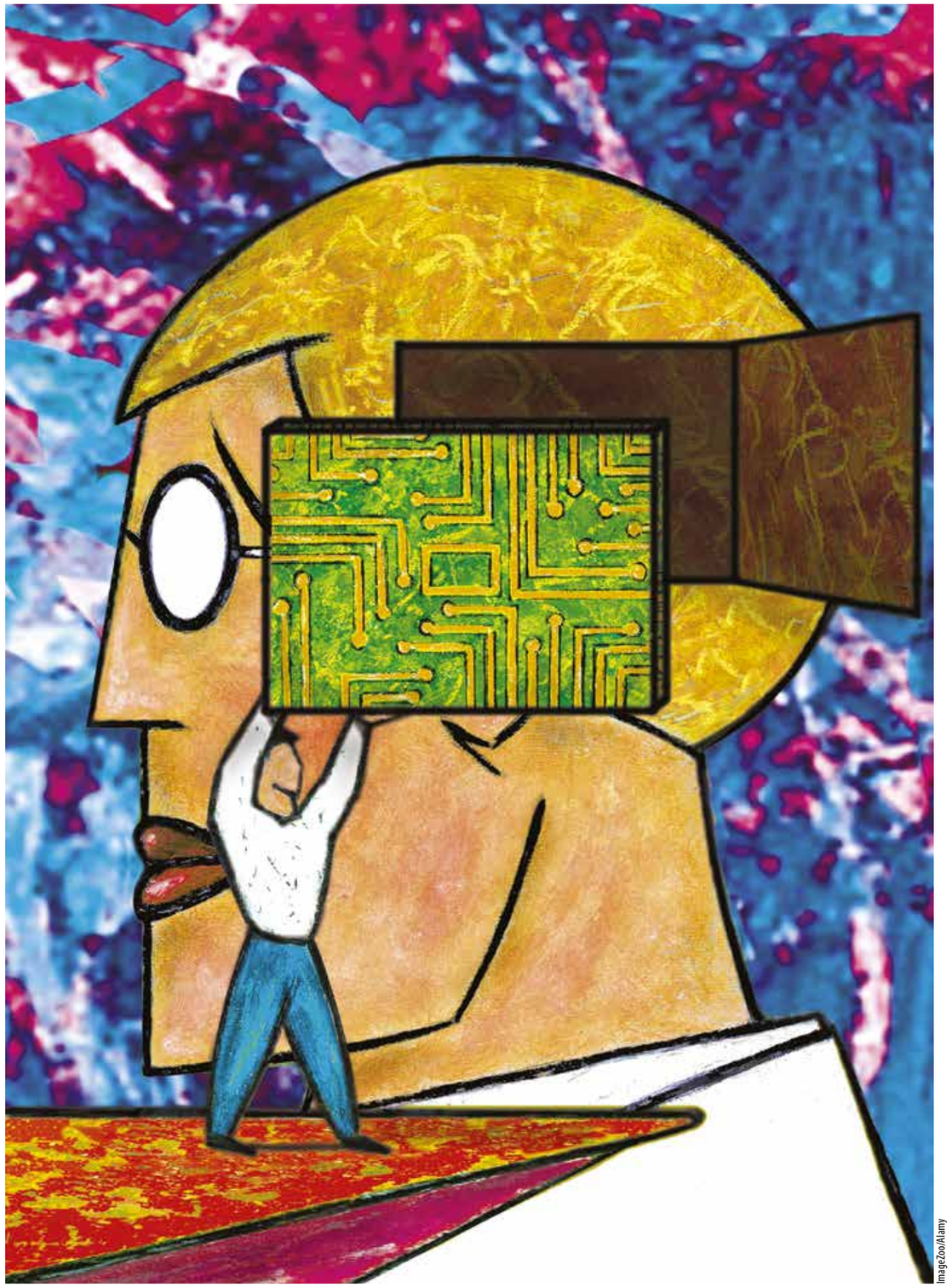

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Robots, algorithms and their profiteers are rapidly taking over the global economy and human beings are becoming superfluous. On the eve of Pope Francis' visit to New York, French economist EDOUARD TÉTREAU calls for a new approach.

Will humans survive the new economy of the 21st century?

When I was a student in the early 1990s, economics was a human science. After 20 years as an entrepreneur, financier and observer of this field, I am no longer sure economics is still a science, and I am increasingly convinced it is becoming less and less humane.

The modern economy is, to put it in fashionable terms, a traditional economy 'augmented', in part, by the digitization and the financialization of human economic activity. This combination will likely cause the next economic accident on a global scale.

Digitization has fundamentally changed the role of human beings in our economy. As the economy adapts to a high-tech world, many people in society have found themselves at risk of being left behind.

The world's top two private employers, McDonald's and Walmart, together employ four million people. Their combined stock-market value is $325 billion, giving an average 'value' of $81,250 per employee. The stars of the new economy – Alibaba, Facebook and Google – have a combined stock-market value of nearly $800 billion. But they barely employ 80,000 people, representing $10 million of 'value' per employee. A worker in the new economy seems to be a hundred times more 'valuable' than one in the traditional economy. But this value has a whole different meaning if we consider it from the opposite perspective: that today's economy has a hundred times less need for 'human capital' than the traditional economy.

In their study *The Future of Employment*, Oxford researchers Michael Osborne and Carl Benedikt Frey come to an unambiguous conclusion: the digitization of human activities means 47 per cent of current jobs in the US are at risk of disappearing. The trend of replacing people with machines has begun: electronic checkouts are replacing cashiers in supermarkets, while industrial robots are replacing labourers on assembly lines. Foxconn, a Chinese subcontractor of Apple and Nokia, announced in 2012 that it plans to purchase a million robots to replace its workers. In the interest of productivity and profit, it is no longer enough to ensure human beings are well trained or well paid – it is far more convenient to remove them from the equation altogether. What worker could be more profitable and productive than an industrial robot that never sleeps, never baulks at a task and has no personal problems distracting it from its job? And tomorrow, what programmer could be more effective and creative than a machine with far superior artificial intelligence?

Tomorrow, who will be best positioned to finance and raise an army? Sovereign states, or Google, whose recent acquisitions of several military robotics firms (including Boston Dynamics) mean it will soon be able to build battalions of robots? Robots that will know you well, and be able to recognize you, thanks to your internet searches, your geo-locations, your network of friends and contacts on social networks and Gmail.

This economic revolution is just part of the real scientific, political and philosophical project known as transhumanism, whose ambition is to augment human capabilities by fusing man and machine and, ultimately, to render humans immortal. Transhumanism aims to use technological innovations to 'augment' the body to the point that humans achieve immortality, or at least increased productivity.

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Detached from reality

With each technological advance, there looms the threat of the exclusion of 'normal' humans from the economic system – more precisely, those who will not have had the financial means to integrate technological advances alongside or within their own bodies. On the one hand, we will have the poor, all-too-human humans, whose fate is sickness and death; on the other, the super-humans, those who deserve immortal life. Are we not facing a technical revolution that will make exceptional progress but at the expense of widening the gap between the 'haves' and the 'have nots' and by pushing millions of people out of jobs, and effectively out of society as a whole, in an already unstable economy?

Alongside digitization, financialization has

become the main force in the shaping of the 21st-century economy.

There are 7.2 billion human beings on Earth. Together, we generate about $75 trillion of wealth (GDP) every year. That means each earthling annually generates, on average, about $10,000. Keep this in mind for the astounding nature of the figures that follow:

Every year, in a market detached from all tangible reality but that of electronic fluctuations and computer clicks, nearly two million billion dollars are exchanged. Or $1,934,500,000,000,000, to be more precise. This is the foreign-exchange market, where dollars are exchanged for euros, yen for pounds sterling, and so on. This market is 25 times larger than the global production of wealth, and it has no relation with the social and economic reality of the world. Like the derivatives market – itself worth 'only' $693 trillion, or 10 times the annual wealth produced on Earth – it feeds on wagers, speculations and, marginally, the insurance needs (against risks of fluctuation) of the different actors of the global economy.

Along with digitization, financialization of this kind pushes our economy even further from the reality of a humane marketplace. As the payrolls of big corporations dwindle due to technological advances, their profits continue to increase.

Since 2008, the heads of the world's six major central banks, by writing lines of code on their computers, have created more than $8 trillion of 'real money' out of nothing. And they have not hesitated to give this cash to banks around the world, in exchange for unsaleable assets.

Central banks, which are supposed to be the guardians of the world's currencies, have instead again loaded their balance sheets with toxic products. In 2013, the same Wall Street bankers who in 2008 brought the global financial system to the brink of default shared $26.7 billion in bonuses – $10 billion more than they had five years earlier.

We are on the brink of another global financial accident, which has the potential to be much worse than anything the economy saw in 2008. In fact, a 'warning accident' has already happened. On 6 May 2010, the New York Stock Exchange (NYSE) experienced a flash crash. At the time, two-thirds of all trades were conducted by robots, or algorithms. For reasons no-one could explain, including the regulators at the US Securities and Exchange Commission, these algorithms went out of control and destroyed $862 billion worth of stocks in 20 minutes. The situation required a human intervention *in extremis* – the president of the NYSE pulled the plug on the market, arbitrarily cancelling hundreds of thousands of trades, in order to contain the meaningless stock-market crash. It is now speculated that the mastermind behind this crash was a single man, a trader named Navinder Singh Sarao, who, in the basement of a suburban London home, used a single computer and simple software to remove a trillion dollars of market value in 20 minutes.

There will be more flash crashes, on larger scales, involving more of the world's inter-connected financial centres. The percentage of market transactions that are automated is constantly increasing, as is high-frequency trading, which represents half of market transactions in the US and which allows carrying out orders at the speed of light, if not beyond. Market algorithms are now capable of carrying out no fewer than 600 transactions in 100 milliseconds – the blink of an eye. Who can top that? Who can prevent a market crash on a much larger scale than the May 2010 flash crash if, instead of a lonely trader, an organized group wanted to cause mayhem on world financial markets?

We are facing an increasingly barbaric world, where human conscience is disappearing

Human inside

The time has come to impose simple and universal human standards on the globalization, digitization and financialization of our economies. This would have the goal of helping and rewarding businesses and financial institutions to prioritize the human, in a concrete and measurable way, in their generation of wealth, rather than the transhuman or the machine; to favour philanthropy rather than rapacity; and to emphasize sharing rather than predatory behaviour. It is not just a matter of linking the generation of wealth with effective job creation – this would be a good start, but it is not enough. Working conditions and their impact on the environment must be of foremost concern. Of equal consideration should be the living conditions of the growing number of people who cannot directly participate in the productive economy.

We are facing an increasingly barbaric world, where human conscience is disappearing. This month, Pope Francis is due to visit New York – the centre of today's global economy and the headquarters of the United Nations. He is expected to speak about the imbalances currently plaguing the global economy. I dream that such a figure might bring the leaders of all the great religions with him, with no conditions or exceptions. And that together, they send the economic, financial and political leaders of the 21st century this simple message: tear down this wall. That they call on the global elites to tear down the uncompromising barriers of insane money and alienating technologies, which divide humans and exacerbate inequalities, rivalries and violence between them. This invisible wall that pushes human beings out of democratic, economic and social life, for the benefit of soulless machines.

Tear down this wall, before it is too late. ■

Edouard Tétreau's book *Beyond the Wall of Money* (in French *Au-delà du mur de l'argent*) is published in France by Stock on 9 September.

Team Obama cashes in

For more than six years, Eric Holder was the chief law enforcement officer in the United States. Appointed by President Obama as attorney general in 2009, he served until this spring, when he returned to the law firm of Covington & Burling.

Revolving door? What revolving door?

As attorney general, Holder was responsible for prosecuting the bankers responsible for the financial crisis. To say he was not vigorous in pursing this task is putting it mildly: not a single executive was ever convicted for crimes related to the meltdown.

Among its clientele, Covington has counted such Wall Street mainstays as Wells Fargo, Bank of America and JP Morgan Chase. Holder now stands to make millions defending them. The firm went so far as to keep a corner office open for Holder for years on end, waiting out his time in the Justice Department.

This, my friends, is known as the 'revolving door'.

As the Obama era winds to a close, we can witness those who came to Washington on a tide of 'hope' and 'change' wash back out on a current of cash, taking up corporate America's offers to join them as lobbyists, board members, strategists and experts in government relations.

Part of the revolving-door problem occurs when political appointees come straight from the industries that they are supposed to oversee as public servants. George W Bush's Secretary of the Treasury during the 2008 financial crisis, for example, was Hank Paulson, former CEO of Goldman Sachs.

Spoiler alert: Goldman was one of the banks that received billions of dollars in government bailout funds.

Of course, such suspect appointments are not unique to Republicans. Senator Elizabeth Warren, a resolute Wall Street critic, pointed out late last year that 'three of the last four Treasury secretaries under Democratic presidents held high-paying jobs at Citigroup either before or after serving at Treasury'. Other important Obama administration officials, including current US Trade Representative Michael Froman, made millions at the same bank.

But the revolving door does not stop there. The other half of the problem is that, when political officials depart, those who have kept cosy relations with business are handed choice private-sector jobs by companies seeking to monetize their Rolodexes.

'Seven years into the Obama administration, this is the time when people are… cashing in,' one watchdog told the *Guardian*, noting that Obama's efforts to address the problem were 'about as solid as Swiss cheese'.

Former Budget Chief Peter Orszag now rakes in $4 million per year at Citigroup. Ex-White House press secretary Robert Gibbs, meanwhile, is the new global head of communications for McDonald's. Over the past year Gibbs led a national public relations drive on behalf of charter school advocates aimed at rolling back the power of teachers' unions.

Anti-union advocacy has become something of a trend. Having departed the White House in 2013, famed presidential adviser David Plouffe serves as a top strategist for the ride-sharing company Uber, which is at war with the National Taxi Workers Alliance – as well as with taxi unions in countries including France and Mexico.

Plouffe was recruited to Uber by former Obama campaign manager Jim Messina, whom *BloombergBusiness* has described as 'Silicon Valley's go-to government fixer'.

Messina is a busy man. He also runs a big-money political action committee supporting Hillary Clinton, and he served as a consultant to the British Conservative Party in the 2015 elections. (Sorry about that!)

It is a cherished notion in US political ideology that the market and democracy go happily hand in hand. The purveyors of that myth keep the revolving door turning.

After helping British Prime Minister David Cameron to victory, Jim Messina trumpeted his plans for the next year: 'I'm coming home tomorrow,' he said, 'and it's whatever it will take to get Hillary [elected].' ■

Mark Engler's new book *This Is An Uprising: How Nonviolent Revolt Is Shaping the Twenty-first Century* will be released in 2016. He can be reached via the website DemocracyUprising.com