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Robotics, Artificial Intelligence, and the Future of Employment

ASSA WORKSHOP REPORT

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The promises and perils of robotics and artificial intelligence (AI) is rarely out of the news these days. From self-driving cars to military drones, from supercomputers to big data: the exponential growth in robotics and AI, so we are told, is poised to unleash a wholesale transformation of the global economy.

Within universities, the study of robotics and AI typically tends to be concentrated in engineering, manufacturing, and computer science departments. But what role do social scientists stand to play in the coming robotics revolution?

Recently we hosted a workshop on the future of robotics, funded by the Academy of the Social Sciences in Australia and held at the University of South Australia. The program featured leading scholars in the social sciences, humanities and the creative arts.

The experience brought home to us not only that the social sciences can do more than simply predict how many jobs will be lost to robots in the coming decades. Big changes in employment and unemployment will be central, but so too the challenges of the robotics revolution will profoundly impact private life, intimacy, sexuality and community and cultural relationships in the broadest sense.

Firstly, the social sciences have the potential to help us better understand the nature, scope, and significance of robotic and AI technologies. The social consequences of automation and robotics extend far beyond the realm of employment. The robotics revolution stands to transform innumerable aspects of social life.

Warfare is a good example. Automated weapons systems are already in use in the USA, Israel, South Korea and the UK. India has just established the latest fully autonomous weapons system. These automated systems can defuse explosives, conduct reconnaissance and the next step is the development and deployment of ‘killer robots’.

As robotics and AI transform social interaction – impacting the very definition of what it means to be ‘human’, and potentially human sexuality itself – social science research can identify how cultures and societies respond to these changes on an individual and collective level. The social sciences, crucially, can uncover the unintended consequences and benefits of new technologies as regards everyday life.

Social science research can also produce more informed accounts of how truly novel robotic technologies have been or are likely to be. Commentary on the robotics revolution tends to

lack a historical dimension. There is little recognition that past time periods have also registered some of the same anxieties about automation that we express today, which may temper some of the expectations that news media stories have been known to perpetuate. Historical and other types of social scientific research can help to uncover what is new and unprecedented about the current round of technological innovations. For instance, with the advent of driverless cars and 3D printers, robotics and automation may radically transform how people and objects physically and virtually move about around the world.

Another key contribution the social sciences have to offer to the robotics debate concerns the matter of inequality. Technologies of all sorts, including those in the robotics sector, are not adopted in the same way and to the same extent in all social contexts. For example, people of different age groups, socioeconomic backgrounds or professions may integrate new technologies into their lives differently. New technologies may be linked to new groups, lifestyles and identities. The social sciences can help us to understand how and why this is so.

Secondly, there is also room for social scientists to help shape the way in which robotic and AI technologies are designed and deployed. Robotic and AI technologies not only are intended to address various social problems, they may also produce adverse social outcomes. Social science research can help to bring to light aspects of the robotics revolution which may be problematic or are in need of further development.

When it comes to the deployment of care robots for the elderly for example, social research can help us think through whether or not this is a practice we ought to pursue. Is such a practice philosophically justifiable? Does it adhere to sound legal principles? And sociologically or anthropologically speaking, who will benefit most from ceding some forms of elderly care to the domain of robots? These are just a few of the questions social scientific work can have direct bearing on.

For these and other reasons, social scientific research should thus be viewed as an integral part—and not merely an additive—to the robotics debate that many societies are wrestling with. Robotics and artificial intelligence are indeed matters to do with engineering. But they also are socially embedded technologies in need of social scientific elaboration.