Jean Clark Memorial Lecture - Edinburgh 4 November 2021

The Right Honourable Lord Hodge, Deputy President of the Supreme Court of the United Kingdom

1. It is a great honour and a pleasure to address you this afternoon as we celebrate the 30th anniversary of the Clark Foundation for Legal Education. As you have heard, the Foundation has supported lawyers and law students in their legal studies, including my current Judicial Assistant, Tom Watret. In addition, the Foundation in 2001 established the Jean Clark Memorial Lectures which have been a feature of Scottish legal life ever since. I am grateful to the Foundation, the WS Society and the Scottish Young Lawyers Association for their collaboration in organising this afternoon's event, which has enabled me to address you from the court in London.

2. My theme is law and technology and comprises two connected topics. The first is technological change in the civil justice system, the impact of the pandemic, and the urgent task of giving people access to justice at a proportionate cost. The second is a more general call for Scots law to respond to the technological changes outside the legal system which are rapidly affecting the way we live and the way in which commerce is conducted. Unless we rise to the challenge, there is a danger that our civil law in Scotland will be left behind and that businesses located in Scotland will suffer a significant competitive disadvantage as against jurisdictions which are addressing these changes.

Technology in the Civil Justice System

3. Before the pandemic took hold in the United Kingdom in the spring of 2020, there was an awareness of a need to modernise the court system by exploiting the opportunities which technology offered to improve the efficiency and reduce some of the costs of the court process. I recall when I was in the commercial court in Edinburgh almost a decade ago there were many initiatives to improve the court's procedures, for example by the electronic filing of documents. Such initiatives have continued as part of the digital strategy of the Scottish Courts and Tribunal Service.

4. In England and Wales, the UK Government in 2016 announced a major investment of £1 billion in the court system, which included the expansion of the use of IT. Initiatives have been taken to move to digital case management generally in court proceedings and to test online services in specific areas including family law, social security and child support appeals.

5. When the pandemic arrived, the courts had to shift with speed from hearings in person in a courtroom to remote hearings at which counsel and the judges appeared on a conferencing platform in order to comply with the Government's direction that people should work from home if they could. Little did I know when I presided over the first remote hearing on 24 March 2020, the day after the Prime Minister's instruction to lock down, that remote hearings would become the norm of my working life for 15 months.

6. The exigencies of remote working, including the closure of the court building, caused judges to alter their working methods radically. Court papers are filed electronically. No more do we have mountains of paper in printed bundles containing, among other things, the judgments of the courts below, the parties' written cases, and voluminous statutory and case authorities and academic articles. Instead, the documents were and are sent to us electronically and we read them on the computer screen. Similarly, papers relating to applications for permission to appeal are now dealt with electronically. This has led to a very significant saving in the production of paper documents with corresponding cost savings for litigants. We have retained these working habits since we resumed hearings in the courtroom in July.

7. The Supreme Court was able to broadcast its hearings as it did when the appeals were heard in our courtrooms, and it maintained its outreach work remotely. Elsewhere in the justice system the pandemic drove innovative solutions. What was particularly difficult was the conduct of criminal trials as our court buildings were not designed for the numbers of people involved in criminal trials to maintain social distancing. In England and Wales over 40 "Nightingale court" courtrooms were established in buildings ranging from hotels to town halls to buildings in the precincts of a cathedral. In Scotland, the innovative use of cinemas from which juries could watch the proceedings in a court room has been an initiative which has gained much favourable comment. More widely the Lord President has estimated that many of the objectives of the pre-pandemic digital strategy of the Scottish Courts and Tribunals Service were achieved in about a fifteenth of the programmed time.

8. In the majority of civil work, whether in the courts or in the tribunals, the initiatives taken to maintain hearings, whether remotely or in person, have enabled the justice system to perform its task really effectively in difficult circumstances. The major problem has been and is the backlog in criminal proceedings which will take time and a great deal of work to overcome. As the vaccination programme has reduced the threat of serious illness for most vaccinated people, attention has shifted to how the justice system should operate while living with the virus in our midst.

9. This has given rise to an interesting debate. There are those who have argued for remote hearings to remain the norm as it can be convenient to lawyers and others to operate remotely from their offices or chambers. There is a general consensus that remote hearings have benefits when the court is dealing with case management and normal procedural business. But in May 2021 the four Bars of the UK and Ireland issued a joint statement in which they supported the continued use of remote hearings for short or uncontroversial procedural business but argued that the default position for hearings which were potentially dispositive of all or part of a case should be "in person" hearings. They suggested that there were five drawbacks of remote hearings. First, interaction between the pleader and the judges was less effective than "in person" hearings with the result that hearings were less effective at isolating issues. Secondly, it was more difficult to manage witnesses, especially on cross-examination, which affected the quality of the evidence. Thirdly, advocacy was impaired both in cases involving evidence and those involving complex narrative submissions. Fourthly, human interaction between lawyer and

client was necessary to meet the diverse and complex needs of clients; and finally, remote hearings hampered training and isolation had an adverse effect on collegiality and well-being. The Dean of the Faculty of Advocates has also been active in the Scottish press, in response to a consultation by the Scottish Civil Justice Council making similar arguments and arguing that remote hearings are "second best", adding that they did not save money and that clients felt disengaged from virtual hearings.

10. I have considerable sympathy for the stance which the Bars have taken. It is not apparent to me why, where there are the funds for conducting a normal litigation (and that is an important proviso), the norm for hearings which dispose of the case, and especially hearings which involve the giving and testing of oral evidence, should not be in an open courtroom, in which lawyers can engage with the Bench and their clients and discuss matters with their opponents with ease. There is also the symbolism of doing justice in a courtroom. It is certainly the intention of the Supreme Court that our hearings will take place in one of our courtrooms. But we recognise the advantages of remote hearings or hybrid hearings when we sit as the Judicial Committee of the Privy Council and the lawyers are located in overseas jurisdictions.

11. If we are to preserve or extend the use of remote hearings in the courts generally we must proceed with care and in a discriminating way. There will be matters, such as appeals against a parking ticket which can be resolved without a hearing or by a remote hearing. But there will also be matters which, in order to preserve the confidence and involvement of the public in the justice system, may require a hearing in open court in

which justice is seen to be done. For example, there are significant benefits in person to person contact between the judge, the child and the parties in family cases which remote hearings cannot offer. We must also cater for the vulnerable and those who do not have access to the internet or who cannot understand how to use it.

12. At the same time, I think that we should not waste the opportunity which the pandemic has given the justice system. We have all, judges, court officials and lawyers, become much more familiar with the use of IT in our work than before. Video-conferencing, e-filing and electronic documentation have been useful initiatives, cutting out unnecessary and costly travel to court buildings and saving many trees from destruction. But they involve carrying on essentially the same litigation process. Our new knowledge should be a springboard for further innovation. We need to pick ourselves up after the pandemic not only to resume reforms which have been postponed by the crisis but also to innovate further.

13. In a lecture to the London School of Economics in June this year the Master of the Rolls, Sir Geoffrey Vos, spoke of the imminent extension to all County Courts of the Online Civil Money Claims (OCMC), which was an initiative to start cases online that pre-dated the pandemic, and the launch in May of this year of Damages Claims Online. He spoke of the aim of having a norm of online procedures for the most common civil claims within two years. The establishment of online pre-action portals, funded by insurers and run by a not-for-profit company, enable the secure exchange of claims information in cases covered by pre-action protocols. They can provide a way of speedy and cost-effective dispute resolution.

He predicted that within a few years almost all cases will be capable of being started and progressed online.

14. More recently, towards the end of last month, there has been a seminar organised by the City of London Corporation in the Guildhall on online civil justice after the pandemic in which the future of civil justice was debated. Sir Geoffrey Vos called for the extension of the use of online portals to encompass much of civil justice and to encourage mediated resolution. He observed that 80 per cent of civil claims in the County Court were worth less than £500 and needed to be resolved economically and proportionately. He advocated an online system comprising three layers. The first would be a website which would direct a litigant to the appropriate online location to resolve his or her dispute. The second layer would be a range of online pre-action protocols which would be aimed at resolving disputes without the need for court-based litigation, and the third would be an online claims system, such as the OCMC of which I have spoken.

15. There are therefore worthwhile initiatives being pursued in England and Wales as well as in Scotland. But I should very much like to see a revival or redevelopment of a radical proposal of an "Online Solutions Court" which the Civil Courts Structure Review of 2015-2016, chaired by my colleague, Lord Briggs, recommended. This online court was proposed for claims with a value of under £25,000 and involved a three-stage process which in large measure dispensed with legal representation.

16. The first stage involves an online investigation stage in which software involving sets of sequential screens, which are free of legal jargon, tease out the relevant components of a party's claim or defence. It is designed to help parties, who do not have legal assistance, to identify what their legal case is and provides a facility for the parties to upload their main evidence in the form of documents and statements.

17. Stage 2 involves a legally qualified Case Officer who will select the most appropriate means of resolving the dispute. This may be by telephone or online mediation, or third-party resolution including early neutral evaluation by a district judge in a hearing centre.

18. If resolution is not achieved at stage 2, one moves to stage 3 at which the dispute will be determined by a judge, either online, by telephone, by video or face to face. There will be a test of proportionality and a party must justify the more expensive forms of resolution.

19. Sadly, attempts to pass legislation to facilitate this initiative have so far failed. I was encouraged when the Government promoted the Courts and Tribunals (Online Procedure) Bill (or CTOP for short) in 2019. The Bill was debated by the House of Lords in the early summer but did not complete its passage through the House of Commons in July before the parliamentary session ended. As a result, the Bill fell. I hope that it or an updated version of it can be revived. CTOP had much to offer and could readily have been adapted to address the concerns which it generated in the parliamentary debates. Rigorous pilot schemes could address the argument that we were moving "too far too fast". Preserving the option

of traditional court hearings to accommodate the digitally excluded could meet the concerns for such litigants. I hope that CTOP will be revived notwithstanding the financial constraints under which the Government will be operating in the post-pandemic world.

20. We must, I think, lift our eyes to the opportunities which IT gives to improve access to justice by digital means. In a lecture for UCL earlier this year, Professor Orna Rabinovich-Einy described the development of online dispute resolution (or ODR) internationally. She described how eBay had developed a system of ODR which handles 70 million disputes per year, of which 90% are resolved without the involvement of a human third party. She spoke of court initiatives in the last decade in England, the Netherlands, Canada, China, Singapore and elsewhere. She described the use in the United States court systems of private sector software organisations such as Modria/Tyler and Matterhorn, a cloud-based platform operated by Court innovations Inc., to provide online dispute resolution in civil and family cases and traffic offences and the prospect of the use of AI to determine many disputes. Academic research into the Matterhorn ODR system supported the view that it gave rise to more rapid resolution of disputes and a decline in defaults even when the dispute had to go to a judicial determination. There are thus many initiatives internationally and we in Scotland ought to be considering these matters as well as questions of whether and when to have in person hearings and remote hearings.

21. The use of such ODR procedures offers an opportunity to give people with relatively small claims and those who cannot afford legal representation

or who can afford only limited legal advice, access to justice and the prospect of dispute resolution, whether by mediation or otherwise, at a stage before one requires a hearing before a judge. It offers lawyers relief from having to undertake uneconomic litigation in which a proportionate fee would be loss-making for a legal practice. And more generally, it may promote the efficient determination of disputes. But we also need to address questions as to the transparency of decision-making in ODR and the protection of personal data so that people's privacy is not undermined.

22. Judges and officials in the justice system should embrace new ideas to address the challenges which we face, and not least the problems of giving people proper access to justice and enabling disputes to be determined efficiently and with a proportionate use of scarce resources.

Adapting the substantive law to accommodate technological change in society and commerce

23. There is however a wider challenge facing Scots law which institutions involved in policy- making and law-making in Scotland need to address. It is the imperative to adapt our law to the technological developments which are changing how people live their lives and how commerce operates. This is the second part of my talk this evening.

24. There has been a huge increase in the computational and data processing power of IT systems and we have witnessed the development of increasingly sophisticated software services. It has been calculated that

from the dawn of civilisation until 2003, humans created a sum of five exabytes of information. By 2010, that volume of information was being generated every day. Richard Susskind, the IT Adviser to the Lord Chief Justice of England and Wales has estimated that we will soon be creating five exabytes of information every hour. This phenomenon, when combined with the development of Artificial Intelligence (or AI), challenges traditional legal concepts and approaches. AI has not simply matched human intelligence in the performance of certain tasks; it has surpassed it; and machines are being developed which think in different ways from human beings.

25. Machine learning involves the design of an algorithm which optimises automatically through experience and with limited or no human intervention. It can be used to find patterns in large amounts of data – commonly called "big data analytics" – from increasingly diverse sources. There is no shortage of data for this purpose. Authoritarian governments can use such analytics as a means of social control and commercial organisations can gather and use "reputational information" to monitor and influence the behaviour of their business counterparts and their consumers. Data brokers generate credit scores based on their assessment of available data relating to our lifestyles and consumption habits, which can determine our access to financial products such as mortgages. These are probably matters for government or trade body regulation.

26. There is also a need to adapt the law to these changes. The McKinsey Global Institute has concluded that AI and big data are contributing to the

transformation of society and that as compared with the Industrial Revolution, this transformation is “happening ten times faster and at 300 times the scale, or roughly 3000 times the impact”. Can the law keep up?

27. In recent years we have seen enormous growth in digital assets, such as crypto-currencies, of which Bitcoin is the most widely known. Having been worth a few cents in its early days, Bitcoin has been the subject of a speculative bubble and in recent months one Bitcoin has been valued at about $60,000. Blockchain technology, which created the platform for Bitcoin and other crypto-currencies, has been developed for many other financial and commercial uses, including the transfer of legal securities, and is being considered by governments as a reliable means of record keeping. As I shall mention, important work is being done in London to see if trade documents such as bills of exchange, promissory notes, bills of lading and marine insurance policies can be possessed and transferred in electronic form. Start-up companies in the field of financial technology are investing large sums in the development of new ways of conducting financial business. But there is an important question which needs to be addressed authoritatively: are these digital assets capable of being characterised as property? If we do not have authoritative legal rules which establish that those assets are property which can be held and transferred and over which securities can be taken to enable access to funding, then a lot of money is being invested in assets from which it may prove difficult to realise significant value because of fundamental legal uncertainty.

28. Work is underway, particularly in London. In 2018 the Financial Markets Law Committee suggested that the traditional categories of English law could be extended to recognise virtual choses in action. The LawTech Delivery Panel's UK Jurisdiction Taskforce (the UKJT) in 2019 published a legal statement on crypto assets and smart contracts which was very well received, and a collaboration between the LawTech Delivery Panel and the Ministry of Justice, known as LawTech UK, provides a platform for further innovation. The Law Commission of England and Wales has undertaken a project on electronic trade documents and digital assets. Those projects are addressing fundamental questions about the status of digital assets within the existing regime of private law. Internationally, UNIDROIT has a project on "Digital Assets and Private Law" which aims to draft system-neutral rules to explain the holding and transfer of digital assets.

29. In Scotland our property law has a strong civil law framework, and we may need to recognise a new form of intangible moveable property which shares certain characteristics with corporeal moveable property. In 2019 the Scottish Government established a Working Group on Crypto-Assets and Related Technology in Scots Law which is designed to address these questions in our jurisdiction. I have had the privilege of co-chairing the Working Group with the Lord Advocate. We are fortunate to have as a member of the group Professor David Fox of Edinburgh University, who has written extensively on the law relating to crypto-currencies and crypto-assets, officials and business people who are active in this field. The work of the group stalled during the Covid pandemic but is now being revived and I hope that I will be able to work with the new Lord Advocate

to make progress in this field. I think that it is imperative that Scots law does not miss the opportunity to link into the valuable work being done in London, particularly by the Law Commission, to adapt the law to accommodate the development of and to realise value from the new technologies.

30. There are other questions of property law which law reform bodies in the United Kingdom will need to consider. I have in mind the laws relating to intellectual property. If machines using AI create works of literature and other works which, if created by a human being, would be entitled to copyright protection, why should the developer or owners of those machines not be able to obtain that protection? Similarly, if machines using AI create inventions which would be patentable if created by human endeavour, should there not be patent protection for such inventions. I wonder if there might be a case for giving separate legal personality to such machines to facilitate such protection.

31. There is also a need to address our attention to the law of contract and the law of delict.

32. Judges have often emphasised the role of the law in stimulating business activity. Lord Goff of Chieveley writing extra-judicially in 1984 stated:
"[Judges] are there to give effect to [businessmen's] transactions, not frustrate them; we are there to oil the wheels of commerce, not to put a spanner in the works, or even grit in the oil."

I apprehend that there will be a spanner in the works unless we adapt our law of contract to accommodate the novel forms of contracting which technology has made available to us.

33. As many of you will know, "smart contracts" are contracts which can be partially or fully executed without human intervention. At their simplest, they involve an instruction to the computer that if X happens then the computer is to act to make Y the result. This process of "if-then" instructions can be compared to the operation of an automatic vending machine. If you wish to buy a snack, you put money in the machine, select the product and the machine takes the money and delivers you your snack.

34. In such a simple form, there should be no problem in upholding the existence of a contract in legal systems, such as Scots law, which assess the intention of the contracting parties objectively, so long as the parties were aware, when contracting, of the nature of the arrangement which they were entering into.

35. But what happens in law if the machine that executes the smart contract suffers a malfunction and executes a contract in terms which the parties would not have envisaged? Can one apply the law of mistake, unless it can be shown that some human error led to the malfunction?

36. The law must address how to provide a remedy if contractual consent has been vitiated, for example, by misrepresentation or fraud. Smart contracts are self-executing as the terms of the agreement between a

buyer and a seller are written into lines of code which exist in a blockchain. When the coded conditions are met, a product is released or a payment made. No-one, including a court, can stop the performance of a smart contract. The courts will not be able to cancel the performance of the contract. But a remedy may lie in the law of unjust enrichment in both common law and civil law jurisdictions to compel the parties to re-transfer the property or money which was the subject of the transaction.

37. Much greater problems in the law of contract may arise if computers are developed to use machine learning to optimise the transactions which they enter into. If businesses were to use computers with machine learning capability to deal with other computers with similar ability, they could autonomously generate transactions which would not fit easily into our contract law. How will the law attribute those decisions to the intention of the contracting parties? Should the law say that those who willingly use computers with machine learning to effect their transactions are to be taken as intending to be contractually bound by the deals which those autonomous machines make? If there is to be a contract drafted or adapted by machines, there will have to be significant development to our law of contract which will require careful and imaginative consideration.

38. The law will also have to address the existence of civil liability outside the field of contract law. In the law of delict, liability can result from the combination of a wrongful intention to harm another or (in the context of a claim in negligence) foresight of harm to another and a causal link between the individual's action (or inaction) and the harm which the other suffers. If an adverse outcome is the result of a decision by a

computer, to whom will the law attribute fault? How will the law see a causal connection between a human's acts and that outcome? Who is to be responsible for the machines' decisions, or its biases?

39. When one addresses economic delicts, namely the intentional infliction of harm by unlawful means, inducing breach of contract or conspiracy, which require a mental element of an intention to cause harm, or the delict of fraud, in which the knowledge or belief of the person making the misrepresentation is relevant, how do you impose liability for the harm caused by the autonomous acts or malfunctioning of computers?

40. Will there have to be legislation to impose liability on the developer of AI systems as one might in relation to the manufacturer of driverless cars? Or should legislation impose liability on those who choose to use such devices? Or is it fair to hold humans liable at all if the AI systems write their own algorithms? One possibility is to give an AI system, like a corporation, legal personality and to impose an obligation of compulsory third party insurance against harm caused without fault. In addition, or alternatively, a body of law will need to develop to decide how to allocate liability.

41. The UK Parliament and the Government have taken steps to establish mechanisms for *ex ante* scrutiny of AI, enlisting the help of The Alan Turing Institute to make algorithmic systems fair, transparent and ethical. Recommendations have included opening 'black box' systems to improve comprehension and explanation of algorithmic decision-making, preserving protected characteristics like gender and ethnicity in

automated systems, and balancing innovation with privacy in analysis of personal data. The UK Government has established the AI Council, which is an independent expert committee which provides advice to it. The AI Council published an "AI Roadmap" in January of this year. In July, the Government published its "Plan for Digital Regulation" and in September it published its "National AI Strategy" which plans to invest in and promote the UK's involvement in the development of AI and also to ensure that regulation addresses, among other things, the questions of liability and fairness, the risk of bias and the ownership of creative content which AI raises. It proposes to publish a White Paper on "a pro-innovation national position on governing and regulating AI. These are significant initiatives, but I am not persuaded that regulation will suffice and think that it will be vital to address the wider legal questions I have mentioned.

The way forward

42. There is much to do. How can we do it? I am not naïve enough to think that we can adapt our law speedily to address all the emerging problems of accommodating legal doctrine to emerging social and business practice. But I do believe that we should try.

43. It has been part of the genius of common law systems including mixed systems such as Scots law in which judge-made law plays an important role, that the law can be developed to meet new circumstances. One of the greatest innovators in English commercial law was the Scotsman, Lord Mansfield, who as Chief Justice of the King's Bench in the middle of the eighteenth century laid the foundations of many areas of commercial law.

His judgments are not infrequently cited in the Supreme Court over 250 years later.

44. Judges will have a part to play in the development of the law and statements about the law by the Financial Markets Law Committee and the UKJT can assist that process. But the law develops case by case and judges' conclusions are constrained to a large degree by the arguments which the parties' lawyers advance before them. Judges do not have the research and consultation capacities of government departments and Law Commissions. I think that there will need to be some fundamental reappraisal, especially in the field of property law, which will necessitate legislation probably in the Scottish Parliament, and intellectual property law, which will necessitate legislation in the UK Parliament.

45. It would be a useful start if we were to engage in the work of the Law Commission of England and Wales in relation to the use of trade documents in electronic form as those documents are the subject of UK-wide legislation. On the wider question of conceptualising digital assets as property, we will have to come up with Scottish solutions which fit these assets into the established structure of our property law by adopting a principled development of that structure so as to maintain its coherence. I think there is a case for prioritising the reform of property law. Being able to own crypto-assets and grant securities over them will assist Fintech businesses located in Scotland.

46. There will also be work to be done on the international plane. It is not enough for our legislatures and courts in the United Kingdom to adapt the

law to accommodate these novel forms of transacting without looking outside these islands. If advances in technology are to contribute significantly to international commerce, there is a pressing need for international cooperation to establish agreed rules of private international law and harmonised regulations. Many distributed ledger structures will operate across borders. This gives rise to uncertainty as to the governing law in relation to contracts executed and property held in the distributed ledger.

47. What is the way forward in this respect? I suggest that we should seek to extend the cooperation between regulators, such as the Global Financial Innovation Network, to achieve a greater harmonisation of regulation. Also, countries with a major interest in financial services should cooperate to promote new rules of private international law which could be promulgated by an international body, such as the Hague Conference or UNIDROIT.

48. Agreement on jurisdiction and enforcement would enable court judgments and arbitration awards to be enforced in several jurisdictions. The Standing International Forum of Commercial Courts has worked on enforcement of commercial judgments for money and might be a suitable body to seek agreement on rules of jurisdiction and enforcement.

Conclusion

49. In any reform of law and regulation in this field one will have to balance ethical considerations and the need for privacy and data integrity against

the potential benefits the new technology brings in terms of lowering transaction costs, broadening access to commerce, increasing market efficiency and enhancing consumer choice. It will be a challenging task with important ramifications for the well-being of our societies in the years to come.

50. Jean Clark loved Scots law. She wanted her Foundation to assist people to become good lawyers in this jurisdiction and preserve the quality of our legal system. I hope that she would have approved of my call to adapt our law to meet the challenges and take advantage of the opportunities which technological change is bringing.

51. Thank you.