**How automation makes us time poor:
the past, present and future of work under capitalism.**

To discuss the future of work in a capitalist system means the future of wage-slavery, aka 'free' labour. 'Free' means that, in order to live, we are compelled to sell our capacities to add value. On the effectiveness of their exploitation depends the expansion of capital. At all times, its agents seek to extract the maximum surplus-value out of the labour-power they buy and which we must sell. They have learned three ways of doing so:
1. Lengthen the working day – leads to 'time poverty';
2. Push up productivity – automation/robotics; and
3. Intensify the application of labour (e.g. time-and-motion).
Let's begin with an illustration of these three methods by considering someone outside capitalism, a woman searching for yams in the soil:
1. she no longer stops when the sun gets too hot, but works from sunrise to sunset;
2. she goes from digging with her bare hands to digging with a pointed stick;
3. she is beaten with a stick to make her dig faster and harder.
Now for a version under the rule of capital:
1. If a wage-slave produces ten units in ten hours, she will produce twelve units in twelve hours.
2. If she produces ten units in ten hours with a tool, she can produce 30 units on a machine in those ten hours.
3. If she produces ten units in ten hours, a 50% intensification of her application will produce fifteen units in those ten hours.

Thus far we have held two conditions constant to vary them one by one. What happens when her boss changes all three? If she works 12 hours (10 to 12 units) on the machine (12 to 36) under a 50% intensified regime she will produce 54 units.

To this point, we have focused on the production of more units. That increase is not the most important outcome for the expansion of capital. What matters more is the value present in the units.
1. In a longer day, the wage-slave adds more value in total but the amount per unit remains the same.
2. Machines increase the number of units but reduce the value in each extra unit.
3. Heightened intensification results in more value in the larger number of units.
Automation and robotics cannot deliver that result.
To restate:
1. A longer day, by itself, adds more surplus-value in total in more units but with the same value in each unit.
2. A rise in productivity, by itself, spreads the prior total of value over more units so that each of that larger number contains less value.
3. Intensification, even by itself, adds both more units and extra value in total; the quantum of value in each unit might also increase.

Given a choice, therefore, capital will go for longer hours and intensification. Machines help to make those workplace rearrangements possible. Machines reduce the exhaustion of the operatives so that they can work longer and harder.

Driving up all three variables up at once delivers both more units and more value in total. That sounds like party time for capital. Not quite. The best is yet to come. A feedback operates. The average cost of labour-power falls.

Let's assume that the cost of labour-power (wages) for a ten-hour day is $100.00. Further, assume that each worker uses up raw materials etc to the value of $100 every day. The total cost of her producing ten units is $200, or $20 each.

Now jump to the situation where hours are up by 20%, productivity up by 300% and intensity up by 50%. The wage-slave, we saw, now produces 54 units.
But at what cost to capital? Wages stay the same at $100.00. However, to make more than five times as many units, she will process more than five times as much raw material, costing $540.00. The total cost of the 54 units is now $640.00, made up of $100 in wages and $540 in other resources. Instead of each unit costing $20 to produce, each now costs close to $12.00. ($640 divided by 54.)

Now assume that this reduction of almost 40% applies to all the goods that workers need to reproduce our labour-power. Before, those goods had cost us $100 a day. That is now cut by 40% to $60.

Part of the working day goes to cover the socially necessary costs of reproducing labour-power. The rest of our time is taken up by our adding surplus-value. Assume that surplus-value is also $100. Now the costs of socially necessary labour-times have been driven down to $60. The combined value of necessary and surplus still stands at $200. Once the necessary component falls to $60, surplus-value rises to $140 from $100. That initial $100 and the extra $40 go to capital to be realised as profit and the next bout of expansion.

Here is a crossover effect: the impact of 1, 2 and 3 combine to drive down the socially necessary costs of reproducing labour-time (wages). How? They do so cutting the cost of all the commodities that we need to reproduce ourselves as individuals and as a class across generations.

Indirectly, lowering the average costs of labour-power will flow through to all resources. Hence, the $540 for production goods and equipment will also contract.

Throughout, the rule of 'all other things being equal' has been applied. Enter the game-changer: the relative strength of the contending classes. The enforcement of longer hours, the introduction of new equipment and the enforcement of stricter discipline are points of contestation. So will be the distribution of the $60. An organised workforce will seize a slice. The 'socially necessary' elements in reproducing labour-power are political, industrial and cultural as well as physiological.

Control over labour-times is more important to the expansion of capital than are wage rates. Bosses don't pay us for the pleasure of our company. Think of the notices we see in sandwich-bar windows: 'Help wanted - 10.30 to 2.' They are the hours when the shopkeeper expects to need most value to be added. Hence, the spread of casualisation and part-time temps under EBAs, AWAs, ABNs and Un-Fair Work Australia.

Corporates are not only in a race to the bottom for the lowest wages. Despite the Preacher in Ecclesiastes, the race is to the swiftest.

Humphrey McQueen, presented in Brisbane, 30 March 2017.
For more see www.surplusvalue.org.au and Part Six of Volume I of *Capital*.