“We tend to overestimate the short-term impact of technological change and underestimate its long-term impact.”

– Amara’s Law

http://isen.com/archives/011126.html
DISCUSSION 1

We think human judgement is still needed in various situations where cognitive systems will be providing better predictions. What are some of the judgement needs in each area? Does that judgement need to be delivered in real-time, or would an off-line mode suffice? How hard would it be for a cognitive system to provide judgement as well?

1. Trucking industry
2. Mass transit design
3. Natural resource management
4. Waste management & recycling
5. Vaccine allocation
6. Road and highway design
7. Architectural projects
8. Monitoring social media
Consider some of the important externalities that arise with the introduction of a cognitive system in each industry: how likely they are, what impact they will have to society, and what, if anything, can be done about any negative impacts?

1. Trucking industry
2. Mass transit design
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Dr. Spot

"Spot’s new job is to be an avatar for hospital workers, who remotely operate the machine and speak to patients through the tablet, keeping staffers at a safe distance from sick people."

<table>
<thead>
<tr>
<th>Level 0 - No automation</th>
<th>Cars of the 1990’s: Not much more than cruise control.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1 - Driver assistance</td>
<td>Most of today’s cars: Lane drift assist; adaptive cruise control with braking by radar.</td>
</tr>
<tr>
<td>Level 2 - Partial automation</td>
<td>Steering assist to center the lane; speed/braking control to maintain safe distance in stop-and-go traffic.</td>
</tr>
<tr>
<td>Level 3 - Conditional automation</td>
<td>Self-driving under ideal conditions; driver required to be present and ready to take over.</td>
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<tr>
<td>Level 4 - High automation</td>
<td>Self-driving with no driver interaction (other than destination setting) under most environmental conditions; still somewhat limited to standard uses.</td>
</tr>
<tr>
<td>Level 5 - Full automation</td>
<td>Completely autonomous; no steering wheel or other driver controls; capable in all road conditions and any situation.</td>
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</tbody>
</table>
CENTRAL SQUARE, CAMBRIDGE, MA
From IEEE Spectrum
"The Big Problem With Self-Driving Cars Is People"
27 Jul 2017
Asimov’s *Three Laws of Robotics*

0. A robot may not injure 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.

Isaac Asimov: #’s 1-3 From "I, Robot", 1950; #0 from "Foundation and Earth", 1986
Are autonomous weapons inevitable?
Challenge

Cognitive Systems: Life saving innovation or Jerk-by-Proxy enabler?

- Come up with an application of Cognitive Systems (not cars) that could bring benefits as well as abuses
- Quickly post your topic in Slack under #general to avoid duplication
- Refine your examples of benefits and abuse, and come up with approaches to mitigate or limit the abuses.