated. One simple example of such a contract would be where a service is automatically stopped if the monthly subscription payment for that service is not received and registered on time.
10. Smart contracts clearly have many benefits. Digital solutions can carry out functions at a fraction of the time and cost usually involved. Transaction costs are minimised and there is the potential for greater efficiency, particularly in mass markets.
11. The fundamental issue which smart contracts pose for the judiciary is that contract law, to date, has not developed in response to contracts generated and monitored automatically by machines. The legal doctrines and concepts which we apply to the cases that come before us are not necessarily equipped to deal with the questions that these contracts will generate. The Law Commission, an independent statutory body set up to keep national law under review and to recommend reforms, is currently considering smart contracts.⁵ Its project is still at the consultation stage and so it has not yet made its recommendations. However, the way in which it defines its task indicates its direction of thinking: *“[t]here are questions about the circumstances in which a smart contract will be legally binding, how smart contracts are to be interpreted, how vitiating factors such as mistake can apply to smart contracts, and the remedies available where the smart contract does not perform as intended. The nascent state of the technology means that there are few, if any, tested solutions to the legal issues to which smart contracts give rise.”*
12. Unfortunately, I do not have detailed answers to these questions. No one does at the moment. The Law Commission is correct to observe that we do not yet have tested solutions to the legal issues raised by these contracts. We are very much still at the stage of initial discussion and policy consideration. Many have put forward proposals in specific contexts. For instance, the US scholar Margaret Radin responds to concerns over online contracting where one has to click to accept terms and conditions which are excessively long and are therefore almost never – or should I say never? - read. Typically, buried in these standard form,

take-it-or-leave-it terms are highly one-sided provisions to favour the technology service-provider, limit its responsibilities and remove ordinary remedial rights. This is likely only to be discovered once something has gone wrong and a user tries to enforce these rights. Radin seeks to resolve this problem by suggesting that such contracts should be approached instead through a tort of misleading or deceptive disclosure. This would make a service provider liable for departures from reasonable expectations which are insufficiently signalled to the consumer.⁶ Others have argued for developments such as an expansion of doctrines of abuse of rights and extended notions of fiduciary obligation in the conduct of relationships, which are ways in which the law has in the past responded to situations of marked asymmetry of knowledge and power.⁷ Whatever the specific recommendations, which will likely vary between jurisdictions, we need a coherent and strategic legal response to these types of contracts, which will only become more sophisticated and prevalent. Judges will have to be alive to these issues and apply both existing and forthcoming legislation in novel contexts. Again, I think, the message is the same: we should seek to be alive to how other courts are approaching these issues, for inspiration and ideas and to see if there is any emerging consensus.

3. CONTRACTS MADE BY ALGORITHM

13. The final topic on which I want to touch briefly concerns contracts made by algorithm. I distinguish these from smart contracts on the basis that they are made automatically without human intervention.
14. The decision in the Singaporean case of *B2C2 Ltd v Quoine Pte Ltd* ⁸ provides an interesting illustration of the types of legal issues that can arise when the automatic process malfunctions. In that case, a technical glitch in a currency trader's algorithmic trading program resulted in automatic trades to purchase currency being effected at about 1/250th of the true value of the currency. This resulted in a huge profit for the contractual counterparty. The trader was not permitted to unravel the trade. The first instance judge had to consider how the contract law concept of mistake operated in a context where it was two computer programs trading with each other. He did so by focusing on the programmers' minds and expectations, and this approach was followed by the majority in the Court of Appeal. ⁹
15. However, with the increasing sophistication and independence of such programs, it might soon seem inappropriate to look back at the minds and expectations of

their human creators. Such concerns have already been widely raised in the context of automated vehicles, which are in fact the subject of another ongoing Law Commission review.¹⁰ One answer might be a decrease in the significance of the doctrine of consent in contract law. In English law, concepts based on fair and reasonable standards of economic exchange were pushed to the margins during the nineteenth and twentieth centuries in favour of this doctrine. These may become more important once again in a digital landscape where it is less possible to identify human agency and consent.

CONCLUSION

16. I have spent much of my time discussing the challenges that digitalisation might pose for judges in terms of legal doctrine. However, we must not forget the vast potential of these technologies. They are already improving efficiency across many areas, and we are really only at the beginning if this can be extended whilst maintaining harmony with fundamental legal and constitutional ideas and values. For example, interactive websites might make access to legal advice much cheaper. Online courts might improve access to justice and reduce the time and costs involved in dispute resolution.
17. Digitalisation does not fundamentally change the role of the judge in a supreme court, but poses new challenges. There are new challenges in terms of understanding the processes and markets in which digitalisation is becoming dominant, new challenges in terms of adapting legal doctrine to that world and new challenges in terms of upholding legal and constitutional values within that world. We will have to be alert to the increasing importance of the interface between national and international law and consider carefully how to deal with it in the context of a particular case. Whether this is achieved through legislation which is passed following international agreements or through interpreting relevant contracts in their globalised context will depend on the particular facts. Of course, it can be said that this has always been the case, but the digitalised world is going to bring these issues still more into the foreground.
18. The UK Supreme Court is interested in dialogue with all its European counterparts as well as those beyond Europe. This dialogue takes a number of forms. In the *Unwired Planet* case, the first instance judge looked to Chinese precedent. On the appeal, we looked at precedents across Europe and in the USA and Japan. The comparative angle is very valuable in helping us to develop our thinking about how to approach similar issues which have already arisen in other national courts. We also value opportunities such as this which allow us to meet with our overseas colleagues and share ideas. In the coming years, judges

at supreme court level must remain attentive to changes in society. We must try to integrate the global, automated digital world with traditional national legal structures in order to provide a framework within which these new technologies can be used well.

Footnotes

- 1 See, for example, Guilherme Cintra Guimarães, *Global Technology and Legal Theory: Transnational Constitutionalism, Google and the European Union*, 2019 (Routledge, 2019) and Gunther Teubner, *Constitutional Fragments* (OUP, 2012). [↗](#)
- 2 [2020] UKSC 37 [↗](#)
- 3 Gregory J. Sidak, *The FRAND Contract*, *The Criterion Journal on Innovation*, Vol 3 (2018), accessible at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3182770 [↗](#)
- 4 Lord Sales, *Algorithms, Artificial Intelligence and the Law*, *Judicial Review*, 25:1 (2020), 46-66, paras 54 and 60. [↗](#)
- 5 Law Commission, *Smart contracts: current project status*, accessible at <https://www.lawcom.gov.uk/project/smart-contracts/>. [↗](#)
- 6 M. Radin, *The Deformation of Contract in the Information Society* (2017) 37 *Oxford Journal of Legal Studies* 505 [↗](#)
- 7 Lord Sales, n. 4, para 59. [↗](#)
- 8 [2020] SGCA (I) 02. [↗](#)
- 9 See Lord Sales, n. 4, para 61 for discussion of this case. [↗](#)
- 10 See Law Commission, *Automated vehicles: current project status* accessible at <https://www.lawcom.gov.uk/project/automated-vehicles/>. See also Sophia H. Duffy et al., Sit, Stay, Drive: The Future of Autonomous Car Liability, 16 *SMU SCI. & TECH. L. REV.* 453 (2013) and Jacob D. Walpert, Carpooling Liability?: *Applying Tort Law Principles to the Joint Emergence of Self-Driving Automobiles and Transportation Network Companies*, 85 *Fordham L. Rev.* 1863 (2017). [↗](#)