

How algorithms are changing the world. By Alan Kohler, The Australian, 5 November 2014.

THE wheel was invented long ago but it took more than six thousand years for it to be attached to suitcases, and thus become really useful.

Much the same goes for the algorithm. It was invented by a Persian mathematician, one Abu Abdullah Muhammad ibn Musa Al-Khwarizmi, from whose surname the word is derived.

For more than a thousand years algorithms existed purely in the arcane toolkits of mathematicians ... until a decade or two ago, when they were attached to the internet and therefore directly to the vast amounts of data that are being hoovered up every minute of every day.

Algorithms are now changing the world, and what's more they are assisting in the destruction of the middle classes and the widening gap between the rich and poor.

Algorithms have two qualities that make them world shattering: they make decisions and very few people understand them (including yours truly).

The second of these things has helped create a new elite of technical druids who are getting fabulously wealthy. Inequality is not just getting worse because quantitative easing has enriched bankers and investors, or because Ronald Reagan cut the top marginal tax rate in America: it's also because the elite class of people who understand and control algorithms are using them to get rich by exploiting the rest of us, who have no idea what's going on.

What's going on is that algorithms are replacing middle class jobs. The key differentiator in wage levels is the ability, and the power, to make decisions — to assess data using our senses and draw conclusions from them. The more decisions you make, the more you get paid.

Arguably the very existence of a middle class rests on the democratisation of decision-making in the 20th century, flowing from the end of slavery in the 19th century (slavery involves no decisions and no wage).

Low-paying jobs generally involve few decisions and over the past 15-20 years many of the basic mechanical jobs have moved to lower-paying China and other emerging countries. More recently robots have been taking them: even Chinese factories are being automated and 3D printers have become the ultimate in localised automated manufacturing.

Higher-paying, middle class jobs have, until now, been more secure because they require human judgment. Journalists, doctors, academics, drivers, pilots, musicians, architects etc perform functions that require the assessment of complex data and decisions to be made based on them.

Now humans are being left floundering, not by computers which are just collections of switches, or by the internet, which is just a network of speeding data packets, but by algorithms saying to themselves "if this, then that", over and over.

The author of “Who Owns The Future?”, Jaron Lanier, wrote in the New York Times: “Jobs involving communication and expression (music, journalism and so forth) are suddenly much harder to come by, because information is now held to be free.

“The fate of journalism and music awaits every other industry, and every kind of job, unless this pattern is undone. As this century unfolds, technology will continue to evolve. More and more activities will be operated by software. Instead of Teamsters, there will be robotic trucks. Where there had once been miners, there will be mining robots. Instead of factories, there will be 3-D printers in every home. Experimental robots have already outperformed many a white-collar worker, including the legal researcher, the pharmacist and the scientific investigator.”

This is the point of Rupert Murdoch’s and News Corp CEO Robert Thomson’s frustration with Google, which led Thomson to write to the European Commission in September asking it to reconsider the settlement with Google, and describing it as a “platform for piracy”.

Google — and Apple, Amazon and Facebook, especially Facebook — are in the vanguard of the new super-rich elite who are collecting vast quantities of data and writing algorithms to analyse it, make decisions and make money.

Algorithms are not only serving up the content that users are most likely to want in their Facebook news feeds, they are even writing the articles. Algorithms constantly refine Google’s search engine to make it more powerful, more attuned to its users.

The problem is that we are all serving up our data to these companies for free. In a way it’s a pact with the devil: they make their services free; we let them know everything about us, including what we’re doing, all the time. Their algorithms use the data to sell advertising.

It’s impossible for companies like News Corp to compete with “free”, which is why they’re fighting back, trying to get it seen as piracy.

But there is far more to algorithms than better-targeted advertising. Jaron Lanier’s long argument that the internet and software are hollowing out the middle classes and leading to greater inequality is given added sharpness by the current blossoming of the debate about inequality, which Rupert Murdoch recently joined in, along with Federal Reserve chair Janet Yellen.

That inequality is in part caused by the unemployment that resulted from the 2008 recession, followed by the asset price inflation promulgated by quantitative easing. And as I pointed out last week, rising inequality actually began in the 1980s, after President Ronald Reagan reversed the New Deal of 1931 and cut the top marginal tax rate.

The other thing going on, and in time perhaps the most important, is the effect of technology, and specifically the decision-making algorithms that are replacing middle class jobs.

But unlike my bosses, Rupert Murdoch and Robert Thomson, I don’t think anything will — or can — be done about it.

The combination of Abu Al-Khwarizmi’s invention with the data that modern humans are prepared to give up without charging for it is far too powerful.

