

Future law.

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In a world awash with robots, teleports and self-driving cars, you are going to need a good lawyer, warns Richard Fisher

HEARD the one about the lawyer and the teleporter? The machine malfunctioned: the guy lost his suit, but thankfully not his briefs.

The joke may be terrible but there is a serious point: if we do start teleporting ourselves about in the distant future, who will be legally responsible when things go wrong?

Such accidents tend to be brushed over in science fiction. But if a person disappears altogether, wouldn't it be manslaughter? Even peskier legal problems are sure to follow: since teleportation would probably break down a person atom-by-atom and resurrect them somewhere else, there could be issues with privacy and data-protection law. After all, if your entire "self" was stored somewhere en route, it could be stolen and copied. Or, horror of horrors, that data could be employed to spam you with the ultimate in personalised adverts for weight loss products and Viagra. One thing is certain: before you step into a teleporter, you will need to sign the mother of all disclaimer forms.

Worrying about teleportation law may seem rather premature, yet it's a legitimate area of attention for one group of lawyers. This band of future-gazers meet regularly to debate the legal implications of technologies that are set to appear in the next century and beyond.

In their day jobs, they advise governments, publish in weighty journals and wrestle with the minutiae of copyright and contract law. But once a year, they let their hair down and apply their legal minds to everything from robot injury liability to virtual property. They consider the impact of drones on privacy law, discuss whether you can be libelled by an algorithm (spoiler alert: yes, and it has happened already) and even imagine how human teleportation will disrupt data-protection legislation.

Their meetings, the latest of which takes place this month at Bournemouth University in the UK, provoke more questions than answers, and it is all knowingly playful. But there is a point to it all: history is littered with poorly conceived laws covering new technologies. Such laws are often cobbled together by overzealous politicians and interpreted by out-of-touch judges. Which is why this group of lawyers believe that their profession must be better prepared for what's around the corner. Welcome to the future: it's a legal minefield.

Whenever technology has changed human capabilities, the law has had to adapt. Sometimes laws have been rendered dysfunctional or even ridiculous. As the first aircraft took off in the early 20th century, for example, US law stated that an individual's property rights encompassed the sky directly above their homes. That meant planes were soon routinely trespassing, and claimants rushed to court to make a fast buck. Judges were eventually forced to deem airspace a "public highway".

At other times, new inventions prompt completely new legislation, and here lawmakers have a reputation for poor foresight: in the 19th century, a UK law demanded that a motorcar driver must employ somebody to amble ahead of their vehicle, waving a warning flag.

Given that technology has rubbed up against the rule of law for millennia, it is curious that when we imagine the future -- be it a world of intelligent robots or routine space travel -- a realistic picture of law's role is seldom considered by anyone but the most dedicated science-fiction writers. Yet in all but

the most utopian visions of humanity's future, we will always have property, contracts, liability, victims, conflict and so forth. Our descendants' lives will almost certainly be shaped by the small print.

Most legal practitioners, too, tend to be uninterested in speculating about the role of law in the future. In common or case law especially, the emphasis is instead on probing the past. You are spending a lot of time looking backwards, says Lilian Edwards, who specialises in internet law at the University of Strathclyde, UK. "You're trying to make a case from 1830 work in the current day." Perhaps, then, this backward gaze helps to explain the law's reputation for either lagging far behind technological change, or knee-jerking when some new gizmo sparks a moral panic.

Though nobody thinks lawmakers should start acting pre-emptively, Edwards and her colleagues believe that the legal profession could be better prepared for disruptive technologies. In 2006, she was discussing these issues with fellow legal academics Andres Guadamuz and David Vaile in an appropriately unconventional location -- a hotel swimming pool during downtime at a legal meeting in the Dominican Republic. What was needed, the trio concluded, was a forum for lawyers like them - - technophiles and science-fiction fans -- to scrutinise the legal impact of future technologies. "Not all lawyers are behind the times," says Edwards. They decided to set up a "geek law" conference, and named it "Gikii" -- an in-joke based on the name of a type of legal database.

The idea took off. Gikii now runs annually in Europe and has spawned spin-offs in Australia and Japan.

The presentations may be light-hearted and esoteric, but many of the discussions have proved prescient. One highlight for Edwards was at the 2007 conference: a legal analysis of Facebook's impact on privacy rights and data protection law. At the time, Facebook was new and few were thinking about the downsides of the social network, but a Gikii presentation anticipated the privacy ruckus widely debated today. "Lots of ideas have worked their way into the mainstream of IT law from Gikii," says Edwards. "This is what it's for: to present a paper that right now looks ridiculous."

One technology poised to raise questions in courts and parliament is the drone -- a technology analysed at Gikii 2012 by Lachlan Urquhart of the University of Nottingham, UK.

While domestic policy-makers are mainly concerned with the safety issues of drones in civilian airspace, Urquhart and others are more interested in the implications for privacy law. Drones can carry cameras, so as legal scholar Ryan Calo of Stanford University in California has argued, "they represent the cold, technological embodiment of observation".

There are plenty of laws designed to regulate video recordings in public places, such as those that govern the use of CCTV cameras, but it isn't clear that they will suffice, says Urquhart. After all, he says, drones can follow people around and record them in their homes or gardens. Crucially, drones are increasingly operated by individuals and private companies who are perhaps less accountable under existing codes of practice than police and state operators. Consider what drones will do for paparazzi, for example. Urquhart admits that he doesn't know whether we will need "drone laws", but reckons the question needs asking.

This kind of conundrum underpins much of the analysis at Gikii; to what extent does the law need reforming? Do we already have it covered under existing regulations? In the past, critics have even questioned the need for specialist technology laws and lawyers at all. Perhaps the most notorious barb came from a US judge, Frank Easterbrook, who mocked the burgeoning study of "cyberlaw" in the 1990s. He suggested that those calling for whole new laws to govern cyberspace were no different to the lawyers of the 19th century who devoted their careers to "the law of the horse".

Rules for robots

Back then, horses were central to economies so the creatures got a great deal of attention. "There were textbooks that dealt with nothing else," says Burkhard Schafer, a legal academic at the University of Edinburgh, UK. Easterbrook's point was that we didn't need horse legislation when other areas of law were sufficient to cover every conceivable eventuality. If your horse was stolen, that was theft; if you were tricked into buying a sick horse, contract or property law probably had you covered, and so on.

With this in mind, Schafer took a sceptical stance when asked recently by the German government to review the need for legislation to regulate autonomous robots. There is a growing concern that algorithms, artificial intelligence and self-driving cars will need a whole new set of laws. "Lots of people think the law has systematic gaps," says Schafer. But is that right? In a light-hearted talk at last year's Gikii, Schafer presented his conclusions.

Take the danger that robots pose to humans. What would happen if, for example, an autonomous car hits a pedestrian? It would be tempting to imagine this legal territory is new, and that politicians must rush to legislate, yet there are case law precedents which mean courts are already equipped to make informed rulings. Ironically, Schafer told his audience, they come from the laws governing horse ownership. The Gikii audience erupted on hearing that horse law was useful; they thought it was hilarious.

Like self-driving cars, horses are autonomous, mildly intelligent forms of transportation that have the capacity to harm us. If a horse kicks someone, say, there are multiple precedents to help a court decide whether the owner should be held liable. "You don't approach a horse from behind. That's your fault," Schafer explains. On the other hand, if an owner or trainer has mistreated a horse and it becomes aggressive, the court would see things differently.

What's that got to do with robot cars? If one hits you, says Schafer, there are bits of knowledge that a court would expect a pedestrian to have known. Like a horse, a robot car can suddenly lurch off from stationary, if, say, it is summoned by its owner. Deliberately dawdle in front of such a vehicle and you would be knowingly reckless. Meanwhile, the owner would also have duties in the eyes of the law, like treating their car with care -- updating its software regularly, for example. Failing to do so could get the manufacturer off the hook. Similarly, if a garden-hedge-trimming robot goes haywire and attacks your neighbour, there are precedents from case law describing the ownership of dangerous dogs, such as the owner's responsibility to secure the animal.

So while robots are new, questions of liability have been playing out in courts for years. Perhaps, then, we don't need to rethink laws for robots. Maybe Easterbrook was right.

Not quite, Schafer told his audience. Robots can do one thing for which there is arguably no precedent -- they can talk. Parrots may mimic us, but only robots can say something original. This leads to an intriguing question: can a robot say something defamatory?

Schafer thinks it's possible. "You can easily imagine scenarios where a robot says things about you in the company of others that objectively damages your reputation in your community." He proposes an example: what if a faulty robot waiter wrongly announces at a restaurant, loud enough for other diners to hear, that your credit card has been rejected because your credit limit had been maxed out by an online porn subscription. "That could be defamation," says Schafer. Similarly, a robot could incite racial

hatred or commit a criminal insult -- a crime in some countries, such as Germany. Who would be liable? We have never had to deal with this before, says Schafer.

Rude computers

At least not until recently. "Defamation by algorithm" has now happened. In 2011, Google was taken to court in Italy by a claimant arguing that the company's algorithms defamed him in Google searches. When people typed the man's name in the search box, Google's intelligent auto-complete function added libellous terms for all to see. While the algorithm only did this because previous searchers had used the claimant's name in conjunction with these terms, Google lost the case. Since then similar claims have surfaced elsewhere. If other courts were to follow this precedent, it's not impossible that you could be sued for owning a rude or slanderous robot. Perhaps we need technology lawyers to help guide lawmakers after all.

Occasionally, too, a technology comes along that is so unequivocally disruptive that it will change everything. And this is the argument behind a Gikii talk on human teleportation given by Mathias Klang, a law professor at the University of Gothenburg in Sweden.

One by one, Klang ticked off all the areas of law that would be affected. For starters, if the transporter breaks and you disappear, there's manslaughter. And should transporting somebody against their will be classed as violent kidnapping or something else? There's the technology's impact on immigration law, too: we will need passport control and visas, and human rights legislation, he warned. And what if your god of choice is deemed to disapprove of teleportation? Should your right to refuse such transport be codified in law?

Of course, Klang is well aware that human teleportation is still firmly in the realm of science fiction. So why discuss it? In his Gikii presentation he argued that many current technologies are just as disruptive to the law and our way of life. Klang believes that because the digital age has transformed the way we share information, buy things and much more, many existing laws have been rendered almost useless and need to be comprehensively rethought. Take copyright law. "We're still stuck in the philosophical ideas and case law of the last 300 years," he says. According to Klang, the legal profession needs to be more imaginative.

Later during the meeting, talk turned to a more uncomfortable question: could technology ever replace human lawyers? Legal expert and author Richard Susskind has pointed out that many aspects of law could soon be automated, like conveyancing. With advances in AI, it's not impossible that further deskilling will occur. Do these future-gazers see themselves out of jobs?

Not surprisingly, the Gikii attendees are sceptical that their professional talents could be totally eliminated. As Schafer points out, the printing press was proposed as a way of getting rid of lawyers too -- instead, citizens could simply read the law of the land from a printed document when required. It didn't turn out like that. "I'm afraid you're stuck with us," says Schafer. Like it or not, when the future arrives you are going to need a lawyer.

Grew wings in a teleporter? You may have grounds for a claim

Is it legal to hover a camera over your neighbour's home?

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By Richard Fisher

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