**CHAPTER 10**

**Tort and Autonomous Vehicle Accidents – the Automated and Electric Vehicles Act 2018 and the Insurance Solution?**

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**I. Introduction**

Even if autonomous vehicles (‘AVs’) prove to be safer than human drivers, accidents will still occur.  The law will need to be able to compensate the victims of such accidents.  The current motor accident compensation system within England and Wales is based on the tort of negligence, combined with compulsory motor insurance.  Given the compulsory insurance context driver “fault” is assessed at a standard which can tend towards strict liability.  This accident compensation system is threatened by AVs.

With AV accidents, since AVs are machines not persons, where an AV causes an accident there is no negligent driver, and thus no “driver” to sue.  AVs also generate further difficulties for an accident compensation system based on negligence.  Due to inherent features of AVs they challenge a number of key tort concepts such as causation, and remoteness of damage.  Alternative actions based on product liability, and/or direct duties against designers, maintainers, data-suppliers etc, are not a substitute for the absence of a negligence action against a driver.  These actions contain a number of additional legal hurdles when compared to negligence, are also challenged by AVs, are forensically more difficult, and require complex expert evidence.  They are also simply not viable as alternatives in low value claims which characterise many motor vehicle accidents.

The difficulties AVs cause for tort has been recognised by the UK Parliament.  In a bid to get AVs on the road, Parliament has enacted the Automated and Electric Vehicles Act 2018 (‘AEV Act’).  It is a pre-emptive, hurried, and sticking-plaster solution.  This Act provides victims of AV accidents with a direct, strict liability claim, against the AV’s insurers.  In doing so it inadvertently violates technology impartiality (“tech-impartiality”), (the idea that tort law should not favour any particular technology over another where the risks of harm are equal).  However, the AEV Act is more subtle than its drafters and enactors may have thought.  Whilst unarticulated in its enactment history the Act co-opts the insurer as an indirect regulator of AVs.  This is not simply through differential insurance pricing based on product risks, but also through the role of subrogated litigation.

As with any vehicle, insurers will have the ability to monitor accidents, and price insurance accordingly.  However, the real value of the AEV Act’s model is the insurers’ subrogated claims.  Here insurers have the opportunity to use their litigation expertise, resources, ability to combine claims, and their ability to engage in strategic litigation, which will justify the services of the expensive experts and the litigation resources necessary to pursue claims against AV manufacturers and Big Tech.  Nevertheless, the AEV Act does not solve the core problems raised by the tort/AV interface, and simply displaces these problems and places them onto insurers.

**II. AVs and Accidents**

AVs have the potential to reduce motor vehicle accidents. However, even if they prove safer they will also cause accidents, including in some situations where a human driver would not since the nature of their errors may differ from those made by human drivers. There have been a number of well publicised AV accidents. Perhaps the most famous is the Tempe incident,[[1]](#footnote-1) where an Uber automated test vehicle which was operated by an automated driving system (‘ADS’) struck, and fatally injured a pedestrian pushing her bicycle. This resulted from the ADS repeatedly misclassifying the pedestrian and not predicting her actual path of movement. Immediately before the collision the system determined that a collision was imminent, but the ADS’s response specifications were exceeded, and the human safety driver in the vehicle failed to intervene in time.[[2]](#footnote-2)

In addition to these well publicised accidents data published by the United States National Highway Traffic Safety Administration (‘NHTSA’) also indicates that AV accidents are with us, and that the law will need to be able to deal with them.[[3]](#footnote-3) From July 2021-December 2023 the NHTSA received reports for 508 crashes involving ADS equipped vehicles, 4 of which involved serious injuries, and 20 involved minor injuries.[[4]](#footnote-4) Normal accident theory further suggests that some AV accidents are inevitable.[[5]](#footnote-5) Potential industrial users of such technologies appear to be highly aware of the potential for AV accidents as well.[[6]](#footnote-6) Thus as AVs replace human drivers the law needs an adequate way to respond to these accidents and to compensate those wrongfully injured.

**III. Current Motor Accident Compensation System**

Previous major advances in transportation have led to significant developments in tort law. It is difficult to underestimate the impact of the development of the railways, and the motor vehicle on tort,[[7]](#footnote-7) and on the tort/insurance ecosystem.

The current motor accident compensation system in England and Wales is a fault-based system which uses the tort of negligence with road users owing a duty of care to one another. This system examines individual driver fault. Importantly it operates alongside compulsory motor insurance,[[8]](#footnote-8) with significant limitations on insurance exclusions[[9]](#footnote-9) and on the ability of insurers to assert defences ordinarily available in insurance law.[[10]](#footnote-10) A motor accident victim may also pursue the tortfeasor’s insurer directly.[[11]](#footnote-11) There is also a tapestry of provisions which establish insurer liability in circumstances other than simple coverage of a negligent driver within the terms of the policy. For instance, the insurer may also retain liability in circumstances where it is entitled to avoid the insurance policy, and does not indemnify the tortfeasor who is unable to satisfy judgment,[[12]](#footnote-12) or where it has avoided the policy.[[13]](#footnote-13) A victim may also pursue an insurer of an at fault vehicle even if the individual driver was uninsured, for instance where an unauthorised driver is driving the vehicle.[[14]](#footnote-14) These provisions partially reshape the terrain of the motor vehicle accident compensation system towards insurance of the vehicle, rather than merely insurance of the driver(s) covered by the policy. Nevertheless, there still needs to be a negligent driver for liability to be present. There is also a privately operated fund of last result, the Motor Insurance Bureau, (‘MIB’), which compensates the victims of uninsured or untraced driver torts, and which is funded by the motor insurance industry.

A number of other jurisdictions now use strict liability for motor vehicle accidents.[[15]](#footnote-15) Initially the development of a leisured motoring class in England, its concerns about individual liability, and the development of a motorist lobby, meant that English law when initially faced with motor vehicle accidents adopted a fault based approach to motor accident liability, in contrast to its approach to liability for industrial traction engines and steam rollers, which used strict liability.[[16]](#footnote-16) Once motoring had become more democratised, and motor insurance had become compulsory,[[17]](#footnote-17) the law evolved, and the fault based requirement of the tort of negligence in a motor vehicle accident context shifted towards a more strict liability system,[[18]](#footnote-18) the standard of care applicable to drivers evolving to that of an experienced, skilled, and careful driver, even if the driver in question could not meet that standard, for instance due to them being a learner driver, or due to the driver’s infirmity.

However, motor vehicle accident litigation is still nominally fault based, and fault needs to be pleaded. An at fault driver is still labelled as negligent, and there are also financial consequences for them, including the payment of any insurance excess, increased motor insurance premiums in future years, and loss of no-claims bonuses. A professional driver may also face career consequences with a finding of negligence against them. With uninsured drivers the MIB may also pursue uninsured drivers for contribution. Thus a collision in the absence of evidence of fault does not justify the imposition of liability.[[19]](#footnote-19)

Most motor vehicle accident cases are settled prior to trial. This is since fault is relatively easy to establish in many circumstances, particularly through the use of rough and ready rules by insurers, or fault may simply be irrelevant when an accident is dealt with through a knock for knock agreement. However, when such cases are tried, (most frequently in the County Court since most motor accident litigation concerns low value claims), advocates will spend time cross examining witnesses in order to elicit evidence which illuminates the question of fault and also contributory negligence. Expert evidence is typically not used in such litigation since fault in such cases is treated as one of common sense, which can be resolved without the need for expert opinion.[[20]](#footnote-20) This helps to keep costs down in this high volume litigation field.

1. **Insurance and Tort**

Insurance is integral to tort litigation. Notwithstanding arguments that questions of liability in tort law, such as the applicable standard of care, should not be shaped by the presence of insurance,[[21]](#footnote-21) arguments invoked by courts in a number of contexts, including loss spreading,[[22]](#footnote-22) and also claims which stretch the ambit of duties of care to reach insured parties,[[23]](#footnote-23) appear to contradict this contention. Insurers have also themselves directly shaped tort, for instance by seeking new parties with whom to share liability burdens,[[24]](#footnote-24) and as repeat players by strategically deciding whether to settle or bring claims, appeal, or lobby Parliament. The presence of insurance also influences the development of tort through the fact that tort litigation which pursues an uninsured defendant, who is not a solvent self-insured defendant, is either not brought, or may be viewed with suspicion by many lawyers.[[25]](#footnote-25)

It is undoubtedly the case that insurance has had a significant impact on the law of tort,[[26]](#footnote-26) particularly with motor vehicle accidents, which have been shaped by the presence of compulsory insurance and a fund of last resort.[[27]](#footnote-27) It was also the potential for the individual liability of members of the leisured motoring classes in the early 20th Century that ensured the adoption of fault based liability for motor vehicle accidents in the first place, instead of using the strict liability approach then applied to industrial steam road vehicles. With accidents involving the latter loss could be spread through the enterprise, and was less likely to be concentrated on one individual tortfeasor. The introduction of compulsory insurance for motor vehicles then led to shifts within the applicable standard of care, such that it is now the case that many drivers doing their best simply cannot meet this standard. Indeed maintaining an approach to the standard of care in a motor vehicle context which is more typically found in other negligence contexts which are less pro-claimant, would likely have led to legislative reform of the motor vehicle accident compensation system.

Merkin argues that the existence of compulsory insurance demonstrates a legislative intent for the compensation of victims of accidents, and that courts should take this into account.[[28]](#footnote-28) It is hard not to agree. All of the players in the litigation are aware that the individual motorist is not paying for the damage themselves, and that the cost of the accident is primarily spread amongst fellow motorists via their compulsory premiums, or via the MIB. Whereas for the victim to shoulder the costs of the accident is to concentrate the costs on a single person, with potentially life changing financial consequences for them, particularly in the case of some personal injury claims which result in disabilities significantly impacting on an individual’s ability to work, or requiring long term personal care. The lawyers on both sides are also likely to be instructed by the respective insurers, save in the case of pedestrian or cyclist victims. A failure to recognise the significant role of compulsory insurance in shaping the unique motor vehicle accident tort architecture is potentially dangerous, and runs the risk of perverting the law of negligence in other contexts. Such a failure may run the risk that any stretching of negligence doctrines in a motor vehicle context will not be viewed with suitable caution in other contexts, where compulsory insurance is not present, and when some defendants are not insured, or able to spread the loss in other ways, and/or where any finding of fault may have significant financial or professional, even career ending, consequences for a defendant.

**IV. The AV Challenge**

When discussing AV technologies it is typical to cite the Society of Automotive Engineers (‘SAE’) J3016 levels of driving automation. These range from Level 0 to Level 5. Levels 0-2 concern driver support features, and the human driver remains in control of the vehicle. With Levels 3-5, the vehicle drives itself, but with Level 3 systems a human driver may need to take control when requested to do so, whereas with Level 4 and Level 5 technologies they do not, and such vehicles might not in fact be fitted with steering wheels or pedals. Level 4 systems might include driverless taxis, which operate in limited conditions, whereas Level 5 systems can drive anywhere in all conditions.

Levels 0-2 cause limited difficulties for tort, although a minor difficulty emerges with Level 3. With Levels 0-2 the human remains driving the vehicle, and with a Level 3 system a human driver is available to step in when need be. With tort it is possible to target a safety driver, or remote operator for negligent supervision, or failure to intervene, or for improperly responding, and also their employer (where they are carrying out such a role when employed) via vicarious liability for this negligence. However, for fully autonomous systems such a route is not available.

Nevertheless, with a claim for negligent supervision by the safety driver human factors research would suggest that this claim is not entirely coextensive with a claim that might be brought against a negligent driver themselves. This is since there may be situations where it is not humanly possible for a safety driver (who is in an observational role and not actively driving), to obtain the same level of situational awareness and react with the same speed as a driver actively driving the vehicle.[[29]](#footnote-29) This may be particularly problematic where the handover time provided by the AV is insufficient for the safety driver to be able to obtain sufficient situational awareness, and/or react in time in order to make a difference. To hold a safety driver to be at fault, might be unjust where it is a situation where no reasonable human safety driver would be able to properly obtain sufficient situational awareness, intervene, and prevent the accident in time, even where a driver actively driving the vehicle at the time could have. It is significantly more objectionable to hold a safety driver to be at fault for not meeting a standard of care that no human can reach, than the situation where an inexperienced driver is held to be at fault in not meeting the standard of a competent driver.

With AVs where a human is in or on the loop, such as with AV technologies up to and including Level 3, it will still be possible to bring actions against the operator/supervisor/safety driver for negligence in their operation or supervision of the system, and also against their employer via vicarious liability. However, with fully autonomous AVs (Level 4-5 technologies) this liability route is not available. Such an AV which drives in a manner which would be negligent if it were driven by a human driver, and which as a result causes an accident, does not trigger the tort of negligence in the same way as a human driver does, and here there is no safety driver on whom to pin a negligence claim. AVs are not legal persons,[[30]](#footnote-30) instead AVs are personal property. Only persons, legal or natural, can commit torts.[[31]](#footnote-31) Property, such as an AV, cannot commit a tort. Instead we hold those associated with it to account.[[32]](#footnote-32) This creates a potential liability gap for AVs.[[33]](#footnote-33)

**V. Alternative Claims**

Where an injured victim cannot sue an at fault driver (or safety driver) since there is no human driver, what should the victim do?[[34]](#footnote-34) Where a fully autonomous AV causes an accident in a manner that would be considered negligence if a human were driving the vehicle, there are a range of potentially available alternative claims, although as we will see below they do not address the gap, and this in part led to the enactment of the AEV Act. It is also necessary to examine such claims in detail since they are also the subrogated claims available to insurers as a result of the AEV Act.

1. **Negligence**

In the absence of a driver the first possibility is to find another person (legal or natural) who is at fault and whose fault caused the accident, and to bring a negligence claim against them.[[35]](#footnote-35) Such claims may potentially be brought against manufacturers, programmers, designers, users of the AVs, and so on, provided that they owe a duty of care to the claimant, and that breach of this duty led to the accident. For instance it is likely that those who use AVs commercially will owe a duty of care to appropriately monitor them, and to maintain them,[[36]](#footnote-36) a failure to properly do so, which leads to an accident is likely to found a claim in negligence. Manufacturers also owe duties of care to the world at large for negligence in the production of their goods, and analogous duties have also been placed on designers, repairers, maintainers, and distributors of products.[[37]](#footnote-37) It is likely that programmers, developers, and those responsible for training data will hold similar duties. There may also be a duty of care on producers of AVs to monitor them after they have put them into circulation.[[38]](#footnote-38) In assessing whether there is a breach of duty, courts will consider whether the defendant met the required standard of care, which in this context is that of the ordinary competent practitioner in the relevant calling.[[39]](#footnote-39)

However, there are considerable problems with such a claim, when compared with a claim brought against a human driver for negligence. The first is in identifying the relevant tortfeasor. Many parties may be involved in the creation, commercialisation, and operation of an AV.[[40]](#footnote-40) AVs will consist of multiple component parts – there may be different entities responsible for the motor vehicle, the technology which controls this platform, the learning systems, the data on which that system was trained,[[41]](#footnote-41) and for updates to the system.[[42]](#footnote-42) Interconnectivity and information sharing with systems outside of the control of the parties,[[43]](#footnote-43) for example the highway infrastructure systems and other AVs designed, produced, and operated by others will also occur, and will complicate the claim. The complexity of AVs, and their inputs means that it may be extremely difficult to identify the relevant tortfeasor.

Further, adaptability, interactivity, and autonomy will make it particularly difficult for users to prove that manufacturers, developers, and designers did not meet the required standard of care.[[44]](#footnote-44) The evidence necessary to do so may be difficult to obtain, and extremely difficult to comprehend, and may necessitate specialised expert evidence. This means that the cost of bringing such actions may be high, and may only be viable in larger value actions,[[45]](#footnote-45) and not in low value motor accident claims. In addition the behaviour of some systems may vary significantly, even after a short period of time, from their interactions with others such that fault is unlikely to be found on the part of those who design, manufacture, or supply AVs.[[46]](#footnote-46)

Even if it is possible to establish duty, and breach, the issue of causation arises. Negligence requires causation of the harm. The models of causation used by negligence require a tracing back process, whereby the harm is traced back to a breach of duty committed by a person. The number of potential parties involved in an AV further complicates this process.[[47]](#footnote-47) The complexity of AVs complicates proof, and may make proving causation of damage extremely difficult.[[48]](#footnote-48) Establishing causation involving AVs may require significant forensics, simulations, and examination of logs. This may lead to protracted and costly litigation, in turn delaying or denying victims compensation. Again these costs may not be viable in smaller value claims representing the majority of motor accident claims.

Further, causation is extremely problematic in a machine learning context. Traditional common law tests of causation may fail.[[49]](#footnote-49) It is also possible that defendants may seek to rely on the doctrine of *novus actus interveniens* where post-delivery, an AV is exposed to unusual circumstances, resulting in the system learning inappropriate responses, or where the system has been hacked.[[50]](#footnote-50) The evidential doctrine of *res ipsa loquitur*, may assist claimants,[[51]](#footnote-51) but for this doctrine to apply, the thing that inflicted the harm needs to be under the sole management and control of the defendant.[[52]](#footnote-52) It is thus not a complete solution in the AV context,[[53]](#footnote-53) since it will often be the case that the system is not under the sole management and control of the defendant.[[54]](#footnote-54)

A claim in negligence also presupposes foreseeability of harm. A defendant is only liable for damage of a kind which would have been reasonably foreseeable at the time of the breach of duty.[[55]](#footnote-55) This requirement may be problematic in an AV context,[[56]](#footnote-56) particularly since it is assessed at the time of the breach of duty, and not when the harm was suffered. The systems may be so complex that they may perform actions which are unforeseeable, and which result in unforeseeable harm,[[57]](#footnote-57) particularly where they draw on constantly shifting vast real world data, or the internet,[[58]](#footnote-58) interact with other systems,[[59]](#footnote-59) or where the systems continue to learn from interacting with their surrounding environment once they have left the hands of the designer/producer/supplier.[[60]](#footnote-60)

It is thus clear that a claim in negligence against a person associated with an AV, which drives in a manner which would be considered negligent if it were driven by a human, is not a substitute for a claim in negligence against a human driver. Firstly, no one person may be negligent for this occurrence, and even if they were there are considerable hurdles in the way of the claim, and additional costs when compared to typical motor accident claims.

1. **Consumer Protection Act 1987**

A second alternative is to use a claim under the Consumer Protection Act 1987 (‘CPA’). However, there are significant problems with such a product liability claim in an AV context.[[61]](#footnote-61) The CPA defines products as “any goods or electricity”, thus whilst the provision includes AVs, or updates to the AV’s software which are provided via a tangible medium, there are real problems in applying this to software, or to defective updates provided to the AV over the air.[[62]](#footnote-62) The CPA regime makes producers, suppliers, or importers liable for damage resulting from defective products.[[63]](#footnote-63) Defective being defined as where the “safety of the product is not such as persons generally are entitled to expect”,[[64]](#footnote-64) and in determining this, the manner and purposes for which the product has been marketed, and what might be reasonably be expected to be done with or in relation to it are considered.[[65]](#footnote-65) With self-learning systems, it is unclear if unpredictable deviations will be treated as defects.[[66]](#footnote-66)

The claimant will need to identify and prove the defect. With AVs which may be sophisticated, opaque, and interconnected systems this may be an extremely difficult and costly exercise requiring significant expertise.[[67]](#footnote-67) The defect needs to be present at the relevant time, that is the time when the product was supplied, otherwise the defendant has a defence to the claim.[[68]](#footnote-68) This means that the regime has trouble accommodating claims arising from updates to systems, third party activities, interconnected systems, data sharing, and post-supply self-learning.[[69]](#footnote-69) This causes significant problems in an AV context. Likewise the defect must cause the damage. Similar problems with proving causation are present as with a claim in negligence, although foreseeability of damage is not required.

Further weakening the claimant’s position is the state of the art defence. This defence means that the defendant is protected from liability if they can show that “the state of scientific and technical knowledge at the relevant time was not such that a producer of products of the same description as the product in question might be expected to have discovered the defect if it had existed in his products while they were under his control”.[[70]](#footnote-70) Whilst a fairly narrow interpretation is given to this defence[[71]](#footnote-71) since many defects, particularly with machine learning might not be discoverable under the existing state of scientific and technical knowledge until after an accident,[[72]](#footnote-72) this defence may render the CPA claim of limited value in an AV context.[[73]](#footnote-73) Finally the need for costly expert evidence to establish defectiveness, causation, and to counter any state of the art defence,[[74]](#footnote-74) means that this claim against the supplier/producer/importer is a poor substitute for a claim that could be brought against a negligent driver.

1. **Liability Gap**

Since both of these alternative claims do not offset the loss of the claim in negligence against a human driver, the position of the claimant injured by an AV is significantly weaker, both in legal and practical terms, than that of a victim injured by a human driver. This results in a liability gap. There will undoubtedly be situations where an AV drives in a manner which would be negligent if driven by a human driver, but where no one individual designer, programmer etc is at fault, and the AV is not itself “defective”. Further, the alternative claims are not suitable to low value motor accident claims. It is also important to note that these claims are also available in the context of ordinary motor vehicle accidents (for instance for negligence in designing the vehicle, or defective braking systems etc), but they are inevitably not brought, since they are considerably more complicated to bring than a claim which alleges driver fault. Proving fault on the part of someone other than a driver, such as a designer, is a complicated, and expensive process. Even strict liability product liability claims are also significantly less attractive than claims against a negligent driver. Further, these alternative claims are not subject to the compulsory motor insurance regime.

**VI. The AEV Act**

Recognising some of these significant problems with the alternative actions Parliament introduced a bespoke regime for AV accidents, which is to be found in the AEV Act. The Act, which came into force in 2021, is part of a Government strategy to put the UK at the forefront of AV deployment,[[75]](#footnote-75) and partly motivated by a desire to help ensure that the public is receptive to AVs.[[76]](#footnote-76) The Act is pre-emptive in that it was enacted prior to approved AVs operating on UK roads. This was done in order to permit parties to know the relevant civil liability regimes for AV accidents in advance of their deployment.

The provisions dealing with AVs are found in Part I of the statute. Part II is concerned with electric charging, and does not concern us here. Part I is short, and does not seek to be a comprehensive regime, instead it seeks merely to set out a liability regime which is sufficient in order to enable the deployment of AVs, whilst providing for accident victims. It does not seek to deal with regulatory standards or approval processes, which AVs need to meet in order to be able to be deployed on the road. It also does not deal with the data storage or sharing requirements[[77]](#footnote-77) which may in fact be necessary for the proper functioning of an AV insurance market.

1. **Definition?**

The AEV Act does not set out a technical definition of an AV.[[78]](#footnote-78) Instead AVs are defined in accordance with whether or not they are included on a list kept by the Secretary of State.[[79]](#footnote-79)

Section 1(1) states:

(1) The Secretary of State must prepare, and keep up to date, a list of all motor vehicles that—

(a) are in the Secretary of State’s opinion designed or adapted to be capable, in at least some circumstances or situations, of safely driving themselves, and

(b) may lawfully be used when driving themselves, in at least some circumstances or situations, on roads or other public places in Great Britain.

Considerable discretion is given to the Secretary of State,[[80]](#footnote-80) and the Act does not provide any guidance as to how to exercise it. The word “capable” means that the vehicle does not need to use this capability all of the time, for instance where it can only be used in particular conditions such as motorway driving, or where the capability can be turned off and on. The phrase “safely driving” is not defined, but this is likely to include a consideration of test results, accident records, and soft law standards. Since the cause of action which the AEV Act creates only applies to vehicles on the list,[[81]](#footnote-81) there is a significant risk that liability under the Act may either be too broad, or too narrow, depending on how the list is compiled. A list which is too narrow will mean that accident victims may be forced to bring complicated and difficult product liability claims.

In place of this approach Parliament considered using the SAE levels, but this proposal was rejected on the basis that they were considered too imprecise, and insufficiently robust for legislative use.[[82]](#footnote-82) Although their use in US regulation might imply that they may be adequate for such purposes.[[83]](#footnote-83) However, since they are American rather than international standards, are not the only categories used to define AV technologies, and are not used by the United Nations Economic Commission for Europe, (which sets regulations for vehicle standards), this may also have played a role in not tying the cause of action provided by the AEV Act to the SAE levels.[[84]](#footnote-84) It also may help prevent litigation regarding categorising AV technologies, which as experience shows are sometimes misclassified in different contexts, including over-classified for marketing purposes. The absence of statutory definitions or guidance may therefore be a deliberate attempt to future proof the Act in that it allows the legislation to adapt to the prevailing technology, and any emerging future consensus on international definitions for AVs.

Notwithstanding the Secretary of State’s discretion, for the practical operation of the liability mechanism in the Act an AV appears to be limited to Level 4 and 5 technologies,[[85]](#footnote-85) since the statutory cause of action is limited to a vehicle “driving itself”. This is defined in Section 8(1)(a), which states that “a vehicle is “driving itself” if it is operating in a mode in which it is not being controlled, and does not need to be monitored, by an individual”. Driver assist systems are therefore not included. This may be problematic since if the accident is caused by a defect in a Level 3 system, and the driver is not at fault in monitoring it (and as we have seen above human capabilities monitoring may be different from human capabilities driving), the victim will be left to pursue a difficult, and expensive product liability claim against the manufacturer.[[86]](#footnote-86) It is therefore arguable that the Act is under-inclusive.

As part of a broader review of the AV legal framework the Law Commission has proposed a new AV authorisation process. This will render the AEV Act listing system unnecessarily duplicative, and potentially contradictory, and the Law Commission therefore recommended an amendment to Section 1 so as to integrate it into a new AV authorisation process.[[87]](#footnote-87) This proposal has been accepted by the Government,[[88]](#footnote-88) and is to be found within the Automated Vehicles Bill 2023-24,[[89]](#footnote-89) which if enacted will remove Section 1, and insert the word “authorised” in front of the words “automated vehicle” in other sections of the AEV Act, thus referring to the new authorisation procedure. Whilst the authorisation procedure will still be carried out by the Secretary of State,[[90]](#footnote-90) and will use as yet to be drafted secondary legislation, the Secretary of State’s discretion is less arbitrary. There is a requirement for the Secretary of State to identify how the AV meets the self-driving test,[[91]](#footnote-91) and also to prepare a statement of safe principles which they propose to apply in assessing whether the vehicle is capable of travelling autonomously and safely. In drafting these principles the Secretary of State is required to consult with representative organisations, and to frame them with a view to securing that AVs will be as safe, or safer than careful and competent human drivers, and that road safety will be improved by the use of such vehicles.[[92]](#footnote-92) The Law Commission did not propose any other alterations to the AEV Act, and the Automated Vehicles Bill 2023-24 makes no other amendments to the statute.

1. **The Liability Regime**

The core of the AEV Act is Section 2 which introduces an insurer pays system. Its purpose is to plug the gap in insurance cover which arises due to the removal of the human driver,[[93]](#footnote-93) and to ensure that accident victim claims remain within the motor insurance framework and that victims do not have to pursue product liability claims against AV manufacturers.[[94]](#footnote-94) Section 2 provides that where an AV is driving itself, and causes an accident the insurer is strictly liable for any damage suffered by the insured person, or by any other person as a result of the accident.[[95]](#footnote-95) Damage under this section includes death, personal injury, and property damage. However, it does not include liability for property damage to the AV itself, or goods which are carried for hire and reward in the AV or in a trailer drawn by it.[[96]](#footnote-96) Liability for property damage under this section is capped at £1.2 million.[[97]](#footnote-97)

Where the AV is not insured the owner is instead strictly liable for the damage.[[98]](#footnote-98) However, there is a lacuna in this AV liability regime when compared to the regime applying to conventional motor vehicles since there are currently no agreements in place with the MIB to cover uninsured owners of AVs, who may be men of straw. Further work is needed to get an agreement in place with the MIB, and it is understood that negotiations are ongoing.

For strict liability to be present under Section 2(1) the AV must be “driving itself”. This as we have seen above is defined in Section 8(1)(a). However, there is a lack of clarity in its application. The use of this phrase means that this statutory liability will not apply to all AV accidents. For instance it is unlikely that it will cover an accident caused by an AV being parked in a dangerous position, even if it parked itself, since it is not at this time being “operated”,[[99]](#footnote-99) it is also possible that an AV will not be considered “driving itself” if it is stationary in traffic, with its engine turned off, and where it is hit by a third party motor vehicle from behind, which shunts it into the vehicle in front.

The requirement for the AV to be “driving itself” means that vehicles will move in and out of this strict liability system depending on whether they are driving themselves, or whether the human driver has intervened, and/or the autonomous driving system has been turned off. With the latter two situations ordinary fault based liability against the human driver will be in operation. The fact that AVs require a single policy of insurance covering both the vehicle and the driver will help to reduce the potential for disputes as to whether the vehicle is driving itself, since the same insurer will cover both the driver and the AV.[[100]](#footnote-100) This in turn stops two different insurers from disputing which insurer covers the accident, which might occur if separate insurers covered the AV and the driver. Nevertheless, there will be incentives to argue that the vehicle was not driving itself at the time of the accident, since notwithstanding the fairly strict approach taken to fault in a motor accident negligence context, if the vehicle is not driving itself it will slightly strengthen the hand of the insurer in defending against the claim. This may be particularly tricky during handover situations. Secondly, where it is the driver of the vehicle themselves who is injured whether or not the vehicle is driving itself will determine if the insurer is liable to the driver. If the driver is in fact driving themselves, the insurer will not be so liable,[[101]](#footnote-101) and the loss will lie with the injured driver if no other party is at fault, and no product liability claim is available. It may thus be necessary for such litigation to involve consideration of data produced by the AV, particularly in handover cases. In some circumstances the Act will not have sidestepped the need for courts to forensically examine data in order to compensate accident victims.

Section 2 uses the word “caused”, which also includes accidents which are “partly caused” by the AV.[[102]](#footnote-102) This is likely to be construed as importing a but for test, and is narrower than “caused by, or arising out of, the use of”, which is found within Section 145(3)(a) of the Road Traffic Act 1988. Given the use of the word “accident” in Section 2 it is not clear if the strict liability claim would cover deliberate harm, for instance the situation where the collision results from the AV being hacked by a malicious third party and turned into a weapon,[[103]](#footnote-103) or where an AV deliberately hits another vehicle or pedestrian so as to minimise harm to others or the AV’s occupants (as with a classic trolley problem situation). If a similar approach is taken to interpreting this word as with conventional vehicles it is possible that the cause of action may also cover deliberate harms.[[104]](#footnote-104)

Notwithstanding the regime’s strict liability approach, Section 3 introduces a contributory negligence defence. Where the accident or the damage which results from it was to any extent caused by the injured party the liability is reduced by whatever reduction would apply to the claim under the Law Reform (Contributory Negligence) Act 1945, if the claim was brought via a route other than the AEV Act claim.[[105]](#footnote-105) This complicated provision, which Goudkamp describes as “nothing short of an embarrassment in account of [its] complexity”,[[106]](#footnote-106) appears to require the court to imagine that the AV is a conventional motor vehicle and apply the contributory negligence approach which would apply in such an accident, or that it is a defective product which has caused the accident, and apply the relevant contributory negligence approach to that claim. This requires consideration of the respective faults of the AV and the victim, and runs the risk of importing human standards to AVs via the back door, in spite of the strict liability claim. Section 3(2) imports 100% contributory negligence, which excludes insurer liability to a person in charge of an AV (but not third parties), where the accident was wholly due to their negligence in allowing the vehicle to drive itself when it was not appropriate to do so. Despite some criticism of Section 3 the Law Commission has declined to propose changes to the section, considering that it is best reviewed in the light of AEV Act litigation, and since most insurers consider it sufficiently “fit for purpose”.[[107]](#footnote-107)

Section 4 deals with unauthorised software alterations or failures to update software. It permits an insurance policy to exclude or limit the insurer’s liability under Section 2(1) for damage which is suffered by an “insured person” where the accident occurs as a “direct result” of software alterations made by the insured person, or with their knowledge, which are prohibited by the policy, or as a result of a failure to install safety-critical software updates, which the insured person knows (or ought reasonably to know) are safety-critical. Safety-critical is given a narrow definition, such updates being safety-critical only where it would be unsafe to use the AV without the updates.[[108]](#footnote-108) This appears not to include mere safety improvements to a generally safe vehicle. Where the insured person is not the holder of the policy the exclusion in relation to software alterations only applies where the victim knows that the alterations are prohibited under the policy. Section 4(3) also permits the policy to include provisions which allow the insurer to recover sums which it has paid to victims under Section 2(1) from an insured person who makes such alterations, or fails to install safety-critical software.

This section is likely to lead to insurers including clauses prohibiting software alterations, or penalising a failure to update software in their AV insurance policies, thus placing market pressure on AV owners not to modify their vehicles, and to ensure updates are installed, although specialised “tinkerer’s insurance” may emerge with higher premiums.[[109]](#footnote-109) It is submitted that the failure to install safety-critical software provision is too harsh, and a contributory negligence approach would be more appropriate, which is tailored to the fault of the insured person. There is a significant difference between a failure to install which is caused by a genuine oversight such as by storing the AV inside a garage at a house where there is limited signal, perhaps in a rural and hilly location, with limited mobile coverage/radio coverage, thus preventing regular over the air updates, and a situation where an individual deliberately blocks signals to the AV by removing parts of the AV, or covering parts of the AV in signal absorbent materials. Further, it is unclear what level of knowledge is expected of an AV owner in this context. Some owners will be sophisticated early adopters of the technologies, but AVs also offer opportunities for those with significant disabilities to gain mobility. There is thus also a risk that “ought reasonably” will be construed in a way which is harsh to unsophisticated parties, and also to those with mental or developmental disabilities, groups for whom AVs offer significant opportunities for increased independence, and for whom some classes of AV will be specifically designed for.

1. **Superior Position**

Through the AEV Act regime victims of AV accidents are placed in a superior position over victims of conventional motor vehicle accidents. Firstly, the strict liability claim against insurers means that AV accident victims, unlike the victims of human driven motor vehicle accidents, do not have to prove fault. Thus AV accident victims will be able to recover even where the AV is not defective, and where it drives with all due care and skill, such that if it were driven by a human driver there would be no negligence. Secondly, Section 2(1) provides for strict liability for “damage”, including “personal injury”, but the latter is not further defined in the Act, and it would appear to include pure psychiatric harm. Recovery for psychiatric harm for secondary victims under the AEV Act appears not to have the ordinary restrictions found in a negligence claim.[[110]](#footnote-110) Thus a secondary victim, a passive witness of the AV accident, may be able to claim for pure psychiatric harm even where they do not have a close tie of love and affection with an individual involved in the physical accident. Parliament did not seem to recognise that it had placed AV accident victims (both primary and secondary) in a superior position to the victims of ordinary motor vehicle accidents.[[111]](#footnote-111) However, such an approach, could be favoured by policy makers as a result of a need to obtain public acceptance of AVs, particularly in the light of the problems encountered in San Francisco, where members of the public have deliberately disrupted the operation of AV taxis.[[112]](#footnote-112)

However, there is one aspect where the Section 2(1) claim is less favourable than a claim in negligence, and that is in regard to limitation. With property damage the AEV Act contains a limitation period for property damage of three years,[[113]](#footnote-113) which matches the limitation period for a tort personal injuries claim, rather than the usual six year limitation period in tort for property damage.[[114]](#footnote-114)

In constructing a different liability system for AVs to ordinary motor vehicles Parliament has infringed “tech-impartiality”.[[115]](#footnote-115) This doctrine has two aspects deterrence and victim rights. The doctrine recognises that tort can shape behaviour including by deterring harms. Here it is the first aspect of tech-impartiality, deterrence, which is problematic in this context. The first aspect is that tort law should neither encourage nor discourage the use of new technologies, where the risk of legally recognised harms that such technologies pose to third parties are the same when compared to older technologies and methods of work. Tort should only play a role in encouraging or discouraging the use of new technologies where the systems are more, or less safe, than the alternatives. This aspect prevents a perversion of tort’s deterrence role. By adopting strict liability for AVs, and fault based liability for conventional motor vehicles, deterrence is not being equally applied, and tort law exerts a greater deterrent effect on the deployment of AVs, than with conventional vehicles, even where the risk of harm is the same. There was no consideration of whether there should be a “reasonable robot” standard for AVs,[[116]](#footnote-116) or a standard of care which matches that of a human driver. This will discourage the adoption of AVs even where they are equally as safe as human drivers. Further, equalising the liability exposure will prevent any advantage from being gained from asserting that the vehicle was not driving itself at the time.

However, rather than lowering the standard expected of AVs from strict liability to the standard expected of human drivers, it is perhaps time to consider whether it is time to apply a regime of strict liability to both human drivers and AVs.[[117]](#footnote-117) As AVs become widespread, and freely mix with conventional vehicles which are likely to remain on our roads for a long time, operating two distinct models of liability, one less favourable to accident victims, is likely to come under increasing public scrutiny. It will also help to prevent confusion. Should a fault based claim or an AEV Act claim apply in the case of an untraced driver/vehicle where it is not clear if the vehicle was an AV or not, or if it was an AV whether it was driving itself at the time? This might also reduce the perverting effect of motor vehicle accidents on the law of negligence generally. It will also help alleviate the situation where human drivers are labelled as being negligent, when their conduct is not in fact blameworthy.

1. **Insurer Claims**

The statutory cause of action provided by the AEV Act does not affect any other person’s liability,[[118]](#footnote-118) but since the Act provides the victim with a strict liability claim against the insurer there is little incentive on a victim to pursue other parties.[[119]](#footnote-119) However, Section 5 provides the insurer on whom the Section 2 liability is placed, with the right to a subrogated claim against any person liable to the injured person in respect of the accident. Such claims would include for example claims brought against at fault drivers of conventional vehicles involved in accidents, or product liability claims against manufacturers of AVs, or contractual claims where the damage was sustained by the person who purchased the AV. The justification for this approach, of placing strict liability on the insurer, but the right for the insurer to pursue other parties, is to ensure speedy and smooth compensation for victims.[[120]](#footnote-120) Differential pricing of insurance for different classes of AVs with different safety records may exert some additional deterrent effect on manufacturers, in that less safe vehicles may be more expensive to insure, and thus perhaps harder to sell once the market is aware of this greater insurance expense.

This approach could also help to maintain both tort deterrence and the forensic role of tort in accident investigation in that insurers, unlike many third party victims of AV accidents, are likely to have greater expertise in technology and litigation, the resources to investigate, and to bring claims against manufacturers, designers, etc. The AEV Act channels the liability to ensure that in any subrogated product liability litigation, there are sophisticated parties on both sides. An insurer is more likely to have the resources to take on Big Tech. They are also likely to be able to monitor common problems arising from different models of AVs. Insurers have the litigation expertise that injured victims do not, and they may be able to embark on test cases as appropriate, based on their monitoring of AV accidents, even where in the instance of a particular case it would not be financially viable to bring a claim, but where it might make a difference to their overall profitability. However, there are a number of obstacles to maintaining this tort deterrence through subrogated actions.

Firstly, some insurers may enter into commercial relationships with AV manufacturers and will not wish to disrupt this relationship through litigation.[[121]](#footnote-121) This is a more limited problem since many will not. The second problem is one of data access. The AEV Act does not require data capture or storage. The ability of an insurer to pursue other parties, (or even to assert contributory negligence) may be limited unless an AV collects and stores data related to the crash.[[122]](#footnote-122) This data will help establish key facts about the accident. Manufacturers may be reluctant to share sensitive data with others, particularly where they have set up their own insurers and wish them to have a competitive advantage, or where they fear that an insurer may use this data against them.[[123]](#footnote-123) This problem may however be overstated in that AVs will require insurance, and insurers will not be compelled to provide it for AVs produced by any particular AV manufacturer. Lack of manufacturer co-operation to these subrogated claims may not be in their commercial interest, since an insurer may simply cease to offer insurance for particular makes/models of AV.[[124]](#footnote-124) The data problem has been considered by the Law Commission which has proposed data storage recommendations, including records of activation and deactivation of self-driving and when a collision is detected.[[125]](#footnote-125) The Government has agreed to consult on a new data sharing regime, which will be subject to secondary legislation, and is considering a new code of practice on data sharing.[[126]](#footnote-126) This problem may thus be addressed by the time of AV deployment. Additionally in the absence of manufacturer co-operation insurers might require the use of black box technologies (telematics) in AVs in order to collect the data necessary for litigation.

Thirdly, and more significantly the AEV Act does not provide any new routes for the insurer to recover, or address the defects in the existing causes of action. This means that the insurer faces many of the same problems that an individual victim would face in the absence of the AEV Act, where an AEV causes the harm, since the causes of action which they can deploy (as set out above) are significantly flawed in an AV context. Without reform to the CPA product liability regime, for instance coverage of over the air updates, re-examination of the state of the art defence and proof of defectiveness in an AV context (amongst others), it is likely that where an AV itself causes an accident the loss will lie with the insurer. Although insurers may be less disadvantaged than an accident victim in any product liability litigation against a manufacturer given their litigation resources, expertise, greater ability to access and analyse data, and to choose favourable test cases, they still face significant, if not insurmountable legal hurdles.

**VII. Conclusion**

The AEV Act is a sticking plaster to get AVs on the road, and to ensure compensation for AV accident victims, but it does not resolve the underlying problems regarding the interface between AVs and the law of tort.[[127]](#footnote-127) It also does not deal with the problem regarding Level 3 system accidents. Parliament has temporarily avoided the issue of how the broader law of tort should evolve in an AV context. The same problems (and legal gaps) remain, but the Act shifts these problems onto the insurer, and away from the accident victim. This does have the advantage that insurers are more likely than accident victims to have the litigation expertise, resources, and ability to engage in strategic litigation, which will be needed to pursue claims against AV manufacturers and Big Tech.  Insurers may also indirectly regulate AV safety through increased premiums, but despite the subrogated actions that insurers can bring tort deterrence and the forensic role of tort in this context is undermined given that the causes of action which they will have to rely on are poorly adapted to AV technologies. Parliament will need to revisit tort, particularly product liability claims, in an AV context, since the existing mechanisms are unable to deal with AI systems such as AVs. The European Union has been pro-active in considering the problems that AI causes for the Product Liability Directive, which the CPA implements.[[128]](#footnote-128) It is time for the UK to do likewise.

The AEV Act also places the victims of AV accidents in a stronger position than the victims of conventional motor vehicle accidents. It is unlikely that this was deliberately intended, particularly the preferencing of secondary victims of AV accidents. In doing so the AEV Act infringes tech-impartiality, by exerting greater tort deterrence on AVs compared to conventional motor vehicles even where the risk of harm is the same. It is time for Parliament to openly acknowledge this preferencing of AV accident victims and to consider whether a strict liability system is also the appropriate method of compensation for conventional motor vehicle accidents too.

1. **\* Reader in Law, University of York.** This work is supported by the UK Research and Innovation (‘UKRI’) Trustworthy Autonomous Systems programme [EPSRC ref: EP/W011239/1].

   eg: S Levin and J Ce Wong, “Self-driving Uber kills Arizona woman in first fatal crash involving pedestrian” (*The Guardian*, 19 March 2018) <www.theguardian.com/technology/2018/mar/19/uber-self-driving-car-kills-woman-arizona-tempe>; David Shepardson, “In review of fatal Arizona crash, U.S. agency says Uber software had flaws” (*Reuters*, 5th November 2019) <www.reuters.com/article/us-uber-crash-idUSKBN1XF2HA>. [↑](#footnote-ref-1)
2. National Transportation Safety Board, *Collision Between Vehicle Controlled by Developmental*

   *Automated Driving System and Pedestrian, Tempe, Arizona, March 18, 2018* (Highway Accident Report

   NTSB/HAR-19/03, 2019) 15-17. [↑](#footnote-ref-2)
3. NHTSA Standing General Order 2021-01 requires manufacturers and operators to report crashes occurring on public roads in the US involving Automated Driving Systems. [↑](#footnote-ref-3)
4. NHTSA, “Standing General Order on Crash Reporting” (*NHTSA*, January 2024) <www.nhtsa.gov/laws-regulations/standing-general-order-crash-reporting#:~:text=ADS%3A%20Entities%20named%20in%20the,in%20property%20damage%20or%20injury>. However, the number of reports is not the same as the total number of crashes, and crashes involving ADS equipped vehicles are recorded irrespective of whether the system was engaged, but they are still illustrative of the fact that AVs are likely to be involved in accidents. [↑](#footnote-ref-4)
5. C Perrow, *Normal Accidents. Living with High Risk Technologies* (2nd edn, Princeton UP 1999) 141; R Williams and R Yampolskiy “Understanding and Avoiding AI Failures: A Practical Guide” (2021) 6 *Philosophies* 53. [↑](#footnote-ref-5)
6. European Commission, Directorate-General for Communications Networks, Content and Technology, “European enterprise survey on the use of technologies based on artificial intelligence: final report” (*Publications Office*, 2020), <data.europa.eu/doi/10.2759/759368>. [↑](#footnote-ref-6)
7. J Morgan, “Technological Change and the Development of Liability for Fault in England and Wales”in Miquel Martín-Casals (ed) *The Development of Liability in Relation to Technological Change* (CUP 2010) 40-41, 48; D Gifford, “Technological Triggers to Tort Revolutions: Steam Locomotives, Autonomous Vehicles, and Accident Compensation” (2018) 11 *J Tort L* 71; K Oliphant, “Tort Law, Risk, and Technological Innovation in England” (2014) 59 *McGill LJ* 819. [↑](#footnote-ref-7)
8. This obligation is now to be found in Road Traffic Act 1988 (‘RTA’), s 143. [↑](#footnote-ref-8)
9. eg RTA, s148; Directive 2009/103/EC of the European Parliament and of the Council of 16 September 2009 relating to insurance against civil liability in respect of the use of motor vehicles, and the enforcement of the obligation to insure against such liability, arts 3, 13. [↑](#footnote-ref-9)
10. R Merkin and S Dziobon, “Tort Law and Compulsory Insurance” in TT Arvind and Jenny Steele (eds), *Tort Law and the Legislature* (Hart 2012) 308. [↑](#footnote-ref-10)
11. Under the European Communities (Rights against Insurers) Regulations 2002. [↑](#footnote-ref-11)
12. RTA, s 151(5). [↑](#footnote-ref-12)
13. As an Article 75 insurer. [↑](#footnote-ref-13)
14. RTA, s 151. [↑](#footnote-ref-14)
15. J Bell and D Ibbetson, *European Legal Development, The Case of Tort* (CUP 2012) 34. [↑](#footnote-ref-15)
16. *Mansel v Webb* [1918-19] All ER Rep 794, 796 (Swinfen Eady MR); J R Spencer, “Motor-Cars and the Rule in Rylands v. Fletcher: A Chapter of Accidents in the History of Law and Motoring” (1983) 42 *CLJ* 65, 69. [↑](#footnote-ref-16)
17. Via the Road Traffic Act 1930. [↑](#footnote-ref-17)
18. *Nettleship v Weston* [1971] 2 QB 691 (CA) 699–701 (Lord Denning MR); *Henderson v Henry E Jenkins & Sons* [1970] AC 282 (HL); *Daly v Liverpool Corporation* [1939] 2 All ER 142 (AS) 144; *Government Insurance Office of New South Wales v Ergul* [1993] NSWCA 108 [35]-[40] (Clarke JA): “since the advent of compulsory insurance, and consequential notions of risk sharing, the courts have, in substance, elevated the “reasonably prudent driver” to the role of the perfectionist.” *Lunt v Khelifa* [2002] EWCA Civ 801 [20] (Latham LJ): “this court has consistently imposed on the drivers of cars a high burden to reflect the fact that a car is potentially a dangerous weapon”. See generally J Goudkamp, “The Spurious Relationship Between Moral Blameworthiness and Liability for Negligence” (2004) 28 *MULR* 343. [↑](#footnote-ref-18)
19. Knight v Fellick [1977] RTR 316 (CA); Ng Chun Pui v Lee Chuen Tat [1988] RTR 298 (PC)*.* Note Mark Armitage et al (eds), *Charlesworth & Percy on Negligence* (15th edn, Sweet & Maxwell 2023) [11-203]: a motorist will rarely be held liable for a split second decision which requires them to take one of a number of courses of action, each of which having potential disadvantages. [↑](#footnote-ref-19)
20. A Tettenborn et al (eds), *Clerk and Lindsell on Torts* (24th edn, Sweet & Maxwell 2023) [7-214]; *Liddell v Middleton* [1996] PIQR P36. [↑](#footnote-ref-20)
21. J Stapleton, “Tort, Insurance and Ideology” (1995) 58 *MLR* 820; cf R Merkin and J Steele, *Insurance and the Law of Obligations* (OUP 2013) Chapter 5, and R Merkin, “Tort, Insurance and Ideology: Further Thoughts” (2012) 75 *MLR* 301. [↑](#footnote-ref-21)
22. Loss spreading argument are found in a range of tort contexts, most prominently within vicarious liability hybridised with enterprise liability. [↑](#footnote-ref-22)
23. *Moore Stephens v Stone and Rolls* [2009] UKHL 39, [2009] 1 AC 1391. [↑](#footnote-ref-23)
24. See *Home Office v Dorset Yacht* [1970] AC 923, (insurance stated to be irrelevant). [↑](#footnote-ref-24)
25. T Baker, “Blood Money, New Money, and the Moral Economy of Tort Law in Action” (2001) 35 *Law & Society Review* 275. [↑](#footnote-ref-25)
26. R Lewis, “Insurance and the Tort System” (2005) 25 *LS* 85; T Baker, “Liability Insurance as Tort Regulation: Six Ways that Liability Insurance Shapes Tort Law in Action” (2005) 12 *Conn Ins LJ* 1. [↑](#footnote-ref-26)
27. Note PS Atiyah, *The Damages Lottery* (Hart 1997). [↑](#footnote-ref-27)
28. Merkin and Dziobon (n 10) 315. [↑](#footnote-ref-28)
29. A McKerral, K Pammer, and C Gauld, “Supervising the self-driving car: Situation awareness and fatigue during highly automated driving” (2023) 187 *Accident Analysis & Prevention* 107068,

    J De Winter, R Happee, M Martens, and N Stanton, “Effects of adaptive cruise control and highly automated driving on workload and situation awareness: A review of the empirical evidence” (2014) 27 *Transport Res F: Traffic Psychol Behav* 196. [↑](#footnote-ref-29)
30. See generally K Low, WW Yee and W Ying-Chieh, “Property/Personhood and AI: The Future of Machines” in E Lim and P Morgan (eds), *The Cambridge Handbook of Private Law and Artificial Intelligence* (CUP 2024) 307; S Chesterman, “Artificial Intelligence and the Limits of Legal Personality” (2020) 69 *ICLQ* 819. [↑](#footnote-ref-30)
31. G Wagner, “Robot, Inc.: Personhood for Autonomous Systems?” (2019) 88 *Fordham LR* 591. [↑](#footnote-ref-31)
32. Note R van den H van Genderen, “Legal Personhood in the Age of Artificially Intelligence Robots” in W Barfield and U Pagallo (eds), *Research Handbook on the Law of Artificial Intelligence* (Edward Elgar 2018) 245-46. [↑](#footnote-ref-32)
33. Such a gap has led some AV manufacturers to publicly declare that they will accept liability if their car causes an accident “Who is responsible for a driverless car accident?” (*BBC*, 8 October 2015) <www.bbc.co.uk/news/technology-34475031>. [↑](#footnote-ref-33)
34. For a fuller account see P Morgan, “Tort Law and AI – Vicarious Liability” in Lim and Morgan (n 30) 135-171, on which this section is based. [↑](#footnote-ref-34)
35. Note J Morgan, “Torts and Technology” in R Brownsword, E Scotford, and K Yeung (eds), *The Oxford Handbook of Law, Regulation and Technology* (OUP 2017) 522. [↑](#footnote-ref-35)
36. Expert Group on Liability and New Technologies, *New Technologies Formation, Liability for Artificial Intelligence and Other Emerging Digital Technologies* (European Union 2019) 44. [↑](#footnote-ref-36)
37. *Donoghue v Stevenson* [1932] AC 562 (HL); Tettenborn (n 20) [10-08]-[10-16]. [↑](#footnote-ref-37)
38. Expert Group (n 36) 44. [↑](#footnote-ref-38)
39. Armitage (n 19) [10-01]-[10-04]. [↑](#footnote-ref-39)
40. Miriam Buiten, “Towards Intelligent Regulation of Artificial Intelligence” (2019) 10 *EJRR* 41. [↑](#footnote-ref-40)
41. C Reed, “How should we regulate artificial intelligence?” (2018) 376 *Philos Trans A* 20170360. [↑](#footnote-ref-41)
42. Expert Group (n 36) 21. [↑](#footnote-ref-42)
43. U Pagallo, *The Laws of Robots, Crimes, Contracts, and Torts* (Springer 2013) x. [↑](#footnote-ref-43)
44. ibid 117. [↑](#footnote-ref-44)
45. F P Hubbard, “Allocating the risk of physical injury from ‘sophisticated robots’: efficiency, fairness, and innovation” in R Calo, A M Froomkin, and I Kerr (eds), *Robot Law* (Edward Elgar 2016) 43. [↑](#footnote-ref-45)
46. Pagallo (n 43) 124-126. However, note that there may be some cases where AVs make the determination of fault easier, for instance where the AV’s system produces accurate logs and recorded footage, and a third party is responsible for the accident. [↑](#footnote-ref-46)
47. J Lehmann, J Breuker, and B Brouwer, “Causation in AI and Law” [2004] *AIL* 279, 280-86. [↑](#footnote-ref-47)
48. C Holder, V Khurana, F Harrison, and L Jacobs, “Robotics and Law: Key Legal and Regulatory Implications of the Robotics Age (Part I of II)” (2016) 32 *CLSR* 383, 386. [↑](#footnote-ref-48)
49. Y Bathaee, “The Artificial Intelligence Black Box and the Failure of Intent and Causation” (2018) 31 *Harv JL&T* 889; C Karnow, “Liability for Distributed Artificial Intelligences” (1996) 11 *Berkeley Tech LJ* 147. [↑](#footnote-ref-49)
50. M Hervey and M Lavy, *The Law of Artificial Intelligence* (Sweet & Maxwell 2021) [5-023]. [↑](#footnote-ref-50)
51. D Vladeck, “Machines without Principals: Liability Rules and Artificial Intelligence” (2014) 89 *Wash LR* 117, 142-4. [↑](#footnote-ref-51)
52. Tettenborn (n 20) [7-208]. [↑](#footnote-ref-52)
53. Note Singapore Academy of Law, *Report on the Attribution of Civil Liability for Accidents Involving Autonomous Cars* (SAL LRC, 2020) [5.12]-[5.13]; cf B Casey, “Robot Ipsa Loquitur” (2019) 108 *Geo LJ* 225, 269-273. [↑](#footnote-ref-53)
54. J Buyers, *Artificial Intelligence, The Practical Legal Issues* (Law Brief Publishing 2018) 30. [↑](#footnote-ref-54)
55. *Overseas Tankship (UK) Ltd v Morts Dock & Engineering Co Ltd (the Wagon Mound No 1)* [1961] AC 388 (PC); *Overseas Tankship (UK) Ltd v The Miller Steamship Co Pty (the Wagon Mound No 2)* [1967] 1 AC 617 (PC). [↑](#footnote-ref-55)
56. M Geistfeld, “A Roadmap for Autonomous Vehicles: State Tort Liability, Automobile Insurance, and Federal Safety Regulation” (2017) 105 *Calif LR* 1611, 1621. [↑](#footnote-ref-56)
57. W Barfield, “Towards a Law of Artificial Intelligence” in Barfield and Pagallo (n 32) 4. [↑](#footnote-ref-57)
58. J Miller and I Kerr, “Delegation, relinquishment, and responsibility: the prospect of expert robots” in Calo, Froomkin, and Kerr (n 45) 107; C Karnow, “The application of traditional tort theory to embodied machine intelligence” in Calo, Froomkin, and Kerr (n 45) 60. [↑](#footnote-ref-58)
59. Expert Group (n 36) 54. [↑](#footnote-ref-59)
60. Pagallo (n 43) 47, 138. [↑](#footnote-ref-60)
61. For a detailed discussion see V Ulfbeck, “Product Liability Law and AI: Revival or Death of Product Liability Law” in Lim and Morgan (n 30), and J De Bruyne and O Dheu, “Liability for Damage Caused by Artificial Intelligence – Some Food for Thought and Current Proposals” in P Morgan (ed), *Tort Liability and Autonomous Systems Accidents* (Edward Elgar 2023). [↑](#footnote-ref-61)
62. K Oliphant and V Wilcox, “Product Liability in England and Wales” in P Machnikowski (ed), *European Product Liability: An Analysis of the State of the Art in the Era of New Technologies* (Intersentia 2016) 204; R Bagshaw, “Product Liability: Autonomous Ships” in B Soyer and A Tettenborn (eds), *Artificial Intelligence and Autonomous Shipping* (Hart 2021) 119. [↑](#footnote-ref-62)
63. CPA, s 2. [↑](#footnote-ref-63)
64. CPA, s 3(1). [↑](#footnote-ref-64)
65. CPA, s 3(2). [↑](#footnote-ref-65)
66. Expert Group (n 36) 28. [↑](#footnote-ref-66)
67. ibid. [↑](#footnote-ref-67)
68. Under CPA, s 4. [↑](#footnote-ref-68)
69. Note P Cerka, J Grigiene, and G Sirbikyt, “Liability for damages caused by artificial intelligence” (2015) 31 *CLSR* 376, 386. [↑](#footnote-ref-69)
70. CPA, s 4(1)(e). [↑](#footnote-ref-70)
71. J Morgan, “Torts and Technology” (n 35) 534. [↑](#footnote-ref-71)
72. Note Expert Group (n 36) 28-9. [↑](#footnote-ref-72)
73. Although the EU is considering reforms to the Product Liability Directive (‘PLD’) (Council Directive 85/374/EEC of 25 July 1985 on the approximation of the laws, regulations and administrative provisions of the Member States concerning liability for defective products) (see European Commission, Proposal for a Directive of the European Parliament and of the Council on liability for defective products (COM(2022) 495 final; and European Parliament, “New Product Liability Directive” (EP, 20th February 2024) <www.europarl.europa.eu/legislative-train/theme-a-europe-fit-for-the-digital-age/file-new-product-liability-directive>), these do not address the liability gap, and the reforms will not apply to the UK’s CPA regime. [↑](#footnote-ref-73)
74. Department for Transport, *The Pathway to Driverless Cars: A Detailed Review of Regulations for Automated Vehicle Technologies* (DfT 2015). [↑](#footnote-ref-74)
75. HM Queen Elizabeth II, “The Queen’s Speech 2016” (*HM Government*, 18 May 2016) <www.gov.uk/government/speeches/queens-speech-2016>. [↑](#footnote-ref-75)
76. K Oliphant, “Liability for Road Accidents Caused by Driverless Cars” (2019) *Singapore Comparative Law Review* 190. [↑](#footnote-ref-76)
77. J Goudkamp, “Automated Vehicle Liability and AI” in Lim and Morgan (n 30) 175. [↑](#footnote-ref-77)
78. J Marson and K Ferris, “The Lexicon of Self-Driving Vehicles and the Fuliginous Obscurity of ‘Autonomous Vehicles’” (2021) 44 *Stat LR* 1, 6. [↑](#footnote-ref-78)
79. AEV Act, s 1(4). [↑](#footnote-ref-79)
80. J Marson, K Ferris, and J Dickinson, “The Automated and Electric Vehicles Act 2018 Part 1 and Beyond: A Critical Review” (2020) 41 *Stat LR* 395, 401. [↑](#footnote-ref-80)
81. Even if the vehicle should not have been added to the list it is an AV if it is on the list, see Goudkamp, “Automated Vehicle Liability” (n 77), 178. [↑](#footnote-ref-81)
82. Marson, Ferris, and Dickinson (n 80), 401. [↑](#footnote-ref-82)
83. Marson and Ferris (n 78) 11. [↑](#footnote-ref-83)
84. A Glassbrook, “An A to Z of automated and electric vehicle law” [2021] *JPIL* 140; Hansard, HL, vol 791, “Automated and Electric Vehicles Bill Committee”, 9 May 2018, col 174-5 (Baroness Sugg). [↑](#footnote-ref-84)
85. This is also the position of the Government, see Sugg (n 84); see also Oliphant, “Liability for Road Accidents” (n 76). cf M Chatzipanagiotis, “Insurance aspects of automated vehicles” in S Jovanovic and P Marano (eds), *Insurance and Legal-Economic Environment - Wider and Narrower Framework* (AIDA 2022) 159, 162, who considers that some Level 3 technologies will be covered. This is, however, unlikely as these technologies need to be monitored. [↑](#footnote-ref-85)
86. Goudkamp, “Automated Vehicle Liability” (n 77), 180. [↑](#footnote-ref-86)
87. Law Commission, *Automated Vehicles*, (Law Com No 404, 2022), [13.12]. [↑](#footnote-ref-87)
88. HM Government, *Connected & Automated Mobility 2025: Realising the benefits of self-driving*

    *vehicles in the UK*, CP 719, (HMSO 2022) 126 [↑](#footnote-ref-88)
89. Automated Vehicles Bill 2023-24, (‘AVB’), Schedule 2, Para 5. [↑](#footnote-ref-89)
90. AVB, clause 3. [↑](#footnote-ref-90)
91. AVB, clause 4. [↑](#footnote-ref-91)
92. AVB, clause 2. [↑](#footnote-ref-92)
93. Goudkamp, “Automated Vehicle Liability” (n 77), 177. [↑](#footnote-ref-93)
94. House of Commons Library, *Briefing Paper, Number CBP 8118, Automated and Electric Vehicles Act 2018* (HC Library, 2018) 3. [↑](#footnote-ref-94)
95. AEV Act, s 2(1). [↑](#footnote-ref-95)
96. AEV Act, s 2(3). [↑](#footnote-ref-96)
97. AEV Act, s 2(4), being the amount specified in RTA, s 145(4)(b). [↑](#footnote-ref-97)
98. AEV Act, s 2(2). [↑](#footnote-ref-98)
99. Goudkamp, “Automated Vehicle Liability” (n 77), 178. [↑](#footnote-ref-99)
100. RTA, s 145(3A). [↑](#footnote-ref-100)
101. Note Goudkamp, “Automated Vehicle Liability” (n 77), 179. [↑](#footnote-ref-101)
102. AEV Act, s 8(3)(a). [↑](#footnote-ref-102)
103. cf Oliphant, “Liability for Road Accidents” (n 76). [↑](#footnote-ref-103)
104. M Channon, “Automated and Electric Vehicles Act 2018: An Evaluation in Light of Proactive Law and Regulatory Disconnect” (2019) 10 *EJLT* 26. [↑](#footnote-ref-104)
105. AEV Act, s 3(1). [↑](#footnote-ref-105)
106. Goudkamp, “Automated Vehicle Liability” (n 77) 184. He suggests that a simpler approach would be to consider only to what extent the claimant has departed from the standard of a reasonable person in their position. [↑](#footnote-ref-106)
107. Law Commission, *Automated Vehicles: Consultation Paper 3 – A regulatory framework for automated vehicles* (Law Com CP No 252, 2020) [16.3], [16.20]. [↑](#footnote-ref-107)
108. AEV Act, s 4(6)(b). [↑](#footnote-ref-108)
109. M Marynowski, “Car Insurance in the Age of Self-Driving – Analysis of the Automated and Electric Vehicles Act 2018” (2019) 4 *Insurance Review* 25. [↑](#footnote-ref-109)
110. For a discussion of the ordinary restrictions see Tettenborn (n 20) [7-76]-[7-78]. [↑](#footnote-ref-110)
111. Note Goudkamp, “Automated Vehicle Liability” (n 77) 182-183, 188. [↑](#footnote-ref-111)
112. See, eg R Luscombe, “Driverless taxi vandalized and set on fire in San Francisco’s Chinatown” (*The Guardian*, 12 February 2024) <www.theguardian.com/us-news/2024/feb/12/waymo-car-fire-san-francisco>. [↑](#footnote-ref-112)
113. Limitation Act 1980, s 11B(3)-(4). [↑](#footnote-ref-113)
114. Limitation Act 1980, ss 2, 11(4). [↑](#footnote-ref-114)
115. Introduced in P Morgan “Tort Law and AI” (n 34). [↑](#footnote-ref-115)
116. See Ryan Abbott, *The Reasonable Robot* (CUP 2020) 9, 69. [↑](#footnote-ref-116)
117. See also Oliphant, “Liability for Road Accidents” (n 76). [↑](#footnote-ref-117)
118. AEV Act, s 2(7). [↑](#footnote-ref-118)
119. Goudkamp, “Automated Vehicle Liability” (n 77) 182. [↑](#footnote-ref-119)
120. Law Commission, *Automated Vehicles A Joint Preliminary Consultation Paper* (Law Com CP No 240,

     2018) [6-26]. [↑](#footnote-ref-120)
121. Channon (n 104). [↑](#footnote-ref-121)
122. Law Commission 2022 (n 87) [13.41] [↑](#footnote-ref-122)
123. Chatzipanagiotis (n 85). [↑](#footnote-ref-123)
124. Singapore Academy of Law (n 53) [3.12]. [↑](#footnote-ref-124)
125. Law Commission 2022 (n 87) [13.50]-[13.52]. [↑](#footnote-ref-125)
126. HM Government (n 88) 126. [↑](#footnote-ref-126)
127. Note Law Commission 2020 (n 107) [16.12]. [↑](#footnote-ref-127)
128. P Morgan, “Tort Liability and Autonomous System Accidents – Challenges and Future Developments” in Morgan (n 61) 1-26. The UK Government states that it will be engaging more widely with Government to understand the next steps (HM Government (n 88) 126). [↑](#footnote-ref-128)