

# British scientist warns we must protect the vulnerable from robots

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Top robotics expert Professor Noel Sharkey, of the University of Sheffield, has called for international guidelines to be set for the ethical and safe application of robots before it is too late. Professor Sharkey, writing in the prestigious *Science* journal, believes that as the use of robots increases, decisions about their application will be left to the military, industry and busy parents instead of international legislative bodies.

Robots have been used in laboratories and factories for many years, but their uses are changing fast. Since the turn of the century, sales of professional and personal service robots have risen sharply and are estimated to total 5.5 million in 2008. IFR Statistics estimate 11.5 million in the next two years. The price of robot manufacture is also falling. With robots 80% cheaper in 2006 than they were in 1990, they are set to enter our lives in unprecedented numbers.

Service robots are currently being used in all walks of life, from child-minding robots to robots that care for the elderly. These types of robots can be controlled by a mobile phone or from a PC, allowing input from camera "eyes" and remote talking from caregivers. Sophisticated elder-care robots like the Secom "My Spoon" automatic feeding robot; the Sanyo electric bathtub robot that automatically washes and rinses; and the Mitsubishi Wakamura robot, used for reminding people to take their medicine, are already in widespread use.

Despite this no international legislation or policy guidelines currently

exist, except in terms of negligence. This is still to be tested in court for robot surrogates and may be difficult to prove in the home (relative to cases of physical abuse).

Professor Sharkey urges his fellow scientists and engineers working in robotics to be mindful of the unanticipated risks and the ethical problems linked to their work. He believes that robots for care represent just one of many ethically problematic areas that will soon arise from the increase in their use, and that policy guidelines for ethical and safe application need to be set before the guidelines set themselves.

He said: "Research into service robots has demonstrated close bonding and attachment by children, who, in most cases, prefer a robot to a teddy bear. Short-term exposure can provide an enjoyable and entertaining experience that creates interest and curiosity.

"However, because of the physical safety that robot minders provide, children could be left without human contact for many hours a day or perhaps for several days, and the possible psychological impact of the varying degrees of social isolation on development is unknown.

"At the other end of the age spectrum, the relative increase in many countries in the population of the elderly relative to available younger caregivers has spurred the development of elder-care robots. These robots can help the elderly to maintain independence in their own homes, but their presence could lead to the risk of leaving the elderly in the exclusive care of machines without sufficient human contact."

Source: University of Sheffield

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