Where are the Victorians when you need them? We need to update our laws, regulations and institutions for the digital age, just as the Victorians did for the industrial age

Sir Tim Berners-Lee, in this year's annual birthday letter to the World Wide Web Foundation, controversially raised the prospect of regulating the internet: "Companies are aware of the problems and are making efforts to fix them ... The responsibility – and sometimes burden – of making these decisions falls on companies that have been built to maximise profit more than to maximise social good. A legal or regulatory framework that accounts for social objectives may help ease those tensions." I agree in principle but would go further, arguing that the issue goes beyond the internet *per se*: it is about how we bring our regulatory and legal systems in line with the digital age in general and, just as importantly, how we evolve underpinning institutions.

During the 19th century, when industrialization took hold, the Victorians passed a series of laws to regulate industry and to alleviate the side-effects of industrialization. Between 1830 and 1890, the Factory Acts regulated working hours for children, the Railway Regulation Act provided for passenger safety, the Sale of Food and Drugs Act prohibited the adulteration of food and the Sanitary Act required local authorities to remove health hazards and made them responsible for sewers, water and street cleaning. These Acts were contentious at the time, but nowadays we would find few proponents of child labour, trains without brakes, open sewers and bread filled with glass powder.

Today, we are experiencing comparable economic and social dislocation, this time brought on by digitization. Yet there is no comparable stream of legislation – at best there is a trickle.

In his letter to the WWW Foundation, Berners-Lee drew attention to how "we've seen conspiracy theories trend on social media platforms, fake Twitter and Facebook accounts stoke social tensions, external actors interfere in elections, and criminals steal troves of personal data". He could have added to the list: hate speech, trolling, breach of copyright, sexting, slander, grooming, online radicalization, political advertising, electoral spending and social-media incitement of gang violence. If this seems like a 'kitchen-sink' list of issues, that's because it is. There are few aspects of our lives that do not have a digital dimension.

Glaring as these issues are, I want, instead, to explore a different area: the taxation of digital businesses, in order to demonstrate that we should look beyond the internet itself and consider the profound mismatch between our regulations and institutions and the digital age as a whole.

Tudor taxation in a digital age: tax subsidies for the wealthiest companies in the world

The European Commission estimates that digital businesses pay an effective average tax rate of 9.5 percent, compared with 23.2 percent for 'bricks-and-mortar' firms. In order to 'level the playing field', the EU is looking to implement a tax on revenue of 2 to 6 percent for digital businesses with global turnover of more than $750 million. The riposte from GAFA (Google, Apple, Facebook and Amazon) is that they are playing by the rules and are being unfairly singled out. This misses the point, which is that the rules were designed for a physical, not a digital world.

Under today's tax rules, digital businesses have a tax advantage in three areas:

- **Corporation tax** – In 2016, Google paid £36 million on UK revenue. But the latest accounts filed by Alphabet, Google's parent company, show UK sales of more than £6 billion. Apparently, sales of advertising to UK companies do not take place in the UK because Google's legal entity that books the sale is registered in Ireland (which just happens to be a low-tax location). After adverse publicity, negotiations with HMRC and appearances before parliamentary committees, Google has agreed a new approach with HMRC and will pay £130 million, covering taxes since 2005. If a tax system depends on persuading companies 'out of the goodness of their heart' to pay more tax, then you know something is wrong, both with the tax rules and the ability of a government to exercise its jurisdiction.

- **Business rates (property taxes)** – In the UK, business rates, assessed on property values, are the third-biggest outgoing for many small businesses after rent and staff costs – unless you are an online retailer, in which case you may pay no business rates at all. The irony here is that local property taxes, 'poor rates', were introduced in the 16th century to address the side-effects of a still-earlier economic revolution, the agricultural revolution that occurred in the wake of feudalism's demise. The aim of poor rates was to raise money to care for the "aged, decayed and impotent" and "to place and settle to work the rogues and vagabonds". So, 330 years later – after both an agricultural and an industrial revolution – we rely on a tax designed to alleviate begging in Tudor towns.

- **State and local taxes** – In the USA, for many years online retailers have been able to undercut 'bricks-and-mortar' retailers by not adding state and local sales tax (5 to 9 percent depending on the location). No in-state retailer presence, no sales tax. Recently, Amazon has had to add sales tax in many states since its Amazon Prime service depends on in-state distribution centres. Yet even now retailers who sell via Amazon's marketplace are not required to add sales tax.

No doubt many consumers nowadays prefer to buy online, but surely digital businesses, some of the wealthiest companies in the world, should not be allowed to act as free-riders in this way?

Putting aside the injustice of such sizeable tax subsidies, the example of taxation shows just how ill-fitted our analogue regulations are for the digital age: taxes levied on property, a physical asset, when so many of today's assets, especially software, are intangible; taxes based on demarcating the notional physical location of a transaction when in reality it happened in cyberspace; and taxes applied by national and local governments that are circumscribed by physical boundaries when digital businesses are global. Perhaps most disturbing of all is the way such a fundamental aspect of our society as how we fund our public services and redistribute wealth can be undermined with so little public challenge.

The inadequacy of the principle which has sufficed until now – that whatever is illegal offline is illegal online – is laid bare. Simply put, today's regulations were not designed for a digital world. The absurdity of this notion is evident: the Elizabethans did not have online retailers in mind when they introduced property taxes, nor Madison the internet when he drafted the First Amendment. Similarly, our rules around political advertising and electoral spending were developed for the age of mass media; and our procedures governing access to evidence by law enforcement agencies have evolved over centuries under the assumption that evidence is physical, not sitting on a server, a mobile phone or a hard disk.

However, new regulations alone will not be enough, since regulations are only effective if there are institutions capable of defining and enforcing them.

New institutions to underpin new regulations

In the Victorian era, alongside legislation for industrialization and its side-effects, came new institutions to monitor and enforce regulations. So the Factory Acts brought a Factory Inspectorate. The Public Health Act of 1848 set up a Central Board of Health and encouraged Local Boards of Health to appoint a Medical Officer. Likewise, in 1887 when regulation of the railroads by individual US states was found to be ineffective, the Interstate Commerce Commission was established to ensure that railways charged "reasonable" rates and to prohibit "pooling" whereby railroads agreed to split traffic and revenue.

In contrast in the digital age, we have yet to evolve our institutions – either their powers or their composition.

The feebleness of today's institutions in the face of digitization is illustrated by the appearance of Mark Zuckerberg in front of various Congressional Committees. The four-minute limit for each questioner, compounded by committee members' ignorance about Facebook, allowed Zuckerberg to obfuscate and filibuster, thereby preventing any meaningful probing. Perhaps the rigour of questioning was also impacted by the $600,000 that Facebook lobbyists had donated to 82 out of 91 committee members and their campaigns since 2013?

In the UK, Parliament's Home Affairs Committee has fared no better, proving itself unable in over a year to force social media companies to remove content propagating 'neo-Nazi hate speech'. Indeed, a House of Commons review of the powers of select committees noted that 1666 was the last time that a fine was imposed for Contempt of Parliament; while no-one has had to endure the punishment of being committed to the Prison Room of the Clock Tower (aka Big Ben) since the atheist Charles Bradlaugh refused to take an oath on the Bible in 1880.

There is a mismatch not just in powers, but also in the nature of institutions themselves. Returning to the case of taxation, it is hard to see how our current institutions, based on physical jurisdiction, can easily adapt. It is a fundamental tenet that a government's powers are limited to its own boundaries and citizens, whereas digital businesses are global, their transactions virtual and they may lack any local physical presence. Furthermore, in a virtual world the whole idea of an event happening in a specific place can be a touch spurious. What counts: the location of the end customer at a particular point in time, their place of residence, their nationality, where data is stored or processed, the location of the agency that negotiated the contract for digital ads, etc?

The General Data Protection Regulation (GDPR) is an example of how our concept of jurisdiction is straining at the seams. True, GDPR puts in place valuable protections over how EU citizens' data is stored and used, but GDPR applies to any organization handling EU citizen data anywhere. In practice, the EU has legislated for the rest of the world – but is this right? And it is not just the EU that is trying to overcome the limits of a jurisdiction based on physical bounds.

Therefore, a global dimension seems inevitable when it comes to devising a regulatory solution for a digital world. The challenge here is that our principal global organizations are composed of nation states. For instance, even the Paris Climate Accord operates under the umbrella of the United Nations. However, so many actors within the internet ecosystem suspect the motives of governments that a mere coming-together of nation states is a non-starter – not least because trust and transparency are some of the very concerns that are driving demands for regulation: why replace one untrusted party with another?

So it would appear that what we need is a new institutional model, not just new regulations and institutions. This may sound like a tall order, yet institutional innovation is nothing new. Douglass North, the Nobel Prize-winning economist, has shown how the progress of humanity is above all a story of the advancement of institutions. It would seem odd – a unique exception even – if a wholly new technology were invented that transforms almost every aspect of our society but calls for no institutional evolution. Indeed, we need look no further than the US Constitution for a striking example of how societies can devise a novel institutional model to meet new-found circumstances.

The third piece of the puzzle: beliefs. Whose freedom?

If regulations and institutions are to change, then the third piece of the puzzle is beliefs: people have to believe that new regulation and institutions are both necessary and right. Education will play an important part in shaping beliefs, as people become more aware of the impact of digitization and the ramifications for our society. But values will play a crucial part too.

Hitherto, the debate about regulation of the internet has been framed as a matter of making trade-offs between freedom and privacy. However, this is to define 'freedom' in a particular way and thereby to tilt the argument with the implication "So you are against freedom?" In reality, there are two sets of freedoms here, pitted against each other in a classic philosophical debate between 'freedom to' and 'freedom from' – everyone's 'freedom to' is at the expense of someone else's 'freedom from'. On the one hand, there is the freedom to say or post what you like online; on the other stands freedom from being trolled, groomed, bullied, exploited by monopolies, or shot in a drive-by-shooting by a gang provoked by video posts on social media.

This is no different to the debates of the 19th century when the factory owner's freedom to run his factory however he chose was weighed against children's freedom from having to work more than ten hours a day in a factory with unguarded machinery. At present, society seems to give more weight to a particular set of freedoms. Is this due to how the debate has been framed? Is it because our ideas of liberty have shifted to a more libertarian basis, or because internet and IT companies are regarded as 'cool'? Or is it simply that the issues are not sufficiently well understood, as the pace of technology change is out-running not only our ability to regulate, but also our ability as a society to comprehend the problem?

In the Victorian era, the golden age of free trade, there was an ingrained disposition towards economic *laissez faire*, just as today there is a marked inclination for *laissez faire* in the digital realm. Nevertheless, attitudes shifted. Perhaps in 50 years we will look back aghast at the extent to which our society has provided such a limp response to online radicalization, cyber-bullying, electoral interference, hate speech and wide-scale misuse of personal data.

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