

When the robot is the victim

Does a robot have responsibilities for injuries to a human? A (not so) hypothetical scenario.

An assistant robot, whose name is *AsRo*, is at work in a hospital. *AsRo* administers drugs to patients, gives first advice for simple problems, calls the physician when there is a serious problem, checks to see that ventilators and feeding tubes are connected and working, fixes machines when small problems occur. An ill-intentioned person enters the hospital, goes to the bed of a patient and starts disconnecting the ventilator. *AsRo* detects the malfunctioning and intervenes in order to fix the machine. The ill-intentioned person attacks the robot. *AsRo* sends the alarm and resists the assault. At the end the aggressor has personal injuries.

A legal question: who, if anyone, is responsible for such personal injuries? Who should be charged for damages?

To attempt a response we have to assume that *AsRo* was designed having *Asimov rules* as its ethical background. These well known rules are:

- a. A robot may not injure a human being or, through inaction, allow a human being to be harmed.
- b. A robot must obey the orders given to it by human beings, except where such orders would conflict with the First Law.
- c. A robot must protect its own existence as long as such protection does not conflict with the First or Second Laws.

Well, *AsRo* behavior *prima facie* violates the first rule, as *AsRo* has injured a human. However, at a deeper level, it is clear that if *AsRo* had remained inactive during the assault of the ill-intentioned person, *AsRo* would have violated the second part of the first rule, where it is stated that a robot may not injure a human being even "through inaction", allowing a human being to come to harm. And it is worth noting that the ill-intentioned started to disconnect the ventilator (rather than directly assaulting *AsRo*). Thus, *AsRo* had an obligation to fix the ventilator!

In the second part of his action the ill-intentioned turns directly against *AsRo*, busily fixing the ventilator. During the scuffle between the robot and the human it is the human who came off worse. In this case, *AsRo* can advocate the third rule, where it is stated that a robot must protect its own existence "as long as such protection does not conflict with the First or Second Laws". And, as we have seen, *AsRo* fully respected the two previous rules.

If all this is true (as it is likely to be in several legal systems!), the aggressor who would try to collect damages for his injuries would lose his lawsuit against either the producer (who manufactured the robot according to a design consistent with internationally accepted ethical rules) or the owner of the robot (who used it in a proper way).