



Workers of the world, log on!

Technology has eroded union power. Harnessing it may help organised labour to stage a revival

IF THEY STALL, we will hit them where it hurts." Jörg Sprave is a jovial German with a winning smile but he leaves no doubt that he is serious. If Google, YouTube's owner, does not budge, he will call a strike. Mr Sprave runs "The Slingshot Channel", dedicated to rubber-powered weapons, which boasts over 2m subscribers. He is also the founder of the YouTubers Union, which counts over 16,000 members. He launched the organisation in March after YouTube stopped showing adverts alongside many of his and others' clips, following pressure from advertisers. It caused his income to drop from \$6,500 to \$1,500 a month. The group's main demand is to stop such "demonetisation".

It is easy to dismiss Mr Sprave as a crank. His channel walks a fine line between pranksterism and gun-nuttery. Membership of his union is simply a matter of signing up to a Facebook group and it is unlikely that other members would follow his call to take their content off YouTube if it failed to bend to his wishes. But the YouTubers Union does symbolise a new stage in the

interplay between technological progress and union power. Unions have been in long-term decline across the rich world for decades—not least because of technological change. Now tech, from social media to artificial intelligence (AI), may help organised labour make a comeback.

Union gap

A revival of trade unionism would seem unlikely. Before the mid-19th century, almost no workers were unionised. Then industrialisation and urbanisation brought workers into closer proximity, providing both an opportunity to organise and a reason—to negotiate pay and conditions. America's union-membership rate hit 10% of employees by 1915 before peaking at 30% by about 1950. Sweden reached around 40% in 1930 as did Britain by the 1950s, when 10m workers belonged to a union. The rapid decline which set in took almost everyone by surprise. Across rich countries unionisation has fallen sharply (see chart 1 on next page). Only one in ten American employees is in a union today. The median

membership rate in the OECD is about 18%, down from a peak of more than 50% in the early 1980s.

There are many explanations for the rise and fall of unions. Some theories stress the role of restrictive laws. The earliest legal judgments on unions in America followed English law in holding them to be criminal conspiracies, whose intent was to raise prices and to inhibit trade. The legal environment for unions gradually became friendlier until, towards the end of the 20th century, the law turned again. In the 1980s, following the lead of Margaret Thatcher in Britain and Ronald Reagan in America, governments sought to combat strikes, restrictive working practices and inflationary wage demands with laws that greatly restricted union powers.

But robust research that shows a strong link between legal changes and membership is scarce. A paper by William Brown of Cambridge University, and his colleagues, which looked at the period between 1979 and 1997, supported the notion that "British legislative change has not exerted a major influence on union membership." Indeed unions only started to flourish decades after they were decriminalised. And their power began to wither long before the stricter laws of the 1980s.

A flowering and fading of "class consciousness" is another explanation offered by historians for unionism's ups and downs, though this is hard to measure. A more convincing theory, for which there is

some empirical support, is that the state has obviated the need for unions by doing their job for them. Most rich countries now have guaranteed minimum wages. In many places workers' rights have been enshrined in law and extended to include things such as parental leave and sick pay. What is left for unions to bargain over?

Yet the rise and fall of union membership has followed such a similar pattern in so many countries that a structural explanation, with technological change at its heart, is the most compelling of all. This interpretation also shows why a resuscitation of unionisation will be difficult.

Technology drove the ascent of industrial capitalism in the mid-19th century and changed patterns of employment. Under the "putting out" system of pre-industrial capitalism, workers were often sole traders who laboured at home. That made organising impractical. As a more formal system of employment in factories or mines became the norm, workers were lumped together, making it easier to organise. It also became more obvious to workers who was exploited and who was doing the exploiting.

Factors of production

Changing patterns of investment during the Industrial Revolution handed more power to organised labour, helping unions to grow. In the 19th century bosses began to spend vast sums on factories, mines and railways (see chart 2). As the amount of fixed capital grew, workers could exert greater power. Tim Mitchell argues in his book, "Carbon Democracy", that coalminers could exploit new choke-points in an economy. Getting coal out of the ground required small groups of workers at the pit face who were not easy to replace. This gave them huge leverage because such was the dependence on coal throughout the economy, from power stations to railways, that a strike could soon bring a country to a grinding halt.

Over the past 30 years technological change has caused unions to fall away. The cost of collecting and processing informa-

tion has fallen, making it easier to assess the output of individual workers. In America the share of jobs with some element of performance-related pay rose from 30% in the late 1970s to more than 40% in the 1990s. If pay corresponds to personal output, employees may feel that their energies are better directed towards working harder than to organising with others.

In the rich world capital-intensive industries such as manufacturing and mining, the base of unionisation, have shrunk. They have been replaced by the services sector, which is intrinsically less welcoming to unions. Rich economies now rely more on "intangibles", such as software and patents. It is easier to move a call-centre to a different location, including to a new country, than a shipyard. Workers who are happy that their jobs exist at all are unlikely to bargain for more.

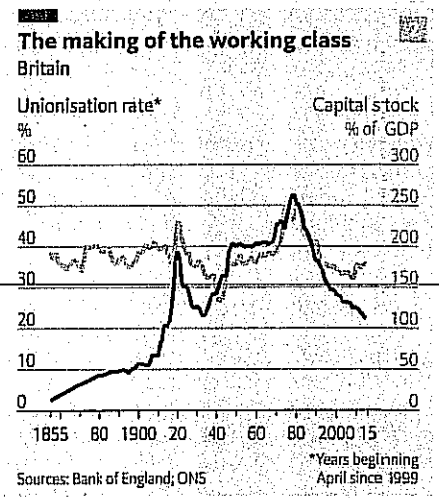
The decline of unions has revived arguments over the benefits they offer to workers and to the economy as a whole. The number of working days lost to strikes in the rich world has been dropping alongside declining union power. That boosts annual output. No longer is there much risk of runaway inflation as unions and employers battle over wage rises. Weaker unions can lower entry barriers to a labour market, making it easier for the young, women and ethnic minorities to find employment.

Left-leaning wonks counter that the decline of unions is responsible for the drop in the "labour share"—the proportion of GDP accruing to workers in the form of pay and benefits. The evidence is mixed. Research on the British economy from Andy Haldane, the chief economist of the Bank of England, finds that a rise of ten percentage points in the rate of unionisation raises wage growth by around 0.25 percentage points a year. But a paper for the Brookings Institution, a think-tank, that looks at American data finds a "statistically imprecise relation between cross-industry changes in unionisation rates and sectoral declines in payroll shares".

Even if the advantages to workers are not clear cut, support for organised labour is rising again (see chart 3 on next page). And technology may again play a central role in helping a revival—particularly in America, where activists are trying inventive new ways to organise workers.

Use of social media is taking the place of the shopfloor meeting in what is called "connective action". Facebook, Reddit and WhatsApp, as well as tools such as Hustle, a texting service, allow labour groups to do three things: collect information, co-ordinate workers and get the word on campaigns out to the wider world.

Start with information. Although they work independently, many Uber drivers are active in chat groups and other online forums. The ride-hailing firm often tests



new features of its app on a small group of drivers—without telling them what is going on. Online communications are an attempt to overcome this "information disadvantage", says Alex Rosenblat, author of "Uberland", a new book about the firm.

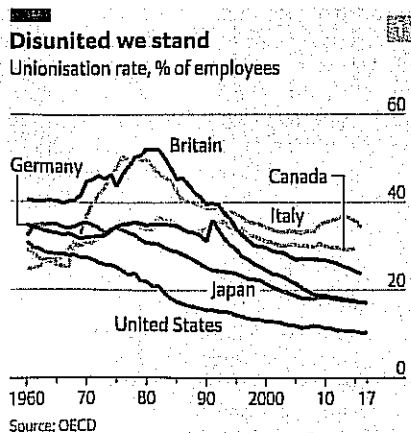
Comparing notes is also widespread among users of global crowdsourcing platforms such as Mechanical Turk and Freelancer, where digital labour is traded. Of 658 online workers in sub-Saharan Africa and South-East Asia interviewed by Mark Graham and his colleagues at Oxford University, 58% said that they are in digital contact with other workers at least once a week, mostly on social media. They usually talk about how to build a career online and avoid scams, but also about prices for jobs and how to divvy them up.

The logic of connective action

As for the second objective, co-ordination, without digital tools teachers' strikes in West Virginia and other American states earlier this year would not have been as successful as they were, explains Jane McAlevey, a longtime organiser and author of several books on unions in America. In West Virginia teachers set up a Facebook group that was open only to invited colleagues. Nearly 70% of the state's 35,000 teachers joined. The group became the hub of discussions on what to demand and how to organise protests.

The West Virginia strike is a good example of the third objective: getting the word out. The Facebook group turned into a factory for hashtags and "memes", memorable images or video clips that spread virally online. The same sort of thing happened when Starbucks, a chain of coffee shops, refused to let baristas show their tattoos. Management caved in after employees took pictures of their body art and uploaded them to social media.

However, services such as Facebook and WhatsApp are not designed for mass activism. That means they have limitations. ▶▶



► They lack tools to move beyond discussion to more involved forms of organising. WhatsApp, which is used by many Uber drivers, limits the size of texting groups.

They are also prone to misinformation and trolling. "On Facebook, if you ask about your rights when you are pregnant, only a few comments may be helpful," says Andrea Dehlendorf of the Organisation United for Respect (OUR), which supports retail workers at Walmart and elsewhere.

As a result, activists have started to develop digital services specifically for labour groups. Coworker.org is an early instance. Founded in 2013, the website helps workers condense their demands in a petition and spread them on social media. Starbucks employees have launched several successful campaigns, and not only about tattoos. They pushed the firm to minimise "clopensing", for example—where the same person closes a store late in the evening and opens it at the crack of dawn the next day.

Reorganised labour

Coworker.org was long an isolated example. Recently similar services have flourished by mimicking the startup approach and "unbundling" the roles of official unions. These startups are parcelling the various functions of unions into a series of discrete digital alternatives. In this way a new breed of activists is changing the way that workers can organise.

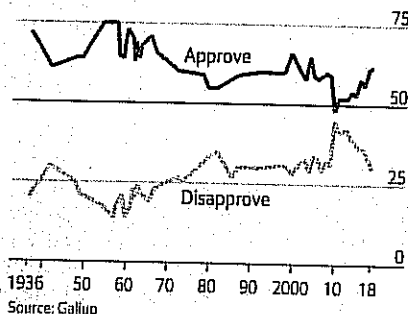
Some startups aim to fulfil the role of informing workers and recruiting members. Two years ago OUR launched WorkIT, a smartphone app for Walmart workers. After signing up, users are presented with a simple chat interface where they can ask questions about the retail chain's complex workplace regulations. Volunteers, often Walmart employees themselves, answer.

Others concentrate on helping workers voice their opinions. Union bosses have often been criticised for not paying much heed to the rank-and-file's demands. Work-ership is a platform that attempts to bring structure to often freewheeling discussions online and to enable employees to pipe up without fear of repercussions (posts are anonymous). Collective-bargaining agreements, for instance, are broken down into small segments which members can discuss.

Then comes finding ways to make money to finance activities. The Independent Workers Union of Great Britain has resorted to crowdfunding its legal actions against Deliveroo, an online-delivery firm, which it accuses of having denied employment rights to its riders. TurkerView, an American website that collects and shows for free reviews of clients who post jobs on Mechanical Turk, is toying with the idea of a premium service that charges users who want fast automated access to its data.

Some of these projects are spreading.

Put up or shut up
United States, "Do you approve or disapprove of labour unions", % responding



WorkIT, which licenses its system to other labour organisations, has six takers, including the Filipino Workers Centre in Los Angeles and United Voice, an Australian union. Coworker.org has been used by employees from more than 50 companies. For Starbucks it has become a union of sorts. Over 42,000 people in 30 countries are connected via the service.

Yet, as any startup will confirm, launching a new service is much easier than expanding one. Most of the fledgling labour-tech projects rely on donations from philanthropists, socially minded investment funds and similar sources. It is not clear where the capital would come from to allow them to grow. In addition, these services lack the legal standing and political power of conventional unions, points out David Rolf of America's Service Employees International Union.

Labour startups may need the support of existing unions if they are to turn into a force to be reckoned with. The best outcome would be if grassroots groups and conventional unions teamed up, says Ayad

Al-Ani of the Alexander von Humboldt Institute for Internet and Society. Unions could become service providers for self-organising groups, helping them with things such as legal advice and lobbying.

The digital world has been embraced by some unions. Worried about the rise of crowd-working, Germany's IG Metall, the country's largest union, now allows self-employed workers to join. In 2015 it also launched a site to compare conditions on different crowdworking platforms, called Fair Crowd Work.

Some unions have even set up innovation units. One is HK Lab, created a year ago by the National Union of Commercial and Clerical Employees, Denmark's biggest union. Experiments include a chatbot for member inquiries and a service centre for freelancers. America's National Domestic Workers Alliance operates Fair Care Labs, a service to improve the lot of nannies, carers and house cleaners. It will soon launch Alia, a portable-benefits service. Clients make voluntary payments of \$5 per job, which allows cleaners to get some insurance coverage and paid time off.

Labour's lost

However promising such projects, they are unlikely to help labour regain its erstwhile bargaining power soon. But if the digital labour movement has proven anything so far, it is that information and data are ever more powerful. Coworker.org used online polls to confirm that Uber had again cut fares across the country, thus also reducing drivers' pay. Bad publicity is the digital equivalent of the picket line, says Michelle Miller, co-founder of Coworker.org.

Obtaining more and better data could give rise to what Fredrik Soderqvist of Unionen, a Swedish union, refers to as "predictive unionism". His organisation is building a system that could mine information it has about its members as well as data from other sources. The idea is to offer services such as telling workers when they should ask for a raise. Algorithms could also predict the likelihood of lay-offs, if say a new chief executive takes over, and hence the need to get members ready to act.

Perhaps the best example for the power of data so far is Mystro, an app for drivers for ride-hailing services such as Lyft and Uber. It allows them to switch easily between services, evaluates trip requests, rejects unprofitable ones and keeps track of all kinds of information that helps drivers make better decisions.

For now, unions still look weak. Membership continues to decline. But their history shows that the relative power of labour and capital is constantly in flux. Recent decades have been tough on labour, largely as a consequence of technological change. But technology may also be the thing that helps turn their fortunes around. ■



Online to the picket line