LSE Law Matters Inaugural Lecture

"Open the Pod Bay Doors, HAL": Machine Intelligence and the Law

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Suggested hashtag for Twitter users: #LSEMurray
Open the Pod Bay Doors HAL: Machine Intelligence and the Law
Part I
HUMANS
Humans are “meat” machines.
The Dress
Higher/Lower Order Thought
System I and System II

Multiply 12x6
Multiply 16 x 47
Multiply 417 x 514
Who won the 2014 Eurovision Song Contest?

Conchita Wurst

Who won the 1972 Eurovision Song Contest?

Vicky Leandros
(Representing Luxembourg)
Après Toi

Conchita Wurst
Assisted Decision-Making

Click here for the relevant video
Supplementary Decision-Making

Click here for the relevant video
Autonomous Decision-Making

Click here for the relevant video
How Machines Think (or Don’t)

Machines (currently) don’t think they process.
Law for Machines?


0. A robot may not harm humanity, or, by inaction, allow humanity to come to harm.
1. A robot may not injure a human being or, through inaction, allow a human being to come to harm.
2. A robot must obey the orders given it by human beings except where such orders would conflict with the First Law.
3. A robot must protect its own existence as long as such protection does not conflict with the First or Second Laws
The Moral Maze

The trolley problem
Open the Pod Bay Doors HAL

Is HAL morally or legally wrong?

Click here for the relevant video
That’s Science Fiction Right?
Watson
Taranis

Click here for the relevant video
## Smart Agents and Safety

### Driver’s Ed.

<table>
<thead>
<tr>
<th></th>
<th>Human Factors</th>
<th>Environment</th>
<th>Vehicle</th>
<th>Human Only</th>
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</thead>
<tbody>
<tr>
<td>Tri-Level (1979)</td>
<td>93%</td>
<td>34%</td>
<td>13%</td>
<td>N/A</td>
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<tr>
<td>TRRL (1980)</td>
<td>95%</td>
<td>28%</td>
<td>8.5%</td>
<td>65%</td>
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<tr>
<td>IAM (2009)</td>
<td>&gt;90%</td>
<td>15%</td>
<td>1.9%</td>
<td>N/A</td>
</tr>
<tr>
<td>NHTSA (2015)</td>
<td>94%</td>
<td>2%</td>
<td>2%</td>
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Part III

Lawyers
A Quick Recap

1. Humans remain uniquely the only source of the form of higher order sentience that allows us to make complex moral decisions.
2. Humans, perhaps uniquely in the animal world, can rationalise objective and subjective thought.
3. Human brains are complex, but also are resource hungry and as a result we often reject resource heavy higher-order thought for lower level intuitive thought.
4. Humans have a capacity to outsource anything complex, difficult, dangerous or time consuming.
5. We are developing machines which are capable of complex thought and creativity.
6. We are developing machines designed to act autonomously.
7. Human Level Machine Intelligence could be as little as 14 years away (or as far away as 75 years).
8. It is perfectly logical to suggest that there should be an assumption that machines should replace humans in all areas where human error remains a constituent factor in harmful outcomes.
Sentience in the Law

Criminal Law

Actus Reus Non Facit Reum
Nisi Mens Sit Rea

THE "SNAIL IN THE BOTTLE" CASE

This site was improved by Pembrokeshire Council in 2012 with the support of Cala Lawen, Provost of Pembrokeshire (2007-2012) and assistance from Reilffaria College and the Cooperative Funeralcare.

This is the site of the former Wellmeadow Cafe, the scene of an event that was the basis of a landmark legal case. To this day it remains famous around the world.

On 26 August 1932, Mrs Donoghue met a friend at the Wellmeadow Cafe. Her friend bought her a bottle of ginger beer. As she enjoyed her drink, part of a decomposing snail fell out of the bottle. It is recorded that Mrs Donoghue suffered shock and a severe stomach upset as a result. As she had not bought the drink, Mrs Donoghue had no legal contract with the cafe owner. The case made on Mrs Donoghue’s behalf therefore focused on whether the manufacturer and bottler of the drink, David Stevenson should be held responsible. Previously the law had declared there was no legal connection between consumer and manufacturer.

The case itself never came to trial and was finally settled out of court. Before that there was much legal debate over whether there was a case to hear. In May 1932 the House of Lords ruled there was. Lord Atkin summed to the trials story of the Great Western and the principle of loving your neighbour to help him decide. He found that just as neighbours should care for each other so should manufacturers care about the consumers of their products.

The Donoghue v Stevenson case established the precedent of negligence based on the "neighbour principle" and has been followed internationally by courts since.
Sentience in Punishment

“I don’t know who you are, I don’t know want you want. If you are looking for ransom, I can tell you I don’t have money. What I do have are a particular set of skills. Skills I have acquired over a very long career. Skills that make me a nightmare for people like you. If you let my daughter go now, that will be the end of it. I will not look for you, I will not pursue you. But if you don’t, I will look for you, I will find you and I will kill you.”
The Challenge of Machine Sentience

A new legal concept: Objective Personality?

Objective Privacy

Objective Expression

Objective Location

Objective Consent

Objective Mens Rea?
The Lawmaker’s Dilemma

Fail to Recognise Machine Sentience

- Create Permanent Underclass
- Fail to Recognise Change in Human Thought
- A Modern Slave?

Recognise Machine Sentience

- Gives Autonomy to Man-made (Artificial) Devices
- Could Remove Responsibility from Human Agents
- Entire Legal Framework Needs Updating
The Lawmaker’s Solution?

Ambient Law

Lex Machina
Legal/Code Hybrid for both Humans and AIs

“Code is Law”

(Asimov’s) Fourth and Fifth Laws
- A robot must establish its identity as a robot in all cases.
- A robot must know it is a robot.

LSE Law
Lex Machina’s Normative Values (from Asimov)

1. A self-aware being (human or robot) may not harm any class of self-aware beings, or, by inaction, allow any class of self-aware beings to come to harm.

1. A self-aware being (human or robot) may not injure a self-aware being or, through inaction, allow a self-aware being to come to harm.

1. A self-aware being (human or robot) must obey the Law except where such provisions would conflict with the First and Second Values.

1. A robot should protect its own existence as long as such protection does not conflict with the First, Second or Third Values.

1. A robot must know it is a robot. A human must know they are human.

1. A robot must establish its identity as a robot in all cases. A human must establish its identity as a human in all cases.
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