Annual COMBAR lecture

Tuesday 12th November 2019 at 5.30pm

Future Proofing for Commercial Lawyers in an Unpredictable World

Sir Geoffrey Vos, Chancellor of the High Court

Introduction

1. A recent leader in the Economist newspaper was entitled "The world's most valuable resource is no longer oil, but data".[1] The article continued by telling us that Alphabet, Amazon, Apple, Facebook and Microsoft collectively racked up over US$25 billion in net profit in the first quarter of 2017. In 2018, Apple become the first $1 trillion corporation. Size alone, the writer said, was not a crime: nobody wants to live without Google's search engine, Amazon's one-day delivery service or Facebook's newsfeed.

2. Perhaps there are two things to be drawn from that article: First, no individual or business can benefit from these global services without contributing their own data to allow them to function. Secondly, the old world is changing fast and we would all be making a big mistake if we continued to think that oil and old-world asset classes were all we needed to care about.

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[1] A leader in the Economist on 6th May 2017.

3. The OECD estimates that in 2015, the global volume of data stood at 8 zettabytes (8 trillion gigabytes), an eight-fold increase on 2010. By 2020, that volume is forecast to increase up to 40 times over, as technologies including the Internet of Things create vast new data sets. This sheer increase in quantity and power has pushed data up the political agenda, capturing the attention of businesses and policy-makers alike.[2] Indeed, Larry Page of Google was last week quoted as saying that "everything you've ever heard or seen or experienced will become searchable. Your whole life will be searchable".[3]

4. Plainly, then, an insight into the law relating to data and data protection should be one of the most important specialisms in the armoury of a modern commercial lawyer.

5. On 18th June 2019, Facebook announced that it would launch its cryptocurrency, Libra, and its digital wallet, Calibra, in 2020. Regulators, legislators and central banks, notably on Capitol Hill, expressed reservations, and many of the consortium's partners pulled out last month. Whatever happens to Libra, there will be mainstream cryptocurrencies in use by business and consumers before too long. These cryptoassets will not be anything like Bitcoin. They may well be managed centrally, even if they utilise the blockchain and their value will be set in a transparent manner, for example by reference to a basket of mainstream currencies and assets. If that is achieved, the stability of such cryptoassets will enhance their attractiveness to mainstream investors and the financial service industry.

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[2] HM Treasury paper on the economic value of data: discussion paper: August 2018.

[3] Rana Foroohar in the Guardian in November 2019 at https://www.theguardian.com/business/2019/nov/08/how-big-tech-is-dragging-us-towards-the-next-financial-crash.

6. What is more important for present purposes is that an understanding of cryptoassets and the blockchain might also be said to be useful for the commercial lawyer of the 2020s.

7. A word then about smart contracts. Progress towards trillions of financial services contracts every year has not been as rapid as predicted, but the tech community is designing algorithms that are likely to develop into a type of smart contract at pace. It is reasonable to surmise that once smart contracts take off, they will very quickly become ubiquitous in the global financial markets. Likewise, their use in shipping, aviation, energy, telecoms and pharmaceuticals is predictable, because they can provide immutable data, providing huge advantages in terms of certainty and reducing the factual scope of everyday disputes.

8. Again, one might think that commercial lawyers without a working understanding of smart contracts would be placing themselves at a considerable disadvantage in the short to medium term future.

9. And then there is the much-vexed topic of artificial intelligence. Admittedly, the online court in England and Wales, which uses elementary forms of artificial intelligence, is only in late infancy and at present only accepts money claims for up to £10,000. But, the insightful observer might imagine that that limit is likely to be raised, and that online dispute resolution may well be extended to other areas of more immediate importance to the commercial lawyer of the 2020s. There is a vast range of LawTech start-ups developing applications for artificial intelligence in the dispute resolution field. It is already much more in use in the financial services sector than most of us imagine.

10. Once again, practising commercial dispute resolution without understanding how artificial intelligence works and that it is likely to be used in every economic sector in the coming years, would appear to be somewhat risky.

11. I could multiply examples of commonplace areas of commercial life where these innovations will start to dominate. And yet, as I have spoken and written more and more about cryptoassets, on-chain payment mechanisms and smart contracts over the last couple of years, many have suggested, expressly or implicitly, that I am wasting my time. I beg to differ.

12. The message in this lecture is that it is now imperative for business lawyers at all levels to adopt a more joined up approach to the effect that the new technologies will have on what we do – what we do as lawyers and judges, what we do to support the international business community, and what we do in our daily lives. The changes will never be as fast as some may predict, but changes there will be, and they will surely disrupt the way we are used to working. I will come to it in due course, but there is work for you to do, and it is required sooner rather than later.

A little contextual background

13. TheCityUK reported that the total revenue generated by legal activities in the UK was £33.4 billion in 2017.[4] That puts the UK second in the world, generating 6.5% of the global revenue from legal services, which itself amounts to between £600 billion and £849 billion. These figures are predicted to grow.

14. It is inevitable that the spectrum of activity that is represented by the UK's legal revenue of over £33 billion will change. Law firms are already adopting contract review technology, legal data research, and intelligent interfaces. It will not be too long before clients, who routinely demand to know how their lawyers are trying to cut costs by the use of

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[4] TheCityUK's Legal Services Report 2018 entitled: *Legal Excellence Internationally Renowned*: https://www.thecityuk.com/assets/2018/Reports-PDF/86e1b87840/Legal-excellence-internationally-renowned-UK-legal-services-2018.pdf.

LawTech and technology more widely, will only want to pay human rates for the more obviously human legal services.[5]

15. A recent post from the American Bar Association suggested that the latter part of the 20th century was the golden era for lawyers, and that their idyllic existence "seems to be coming to an abrupt end".[6] I would not want to propagate such despairing talk, but it is worth looking tonight at what can be done to ensure the continuing relevance of law and lawyers in general and of commercial dispute resolution in particular.

16. Lawyers and dispute resolution experts should not ignore the bigger issues of modern society. The issue with the longest lasting impact is not likely, as some might suggest, to be Brexit, despite what we read in our parochial press, but rather climate change. Issues arising from climate change are likely dramatically to affect the work of lawyers, even commercial lawyers, within a short timescale. You need only think about the likely change in attitude to bringing dozens of parties, witnesses and executives half way round the world from China, the USA, India or Australasia to attend a court hearing, when telepresence technology allows everyone to feel they are in the same room as each other without affecting anyone's carbon footprint. This may very well affect the way international dispute resolution is undertaken.

17. And climate change is also likely to reduce the acceptability of business air travel, including lawyers travelling to advise clients or appear in foreign courts. It is remarkable that just 1% of English residents took one fifth of all overseas flights last year, and 10% took one half of such flights.[7] So, travelling is confined to a small percentage of the population

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5 Ibid at page 15.

6 Dan Pinnington and Reid Trautz on "Future Proofing: When the Future becomes the Present": July/August 2019: ABA.

7 https://www.theguardian.com/environment/2019/sep/25/1-of-english-residents-take-one-fifth-of-overseas-flights-survey-shows

– amongst whom I suspect many commercial lawyers are likely to be found. An article in the Financial Times only this morning suggested that central banks have a responsibility to help fight climate change.[8] There will be no basis for the legal profession to stand on the side-lines.

18. I understand that I have suggested that the growth of cryptoassets is inevitable, but I doubt whether it will be justifiable in the future for Bitcoin mining to consume energy at the rate of an estimated 64 terawatt-hours per annum – more than that of Switzerland. It is likely that technological advances will need to ensure that the use of the blockchain does not create its own unacceptable consequences.

19. With that description of some of the background, allow me to take a few minutes to examine in a little more detail how work patterns are likely to change in the three main areas I have mentioned namely, data, on-chain cryptocurrencies and and smart contracts, and artificial intelligence.

Data

20. There has already been an exponential increase in litigation concerning data.

21. The first category of cases concerns the status of data itself. In *Your Response Limited v. Datateam Business Media Limited*,[9] the Court of Appeal held that an electronic database was not a form of property capable of possession. It was in that case that Lord Justice Floyd said that an electronic database consisted of structured information, and that, whilst information might give rise to intellectual property rights, the law had been reluctant to treat information itself as

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8 Isabelle Mateos y Lago on *Central Banks' mandates allow them to fight climate change*: Financial Times: 12th November 2019.

9 [2014] EWCA Civ 281.

property. That is probably because, with data, one is dealing with what Professor Tatiana Cutts calls a non-rivalrous asset; namely an asset that can be sold to more than one buyer without losing its intrinsic value.[10]

22. In *Armstrong DLW GMBH v. Winnington Networks Ltd*,[11] Stephen Morris QC held that carbon emission allowances (EUAs) were intangible property at common law. And in the Singapore International Commercial Court, Simon Thorley QC in *B2C2 Ltd v Quoine Pte Ltd*[12] accepted[13] the parties' agreement that cryptocurrencies were property for the purpose of being held in trust.

23. There is then a second category of cases that concerns data collection.

24. In September 2019, a Divisional Court[14] comprising Lord Justice Haddon-Cave and Mr Justice Jonathan Swift decided that the current legal regime in the UK was adequate to ensure that a police force could use automatic facial recognition technology and the data thereby generated in an appropriate and non-arbitrary manner, consistent with both the Human Rights Act 1998 and the data protection legislation. The decision is under appeal, so we may not have heard the last of that issue.

25. In the US, the 7th Circuit Court of Appeals decided last year in *Naperville Smart Meter Awareness v. City of Naperville*[15]

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10 See Tatiana Cutts, "Crypto-Property: Response to Public Consultation by the UK Jurisdiction Taskforce of the LawTech Delivery Panel", (19 June, 2019) *LSE Law-Policy Briefing Paper no.36*.

11 [2012] EWHC 10 (Ch).

12 [2019] SGHC(I) 03.

13 At paragraph 142.

14 *R (Edward Bridges) v. Chief Constable of South Wales Police* [2019] EWHC 2341 (Admin): Haddon-Cave LJ and Swift J.

15 900 F.3d 521 (7th Cir. 2018) per Kanne J.

that the City of Naperville in Illinois was justified in operating an electricity utility that installed smart meters without the residents' consent. The smart meters in question recorded energy-consumption data at fifteen-minute intervals, storing that data for up to three years. It was held that the data collection constituted a search under the Fourth Amendment to the U.S. Constitution,[16] which protects the "right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures". But the search and the collection were reasonable and, so, not actionable. The claimants had contended that the regular readings from the smart meters allowed the City to see where and when particular appliances were being used in particular homes.

26. With this greater willingness of the courts to allow the storing and interrogation of data-sets, even of personal data, comes a need to ensure that this data is used appropriately and that when data breaches occur, the responsible party can be held accountable and individuals can be properly compensated.

27. The recent Google cases of *Vidal-Hall v. Google*[17] and *Lloyd v. Google*[18] have perhaps established mechanisms whereby claims for damages can be brought by those whose "browser generated information" has been used without their consent. In the second of those cases, in which I wrote the lead judgment, the Court of Appeal decided that damages were available without proof of pecuniary loss or distress for a non-trivial infringement of data protection rules. The Court of Appeal also decided that a representative claimant could bring the action on behalf of some 4 million people who had had their browser generated information taken without their consent. The data was something of value, and all the

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16 And Article I §6 of the Illinois Constitution.

17 *Vidal-Hall v. Google Inc* [2015] EWCA Civ 311.

18 *Lloyd v. Google LLC* [2019] EWCA Civ 1599.

represented persons were victims of the same alleged wrong, and had sustained the same loss, namely loss of control over their browser generated information.

28. A comparable decision had previously been made by the Commission nationale de l'informatique et des libertes (CNIL) in France, when it fined Google €50 million for breach of GDPR obligations, because of its lack of transparency in the handling of the personal data of those using the search engine, and the fact that it failed to obtain consent when personalising advertisements to those users. Likewise, the Court of Appeal recently decided that the Home Office was liable to asylum seekers for accidentally disclosing online a spreadsheet containing data from which they could be identified.[19]

29. This trend in awarding damages for data breaches is also leading to an extension of the concept of vicarious liability. Whereas vicarious liability used to be limited to acts committed by employees in the course of their employment, there is a recognition in English courts that employees, in order to do their jobs, have to be given access to valuable and sensitive personal data, and that it is the responsibility of the company to prevent any illicit use of that data by employees. The problem is that data is extremely portable and can be spread and transferred easily, at no cost, such that it is particularly hard for companies to exert control over their employees in this area. The Court of Appeal decided in *WM Morrisons Supermarkets PLC v. Various claimants*[20] that Morrisons was liable for a data breach committed by one of its employees, after work hours and entirely on their personal home laptop. It suggested that the only way to protect against these types of inevitable data breaches was to insure against them. An appeal is pending, but this decision

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[19] *Secretary of State for the Home Department v. TLU* [2018] EWCA Civ 2217.

[20] [2018] EWCA Civ 2339

too ties in with the current trend towards increased legal accountability.

30. I am sure that everyone here has, several times per week, accepted lengthy terms and conditions online in order to take advantage of some service or other. In almost every case, you are consenting to a third party making commercial use of your personal data. I attended an ISDA technology forum last week where algorithms were demonstrated that created vast volumes of financial data. The same is true in almost every commercial sector.

31. Taken together all that personal and commercial data makes up what we commonly refer to as 'big data' and provides the hugely valuable resource that the Economist was talking about. The international trade in big data is growing exponentially, and even though it occasionally runs into the buffers of Data Protection legislation in various parts of the world, that does not seem to have stopped the multi-billion dollar international trade in data.

32. I am sure that data litigation will increase dramatically in years to come. Whilst many glaze over at the mention of "data protection", it will become something that every lawyer at all levels will need to understand and advise upon. More importantly, however, claims in relation to valuable big data are likely to proliferate. They will raise complex issues of valuation – the "four v's" for data valuation are volume, velocity, variety and veracity. There will also be issues of vicarious liability; commercial exploitation contracts that are likely to be a fertile source of debate.

Cryptoassets on-chain and smart contracts

33. There has already been more litigation about cryptoassets than most people imagine. Injunctions have quite frequently been sought and obtained in disputes about the ownership or transfer of cryptocurrencies. Most recently, Mrs Justice Moulder granted an asset preservation order over a million pounds worth of Bitcoin fraudulently obtained from the

claimant in a 'spear phishing attack'. The Bitcoin ended up in a digital wallet held by Coinbase, a digital currency exchange. Admittedly, the judge in that case did not decide that Bitcoin was property, but she held, at least, that there was a serious case to be tried as to whether a proprietary claim existed.[21]

34. In *United States v. Zaslavskiy*,[22] the U.S. District Court for the Eastern District of New York held in a criminal case that an initial coin offering could be subject to US securities' laws.

35. Litigation specifically about distributed ledger technology ("DLT") is still in its infancy, but a very recent so-called white paper published by DTCC Inc and Accenture advises about the potential legal pitfalls in establishing permissioned DLT networks for various industries, where product tracing or other records are critical to value. The paper advises that licensing risks, patent risks, open source software risks, and cross border usage risks are the highest on their agenda.[23]

36. I have already mentioned on-chain payment systems. These are well advanced and will most likely be brought into being sooner rather than later. The Bank of England and several other central banks are actively considering the introduction of central bank digital currencies. And, a large consortium of major financial institutions is creating a network of decentralised Financial Market infrastructures (dFMIs) to deliver the means of on-chain payment in wholesale banking markets. These public and private initiatives are not mutually exclusive. Undoubtedly, financial lawyers will

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[21] See *Liam David Robertson v. Persons Unknown* [2019] not yet reported, in which the judge relied on the decision of Simon Thorley QC in the Singapore International Court in *B2C2 v. Quoine Pty* (2019) SGHC(I) 03.

[22] Reference missing: 2018 WL 4346339 (EDNY Sept. 11, 2018).

[23] Depositary Trust & Clearing Corporation's paper of 4th September 2019 at http://perspectives.dtcc.com/articles/governing-dlt-networks?utm_source=website&utm_medium=press_release&utm_campaign=dlt_governance_august_2019

need to understand how these systems function, as they are likely to be used in all global wholesale financial markets.

37. The UK Jurisdiction Taskforce, which is part of the LawTech Delivery Panel will next week publish a legal statement providing definitive guidance as to the status of cryptoassets and smart contracts under English law. The taskforce drafted a short list of legal questions, on which they consulted widely amongst the tech community, the financial services sector, the regulators and the lawyers. They held public meetings and received a wide range of the very best expert opinion. The resulting questions were put to a team of expert QCs and barristers asking them to deliver a definitive statement of what English law now provides in this area. The outcome is not about what they would like English law to be; it is about what they believe English law actually to be.

38. My hope is that the Legal Statement will go a long way towards providing much needed market confidence, legal certainty and predictability in areas that are of great importance to the technological and legal communities and to the global financial services industry. I am sure that there will in due course be litigation, but that will hopefully serve to add to the sense of predictability of the English common law, and demonstrate the flexibility about which so many have spoken in recent years.

39. I cannot pretend that there have yet been any cases that have directly involved smart contracts, but it is only a matter of time. The real prize will be to persuade the coders to include a simple English law and UK jurisdiction clause in their algorithmic engagements. The one thing I can promise, however, is that there will be litigation about smart contacts when they become ubiquitous in the industries that are served by the Business and Property Courts.

Artificial intelligence

40. The reason that global technology companies regard the harvesting of personal and business data as so important is, of course, not only their financial value *per se*, but the use that AI can make of that data.

41. I have heard some lawyers and judges suggest that the use of AI in law firms and legal dispute resolution contexts can and should be stopped because of the obvious ethical risks. They point to the undesirable consequences of analysing individual judges' judgments and outcomes and of the use of predictive algorithms generally. I am sure they have a point. But I am equally sure that these programmes are already in use and that we will not, in general terms, be able to stop the use of AI in a litigation and arbitration context.

42. This indicates that lawyers will need to smart in both senses of that word if they are to ensure that AI operates positively in the interests of justice in dispute resolution. The risks of bias are obvious in these technologies, but once lawyers and judges are alert to such risks, they can act to deal with them. Those who lack a detailed understanding of the types of technology that is or will be being used in the background of the litigation they are undertaking, will be at a distinct disadvantage.

43. As AI programs become more adaptive and make machines more capable of learning on their own, courts will have to determine who is responsible for their actions. Current agency principles may need to evolve to attribute responsibility for the decisions that machines will make. English common law should be ideally suited to adapt to these new commercial situations, but once again the lawyers advising clients responsible for AI developments will need a clear understanding of the technology to which the law will need to be applied. In the US Restatement of Agency,[24] it is

[24] §7.07 (2006).

laid down that an employee's act is not within the scope of employment when it occurs within "an independent course of conduct" not intended by the employee to serve any purpose of the employer; seemingly, then, no vicarious liability for the independent courses of action followed by machine taught algorithms. Hopefully the English common law will be able to develop case by case to deliver outcomes that accord with the reasonable expectations of commercial people using and affected by the use of AI. Legislation may be needed, but I am never sure that that should be the first resort. The Law Commission has already issued two consultation papers on automated or self-driving vehicles.[25]

Future proofing

44. It seems likely, therefore, that in the uncertain future mentioned in the title of this talk, litigation will not be confined to issues arising from familiar asset classes. Courts, arbitral tribunals, and online dispute resolution platforms will be dealing with issues that arise from disputes about data, smart contracts and algorithms, and the far-reaching consequences of the usage of artificial intelligence and digital assets.

45. The next question is how the commercial lawyers of today can prepare themselves for these changes. The first thing to say is that you cannot do so by hoping that you will be able to retire before any of this becomes a reality. It is already reality. Secondly, I do not think that we all need to go back to college to learn coding and computer science.

46. Where, however, I do think that much work can be done is in, what one might call, the application of the English

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[25] The latest of which is "Automated Vehicles: Consultation Paper 2 on Passenger Services and Public Transport A joint consultation paper" at https://s3-eu-west-2.amazonaws.com/lawcom-prod-storage-11jsxou24uy7q/uploads/2019/10/Automated-Vehicles-Consultation-Paper-final.pdf

common law to the new commercial situations I have tried briefly to describe. As I and countless others have said, our English law is boundlessly flexible and adaptable, whilst also providing certainty and predictability.

47. The technologies I have described will test the ability of the English common law to deliver against these expectations. But I am confident that it will not be found wanting. Take the law of agency in the area of vicarious liability as an example. *Morrisons* shows how the common law can adapt to new commercial situations. There will obviously be debate as to how the common law can best be developed to, for example, deal with pseudonymous parties to smart contracts. But none of that should be beyond our capabilities if we start immediately to engage positively and effectively with all these technological developments.

48. I should not be taken to be engaging in even metaphorical finger wagging, but many academic and practising commercial lawyers could usefully spend some time addressing the legal questions thrown up by an entirely transformed commercial and financial world.

49. Equally important is the need to build bridges with the technological community. There is a strong push amongst those responsible for driving technological change towards disintermediation and reducing the reliance of the international commercial community on the law. This push can be resisted, but only by the use of reason and by explaining the added value that the law and dispute resolution can provide to the objectives of the technological community.

50. Next on my list is the need for reform to our established dispute resolution processes. I think that too needs your attention. Dispute resolution processes will need to develop to serve the commercial situation of the mid-21st century, where many of the things we have been used to since the 1970s and 1980s will no longer be regarded as acceptable. Unrestricted business travel and ever-increasing energy usage are likely quickly to come under greater scrutiny.

Lawyers need to be part of the solution ahead. We are a creative profession, as the hundreds of innovative and successful UK LawTech start-ups demonstrate.

51. The mainstream legal profession epitomised by COMBAR needs, I suggest, to turn its incredible intellectual fire-power towards the development of the English common law, so that it can effectively tackle the problems thrown up by the use of big data, cryptoassets, on-chain smart contracts, and artificial intelligence. My plea is that you do not leave it too late, because there are many other brilliant lawyers in other jurisdictions who are motivated to steal a march on their common law colleagues in the UK.

Conclusions

52. My conclusions can be summarised as follows:-

(1) First, try to think imaginatively about the world in which the commercial legal services of the future will be required. That is likely to a cyber-world in which climate change and borderless technologies are each of great significance.

(2) Secondly, do not imagine that human lawyers and judges will be made redundant by technology. That is most unlikely. To retain the confidence of your clients, however, you will need to embrace AI, and demonstrate that it can be responsibly employed to save costs and increase outputs.

(3) Thirdly, and I think equally importantly, academics, commercial lawyers and judges need urgently to address the complex range of legal issues thrown up by the massive accumulation of big data, on-chain smart contracts and the use of artificial intelligence – some of which I have touched on tonight.

(4) Fourthly, commercial dispute resolution will need to adapt to provide a more streamlined service to the

national and international business community of the mid-21st century. That will involve more ADR, more online dispute resolution, a bespoke dispute resolution mechanism for smart contracts, and reformed mainstream commercial dispute resolution making greater use of AI and internet technologies.

(5) Fifthly, we need to do everything we can to maintain and enhance confidence in the ability of English law and the UK's jurisdictions to provide an effective foundation for inevitable and ongoing technological progression – some might say that we "ain't seen nothing yet".

53. Many thanks for your attention tonight.