Joanna Bryson

A roadmap to the adoption of every-day domestic robots
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Joanna Bryson is associate professor at the University of Bath (England) in the Computer Science department.

The principle scientific passion of Prof. Bryson is understanding human behaviour, human culture and natural intelligence more broadly. Main methodology for doing this is designing intelligent systems to model and test scientific theories. She builds theories of intelligence into cognitive systems ? working AI models. Most (but not all) of the research of Joanna Bryson has focused on the unintentional and non-linguistic aspects of human intelligence: understanding primate behaviour, action selection, how consciousness, religion, economics (particularly costly punishment), language and other social behaviours have evolved in humans and (where appropriate) other non-primate social species, including even bacteria. Applications belong to a variety of domains besides science, including cognitive robotics, computer game characters and intelligent environments / "smart homes".

Webpage: http://www.cs.bath.ac.uk/~jjb/ [1]

Abstract of communication:

What will it take until mobile domestic assistants are as ordinary as washing machines? Both the disciplines or robotics (as demonstrated by industrial robotics) and of machine learning and vision (as demonstrated by driverless cars) have advanced to the point that reliability is not the main issue. Current problems are 1) systems integration and 2) the business case. Starting with the latter, I suggest ?domestic? robots will invade as PCs did, first by replacing low-wage workers not completely, but by making other low-wage workers more productive. The PC spread when it became cheaper than the annual salary of a secretary, and it enabled a lead secretary to do the work of two or three. Once popular, PCs became even cheaper, and were then adopted to private ownership. Currently, mobile, human-sized industrial robots with force-control cost about €30,000. We need to make these into viable domestic assistants and office cleaners, under the direction of lead cleaners. Such robots will only be accepted if they simplify the management task of the supervisor over human assistants on a sufficient number of tasks. For example, a robot must learn the requirements and affordances of a particular house ? what it is allowed to touch, what it must clea. It should also be able to generalise ? it should recognise similar objects and offer to clean them similar ways, and eventually not need to ask. In the final few minutes, I will also review the UK?s robot ethics code, the EPSRC Principles of Robotics.
Adaptive Machines in Complex Environment
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Keynote talk

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