HesaMag

#16

The future of work in the digital era
Le dialogue social européen. 
Jean Lapeyre

This book recounts the history of the social dialogue, from its birth to its achievement of greater autonomy, through the different accounts of the actors who conceived and developed it, with reference to various texts, joint opinions and autonomous agreements, and through an analysis of the functioning of the social dialogue. It is therefore a “human” vision of the construction of the social dialogue that is presented in this work. This process was the result of encounters between actors but also of the shared will that existed between them at a certain time, despite the many tensions, in the dynamic context of European integration. The history covers the period 1985-2003, during which time the author was responsible for the social dialogue at the ETUC.

The why and how of working time reduction
Stan De Spiegelaere and Agnieszka Piasna

This guide maps the discussion on working time reduction by examining the recent trends, the different reasons for implementing such a reduction, and the ways in which it can be organised. Illustrated with numerous real-life examples and insights from research, this guide is a valuable resource for anybody wishing to know more about the working time reduction debate.

The guide shows that there is no ‘one best way’ of reducing working time. The design of the experiment should be adapted according to the purpose of the reduction. At the same time, it is clear that there is a great need for large-scale experimentation with organised working time reduction, as the current reduction through the proliferation of part-time work does not guarantee an equal redistribution of work nor does it promote gender equality.
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A new head for the ETUI Working Conditions, Health and Safety Unit

In early October 2017, Marian Schaapman was appointed head of the unit dealing with working conditions and health and safety issues within the ETUI research department.

Marian, who studied law and public administration, previously worked for the Dutch trade union confederation FNV's Beroepziekten Bureau (Occupational Diseases Office), a unit set up in 2000 to help workers and their families get decent compensation for occupational diseases.

Marian also acquired broad experience in the academic world as a former labour law and policy researcher at the University of Amsterdam’s Hugo Sinzheimer Institute.

She conducted research in a wide range of areas, from occupational diseases and working conditions to gender equality.

Newsflash…

New data review highlights the major role of working conditions in breast cancers

On 2 September 2017, a review of data on the environmental causes of breast cancers was published in the journal *Environmental Health*. An all-female team of researchers reviewed more than 800 studies. They point out that, over the past eight years, a large amount of data has been collected on the role of environmental exposures in the occurrence of breast cancers.

These environmental exposures come about in two different ways. They occur in working environments as occupational exposures and in the course of ordinary life as a consequence of industrial and commercial choices. There is therefore nothing accidental about them, and policies focused on eliminating these risk factors would very considerably reduce the incidence of cancers of the breast, which is the main site affected by cancer in women's bodies.

Among the most frequent examples of occupational exposure, the authors cite endocrine-disrupting chemicals, night shift work, ionising radiation, passive smoking and many other chemical agents, such as polycyclic aromatic hydrocarbons (PAHs), compounds used in pesticides, aromatic amines (found in cosmetics, among other things), benzene and various metals. Researchers have been able to identify increased concentrations of iron, nickel, chromium, zinc, cadmium, mercury and lead in tissue biopsies from women with breast cancer. Although no definitive conclusions are reached, the study also mentions the potential role played by electromagnetic fields.

European Parliament rejects Commission proposal on endocrine disruptors

On 4 October, the European Parliament vetoed the Commission’s proposed criteria for the identification of endocrine disruptors. A significant majority of MEPs believed that these criteria contravened EU law and posed a threat to public health and the environment (389 voted in favour of rejecting the criteria, while only 235 supported the European Commission).

The Commission must now go back to the drawing board and draft a replacement proposal over the next few months.

In July 2017, the Commission proposed the adoption of criteria for the identification of endocrine disruptors in the context of legislation on pesticides and biocides.

Much criticism has been levelled at these criteria by scientists, environmental groups, public health organisations and trade unions, particularly as regards the exemption for pesticides specifically designed to disrupt the endocrine system.

The debate on this topic has been ongoing for several years, with the Commission securing approval for its criteria from a majority of Member States only after France’s election of President Macron. The previous French Government had rejected these criteria and called for a more ambitious policy on endocrine disruptors.
Switzerland: deterioration in working conditions over the past 10 years

An overall increase in most sources of physical stress at work such as loud noise, vibrations, painful positions and repetitive movements was observed in Switzerland between 2005 and 2015, setting the country at odds with the rest of Europe, where work-related physical risks remained at a constant level.

This is the main take-away from the report (presented on 22 May 2017) on the Swiss cohort of the European Working Conditions Survey, which was carried out in 2015 in 35 European countries.

The health problems experienced most frequently by workers in Switzerland include backache (over 35% of employees), headaches and eye strain (33.7%), and muscular pains in the shoulders, neck and/or upper limbs (31.8%).

The number of employees whose main job involves tiring or painful positions has increased over the past 10 years, as is also the case for repetitive hand or arm movements.

One quarter of employees in Switzerland experience stress at work most of the time or always, one third feel exhausted at the end of the working day and 9% wake up the next day with a feeling of exhaustion and fatigue.

Yet even though the level of physical stress experienced by Swiss employees has increased, their overall level of satisfaction with working conditions from a health perspective is higher than in other countries in Europe, with 86% stating that their health in general is good or very good (compared to 80% in the rest of Europe).

The proportion of employees stating that their work affects their health negatively is relatively low (15% compared to 27% across the rest of Europe).

Study confirms diesel engine exhaust emissions as a major cause of lung cancers

A Swedish study, published in June 2017 in European Journal of Epidemiology, compared the occurrence of lung cancer among workers who had been exposed to carcinogenic diesel engine exhaust emissions (DEEEs) in the course of their work and those who had not. The findings of the study confirm that occupational exposure to DEEEs is a major cause of lung cancers.

Occupational exposure to diesel engines appears to be associated with a particularly high risk of developing specific types of lung cancer such as squamous cell carcinomas (which originate in the pulmonary mucosa) and large cell undifferentiated carcinomas.

The researchers found a correlation between levels of risk and exposure, with a particularly high increase in lung cancer occurrence compared to non-exposed workers – approximately 65% – for workers exposed to elemental carbon (one of the components of diesel engine emissions) at levels above 33 µg/m³.

DEEEs are currently the focal point of debates on the proposed revision of the EU Directive on the protection of workers from the risks related to exposure to carcinogens or mutagens at work, since the European Commission objects to the inclusion of these carcinogens within the Directive’s scope.

Belgium steps up efforts to prevent risks to reproductive health in the workplace

A Royal Decree published in the Belgian Monitor on 11 September has extended the scope of worker protection regulations to cover not only carcinogens and mutagens, but also reprotoxic substances. This represents the final stage of regulatory reforms which the Belgian Government initially hoped would run in parallel to a similar process launched by the European Union back in 2002.

Lack of progress at EU level, however, ultimately forced Belgium to take unilateral action, following the example of other EU Member States such as France, Germany, Austria, Finland and the Czech Republic.

An amendment adopted by the European Parliament and the Council of Ministers in July 2017 means that Europe itself will now be obliged to take action by the first quarter of 2019 at the latest, in the form of a Commission proposal concerning the protection of workers against reprotoxic substances.

Reprotoxic substances in Belgian workplaces will, in future, be subject to the stringent set of regulations intended to prevent occupational exposure to carcinogens, since carcinogens and reprotoxic substances have several things in common: their effects on human health are extremely serious and often irreversible, and in many cases exposure is “invisible” because of the potentially long delay between exposure in the workplace and the onset of a health-related problem.
More than half of women say PPE prevents them doing their job

The unisex approach applied by most manufacturers of personal protective equipment (PPE) means it is unsuitable and uncomfortable for many female workers, according to a report published on 28 April 2017 by the Trades Union Congress (TUC).

More than half (57%) of the women that took part in the study said their PPE sometimes or significantly hampered their work.

The UK's national trade union centre has called on employers to avoid PPE suppliers that do not provide a range of sizes for both sexes, after only three in ten women (29%) told a 2016 survey that the PPE they wear at work has been specifically designed for them.

The report says that most PPE is designed to fit the sizes and characteristics of male populations from Europe and the US. As a result most women — and also many men — who do not fit this profile, struggle to find suitable PPE.

For example, the use of a "standard" US male face shape in the production of respiratory protective equipment means it does not fit most women, as well as men from black and minority ethnic groups or with facial hair, TUC said.

It also highlighted other items of PPE that can increase risk from injury if it is ill-fitting. The wrong shoes or overalls can cause trips, for instance, while unsuitable gloves can lead to problems gripping, and safety harnesses, belts and body armour can rub against the skin if they do not accommodate breasts and female hips.

The findings in the report are based on 2,655 responses to a TUC survey and 3,086 responses to a joint survey carried out by trade union Prospect and the Women's Engineering Society.

Cleaning workforce at particular risk of pulmonary disease

According to a survey carried out by the Vrije Universiteit Brussel (VUB) and picked up on by the Belgian media on 25 August, the mortality rate from pulmonary disease is significantly higher among men and women who work in the cleaning sector than among the rest of the population.

Laura Van den Borre, a doctoral student in sociology at the VUB, investigated the causes of mortality in a population of males and females aged between 30 and 60 who worked in the cleaning sector during the period 1991-2011.

Using a population of executive and non-executive employees as a point of comparison, she discovered that the mortality rate from pulmonary disease was 45% higher for men who had formerly worked in the cleaning sector, and 16% higher for women in the same position.

In total, Laura Van den Borre analysed 202,339 deaths of males and 58,592 deaths of females.

The aim of the research was not to establish a precise explanation for these excess deaths from pulmonary disease; in response to questions from the Belgian media, however, Van den Borre cited as probable causes the workers’ exposure to chemicals in cleaning products and the biological risks associated with exposure to mould and dust.

Adoption of the first part of the revision of the Directive on work-related cancers

On 25 October 2017, the European Parliament approved the compromise negotiated with the Council of Ministers on the first phase of the revision of the Directive on carcinogens and mutagens at work.

This vote means that the text is now adopted. It must be transposed into the national legislations of the EU Member States by 2019. It is a significant step forward in comparison to the minimalist legislative proposal put forward by the Commission in May 2016.

The positive elements are: (1) A reduction in the occupational exposure limit values initially proposed for hexavalent chromium and hardwood dusts; (2) The principle of health surveillance of workers exposed to carcinogenic agents is introduced in the Directive. Given that most cancers appear several years after exposure, this should help to save numerous lives; (3) The Commission will consider including in the scope of the Directive, no later than 2019, substances that are toxic to reproduction.

However, the compromise did not make any significant progress on crystalline silica, in comparison to the Commission's initial proposals. The limit value of 0.1 mg/m³ remains unchanged. In its next five-year report on the application of the Directive, the Commission will examine whether or not this limit value needs to be reduced.

The second phase is under way, with a proposal put forward by the Commission in January 2017 on five new limit values. The third phase is due to begin in 2018.
Grenfell Tower, a crime

Laurent Vogel
ETUI

On 14 June, a 24-floor tower block caught fire in upmarket Kensington at the foot of Notting Hill in London. The current – still uncertain – death toll stands at 80. Five months after the tragedy, hundreds of its former residents are having to live in precarious conditions.

The fire’s material causes are known. Started by a faulty fridge, it rapidly spread to the whole building – a tower block without adequate fire-fighting facilities. The outside cladding consisted of an inner layer of polyisocyanurate (PIR), a foam-based insulating material, and an outer layer of polyethylene sandwiched between two thin layers of aluminium sheeting. An air gap separated the two layers. PIR is an inexpensive material with very good thermal insulation properties but combustible. It releases toxic fumes such as hydrogen cyanide when it burns. The air gap acted as a chimney, helping to spread the flames and combustion gases.

In most other European countries, the use of PIR for insulating this type of building is banned. There was nothing exceptional about the risk: it was known to building experts and the public authorities.

So why did the fire happen? The answer to this question has political and social roots, transforming what might seem to be an accident into a mass crime. Why indeed? Though the chain of causes is long, it can be summed up in one sentence: the Grenfell Tower residents paid the price for the rapid growth of social inequality.

The majority of residents of such social housing are migrant workers. A poor population in a rich neighbourhood, they reported the dangers to which they were exposed on many occasions. The tower’s residents’ association had for instance reported the malfunctioning of smoke detection systems months before the fire, as well as the absence of protection around the gas mains. Building inspection departments did not react at all to these complaints. And for the mainstream press, these were nothing but poor immigrants endangering the rich whites. Anything different was inconceivable.

For more than 20 years, the British government has been working to the principle of better regulation. Introduced by Tony Blair in 1997, it is based on the conviction that state regulation hinders free enterprise, as well as industrial and commercial initiative, and that it could develop a culture of risk aversion among the working classes. All successor governments have adhered to this idea, with the tabloids making the nanny state one of their main targets.

The consequences: fire protection rules have been simplified and controls relaxed, the administrative burden for companies is constantly being reduced for the benefit of shareholder profits, and public budgets are subject to austerity measures. This regime has been enthusiastically embraced by European Union institutions, explaining why, at a European level, serious risks are tolerated as long as they help boost company profits: glyphosate, endocrine disruptors, etc. The list is unending.

Coming back to the case of Grenfell Tower, built in 1974, it was the subject of major refurbishment work in 2016, part of which involved installing the PIR cladding. In line with better regulation principles, there are increasingly fewer in-depth standards for this type of work, with preference given to company self-regulation. Companies are thus supposed to assess the risks themselves and take decisions based on a cost-benefit calculation of the margin of acceptable risk. In this case, they considered the risk to be tolerable as the probability of a fire was viewed as low. Useless to say that the laws of the market make risks all the more acceptable when the potential victims do not belong to the privileged classes.

The laws of the market make risks all the more acceptable when the potential victims do not belong to the privileged classes.

The choice of a dangerous insulation material pushed costs down by GBP 300 000, out of a total 10-million budget. 80 deaths for a saving representing only 3% of the total budget... To reduce costs, such work is organised using a complex subcontracting cascade, with the result that, at the end of the day, nobody had any control over the whole project, unless it is written down in a documentation so formalised that it has nothing to do with everyday work reality.

Grenfell Tower: a crime with 80 deaths. Yet insufficient prevention of work-related cancers is the cause of 100 000 deaths a year in the European Union. One Grenfell Tower every eight hours. While the Grenfell Tower deaths got weeks of media coverage, victims of occupational cancers go generally unmentioned. But they are killed by the same causes: the growth of social inequality, the servility with which a large section of elected representatives accepts subordinating public policies to the interests of the privileged. The massive demonstrations in the aftermath of the fire constitute a glimmer of hope, pointing to a will to regain control over living and working conditions, a will to revitalise bottom-up politics.
Is Europe heading towards the eclipse of “psychosocial risks” at work?

At a time when no one can dispute the growing importance of “psychosocial risks” and when the very use of this expression for these risks is becoming routine, in European circles a semantic shift towards the more inclusive topic of mental health is developing and solidifying. Under the guise of widening the debate, the expression “psychosocial risks” is being eclipsed, resulting in the removal or marginalisation of the link with the conditions of work and employment from which they stem.

Fabienne Scandella
ETUI
Psychosocial risks emerged at the end of the 1980s in numerous European countries, with an urgency that demanded awareness and action on the part of all actors involved in occupational health. It was based on this finding that, in the context of the European social dialogue, the social partners seized on the issue, resulting in the signature of autonomous framework agreements on stress in 2004, and then on violence and harassment at work in 2007. Although these agreements effectively encouraged increased awareness of the importance of these risks, at the time qualified as "emerging"; it should be noted today that, as a result of the harmful effects that these risk factors are having on the health of an ever-increasing number of workers, these agreements have proved powerless to halt a progression that now seems to be genuinely pandemic.

Faced with this alarming finding, and given that the existence of legislation (and therefore of the obligation to comply with that legislation) is the main factor driving companies to act in terms of preventing occupational risks, many observers are calling for a legislative initiative on psychosocial risks at European level. A directive in this respect would help to harmonise the protection that workers enjoy in the various Member States, while employers’ awareness and provide them with further guides and tools. Awareness-raising campaigns, best practice guides, user-friendly IT tools, etc. are some of a whole host of remedies, repeatedly used in recent decades, that the Commission is proposing to continue using despite their having not even minimally

1. That is to say, according to the definition of the European Agency for Safety and Health at Work-related Stress, COM(2014) 332 final.
5. With the notable exception of the Directive on carcinogens and mutagens at work, which is currently being revised.
The semantic shift that is embracing the concept of "mental health" and eclipsing that of "psychosocial risks" is anything but harmless.

affected the progression of the disease that is eating away at the world of work. In short, although on paper DG EMPL can defend itself against accusations of immobility by promoting placebos, it has basically chosen to keep the status quo.

When mental health intervenes at work

While DG EMPL has a certain apathy towards the issue of psychosocial risks, in other European circles, administered by the Directorate-General for Health and Food Safety, there is a buzz around the concept of "mental health". There has been a series of initiatives over the last 10 years or more.

In 2005 DG SANCO\(^8\) adopted an ambitious mental health programme. In that year it published a green paper entitled Improving the mental health of the population: Towards a strategy on mental health for the European Union\(^9\). Following that green paper, which aimed to "launch a debate" with stakeholders, in June 2008 it organised a European conference on mental health in Brussels. That conference led to the drafting of the European Pact for Mental Health and Well-being. This document, which was actually quite brief, identified five priority areas for action (namely, prevention of depression and suicide, mental health in youth and education, mental health in workplace settings, mental health of older people, and combating stigma and social exclusion). Each of these areas was then the subject of a thematic conference organised between September 2009 and March 2011.

In June 2011 the Council of the European Union examined the results of the European Pact for Mental Health and Well-being. In its conclusions, it invited the Member States and the Commission to set up, as a continuation of the previous project, the Joint Action for mental health and well-being platform, which came to fruition in 2013 and lasted for three years. At the end of this period, DG SANTE began a new project: the EU-Compass for Action on Mental Health and Well-being. This aims to collect, exchange and analyse information on policy and stakeholder activities in mental health. It is due to continue until 2018.

All these mental health and well-being initiatives are laudable. Why would anyone object to the promotion of mental health? This is one initiative area that seems to demand unanimity. However, where these projects include a section on the world of work, it seems that caution reigns when it comes to the examination of this section.

By way of preamble to our analysis, we can point to this brief and emblematic paragraph in the Pact, which concerns mental health in the workplace: "Employment is beneficial to physical and mental health. The mental health and well-being of the workforce is a key resource for productivity and innovation in the EU. The pace and nature of work is changing, leading to pressures on mental health and well-being. Action is needed to tackle the steady increase in work absenteeism and incapacity, and to utilize the unused potential for improving productivity that is linked to stress and mental disorders. The workplace plays a central role in the social inclusion of people with mental health problems"\(^10\).

The first three sentences make statements that might lead the reader to expect further discussion of the consequences of exposure to psychosocial risk factors on mental health. However, this does not happen. In all these projects, the concept of "psychosocial risks" is carefully eclipsed, like a troublesome taboo, to the benefit of the concept of "mental health", which therefore seems to be a "catch-all", ignoring the distinction, which is, however, fundamental in practice, between mental health problems that pre-exist integration into work (e.g. bipolar disorder, schizophrenia) and those resulting from exposure to psychosocial risk factors at work (e.g. reaction depression, burnout).

Surely it would be better if those measures that need to be implemented in order to encourage the entry into the labour market of

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8. The acronym of the Directorate-General for Health and Food Safety was changed on 1 January 2015: DG SANCO became DG SANTE.
people suffering from mental problems were considered separately from those measures that need to be developed so that workers suffering because of their work can remain in or return to their job.

This lack of distinction is important because it is evidence of a shift in focus. This approach entails less of a focus on the causes (conditions of employment and work) and more on the state of mental health, with the issue as to whether or not this state results from exposure to psychosocial risk factors ultimately being irrelevant. Consequently, any social and political criticism, which makes a link between employment and work conditions and mental health effects, is neutralised.

By focusing on the state of mental health rather than on the causes likely to affect it, the concept therefore tends to individualise the problem. The result is that the recommended measures are not collective but individual (e.g. stress management), and they are not preventive but rather curative (i.e. medication).

DG SANTE’s approach implicitly proposes that individuals should be adapted to work. The promotion of resilience has a rosy future. In fact, all the principles condensed into Article 6 of the Framework Directive on the safety and health of workers protection (89/391/EEC), concerning the general obligations of employers, namely a preventive approach combating the risks at source in the first instance and giving collective protective measures priority over individual protective measures, are falling by the wayside. The semantic shift that is embracing the concept of "mental health" and eclipsing that of "psychosocial risks" is therefore anything but harmless.

Another pitfall of these projects that are focused on "mental health" is obvious: the ambiguity of their aim. Beyond the simple question of the choice of concepts, which must also be asked, it is the underlying rationality that is at issue. The objective seems to be less about mental health for itself than what it enables in terms of employability and productivity.

Certainly, the workplace can be a place of social inclusion for those whose mental health is fragile. But this inclusion in the labour market can be beneficial only subject to at least two conditions. First, it must be voluntary and deemed feasible by a doctor who has the patient’s full confidence. It cannot result from "activation policies" for the sick, as seem to be developing in certain European countries (e.g. Belgium) to reduce social security costs. Second, it seems obvious that this inclusion, in order to prevent it being compromising or harmful, must offer guarantees as regards working conditions, particularly in terms of exposure to "psychosocial risks". Job adaptations can be necessary and it is therefore important to ensure the assistance of employers from the outset.

Last June in Luxembourg, for the second conference of the EU-Compass project, which brought together around a hundred participants, the Commission, which had taken great care to invite all the European associations active in the field of mental health, did not deem it useful to invite the European Trade Union Confederation. Therefore, following the contribution by European employers, who had been invited to express their view on what should be done in terms of mental health at work, there was hardly anyone there to report on the position of European workers.

A multitude of associations active in the field of mental health carry out sustained lobbying work at European level.

When questioned about this during the plenary session, the organisers replied that: "it is impossible to invite everyone..." In these circles, there seems to be little desire to bother about Article 154 of the Treaty of Lisbon: one partner is the same as another and it is better to surround yourself with more conciliatory partners. After all, these are not in short supply in Brussels. There is a multitude of associations active in the field of mental health, which carry out sustained lobbying work at European level (the European Depression Association, Mental Health Europe, European Alliance Against Depression, etc.) and which are not particularly bothered about the body of EU law on health and safety at work.

It will be recalled, for example, that, during the 11th European Depression Day, the European Depression Association (EDA), one of whose sponsors is the pharmaceutical company Lundbeck (which produces antidepressants...), expressed a wish for the Commission to initiate nothing less than a "revision of the Directive 89/391/EEC... to ensure that targeting the impact of depression becomes a key priority at workplace!"

As it seems pointless to hope, in the short or medium term, for a legislative initiative in the area of psychosocial risks, we can only hope that DG EMPL will defend the existing body of law to ensure that the principles of the Framework Directive are not trampled underfoot by other Community initiatives.
The future of work in the digital era

Special report coordinated by
Gérard Valenduc (Associate researcher at the ETUI)

It is hard to deny that digital technologies are revolutionising not only our working conditions but also our relationship with work. The confluence of increasingly efficient devices and powerful algorithms is encouraging start-ups to sprout up all around us. These popular platforms, particularly food delivery services, demonstrate an impressive capacity to adapt and to overcome any obstacles – notably legal obstacles – that get in their way. Together with their "partners" they are establishing a completely uneven balance of power.

In industry we are gradually seeing the development of high-tech devices dreamt up for the leisure industry (smartglasses, augmented reality applications, etc.) and a new generation of robots described as "collaborative", "learning" or even "intelligent". Although they can alleviate the physical hardship of some jobs, there are still many questions surrounding their overall impact on the health of users, especially in terms of the psychosocial risks.

The intellectual professions are riding the wave, too. Again platforms offer the services of programmers, translators, editors, legal advisers, etc. to clients across the globe. Geography is no longer an obstacle for this digital work. Young people in Eastern Europe have taken full advantage of this, setting up websites spreading "fake news" that allow them, through advertising, to make tidy sums not available to them through the traditional economy.
Toeing the line.
Working conditions in digital environments

Over the course of the last two decades, new technologies have gradually shaped a “new world of work”. These new working environments are confronting workers and their organisations with a wide range of challenges.

Gérard Valenduc
Associate researcher at the ETUI, honorary professor at the University of Namur

When they first appeared on the market, replacing traditional mobile phones, who could have predicted that smartphones would transform the economy to such an extent?

Image: © Belga
Under the joint effect of a new generation of digital technologies and a higher pace of organisational change in companies, working environments are subject to major transformations. Whether in manufacturing or services, working environments are full of new devices: communication chips, geolocation devices, autonomous robots, embedded software in all machines. Behind these devices, powerful and intransparent algorithms use billions of gigabytes to remotely control production processes, track goods and individuals, predict behaviour, influence preferences and many other things we would never have thought possible just ten years ago when the first smartphones appeared on the market. In this “digital economy” (see box, p. 15), what’s happening to well-being at work?

**Permanently online**

"Technostress", a phenomenon associated with working permanently online, has been the subject of many studies over the past few years. The term "technostress" refers to work-related psychosocial stress. It occurs when the potential benefits offered by the new digital devices mutate into pressure being put on an employee in the form of explicit or implicit expectations of an employer or colleagues, customer expectations or demands, connectivity problems disturbing normal working routine or when workers become dependent on digital devices, in particular mobile devices such as smartphones or tablets.

Information overload is a frequent form of technostress. The constant use of emailing, instant messaging and social media leads to information overload, as well as frequently interrupting work. This in turn generates constant pressure to reply to all signals received or to signal one’s presence. Moreover, a frequent feature of electronic messages is the absence of organisational filters, especially when the same messages are sent to a large number of recipients, without any order of priority or preferred destination. It is therefore up to each employee to adopt his own selection and evaluation criteria, while incurring the risk of being admonished for having ignored information he must have received. This permanent mix of significant and insignificant information characterising the Internet and social media is a source of mental fatigue, as is the need to be permanently accessible and available. Moreover, anyone frequently using Internet may suffer from a loss of spatial and temporal anchors due to the apparent overcoming of distances and time differences. The "real-time" character of online work often turns out to be "unreal time".

The effects of technostress include general and chronic fatigue, an apathetic or cynical attitude, concentration problems, muscle tension and other physical pain, and burnout. In addition to these effects, which are quite similar to those of work-related stress in general, technostress can cause attention deficit disorders (ADD). These make workers unable to properly manage their priorities and their time, generating feelings of panic or guilt.

What is however new is that a growing proportion of workers are suffering from what can be called "digital stress". This is affecting not just managers, but also professionals in all fields of work, technical and sales staff, healthcare providers, etc. The development of digital nomadism is one of the causes of this increase. Permanently dependent on online digital devices, this is a form of work organisation doing away with a fixed workplace. A workplace can now be anywhere: an ever-changing desk within a company, at a customer, on a posting, at home, in shared spaces, etc. Even the notion of a "workplace" ultimately loses its validity. According to Eurofound, multiple workplaces now characterise the working lives of almost a quarter of the European workforce.

Apart from technostress, digital nomads are also at risk of becoming dependent or even addicted to such mobile devices, using them compulsively, finding it difficult to log out even for a short space of time.
showing withdrawal symptoms (“cold turkey”) after stopping using them, at risk of a relapse after periods spent logged out, etc. For many digital nomads, managing online and offline time can become an important issue, not just in terms of stress but also in terms of work/life balance and of responsibility within an organisation. In the face of such risks, a number of official reports are calling for the introduction of a “right to be offline”, a right already found in a few collective agreements in companies.

Working with robots

Looked at from a traditional perspective, the effects of robotics on work situations are seen in terms of substituting labour by capital. In highly robotised environments, the only tasks remaining for human labour are setting control parameters and maintenance. With the development of a new generation of robots, this substitution logic is obviously not going to disappear, but it is now competing with a complementarity logic. The new robots are considered to be “autonomous” and “learning”, benefiting from innovation convergence in such fields as voice recognition and synthesis, shape recognition, 3D digital vision, perception of distances and volumes, direct machine-to-machine communication often using sensors (the so-called “Internet of things”), and learning capabilities due to algorithms based on big data. Though they are technically in a position to work together with humans, it is obviously not the robot who is going to organise such collaboration.

In this context, the question of human robot interfaces (HRI) is becoming a new field of research covering working conditions and safety at work in environments being taken over by mobile, learning robots. Three major issues need to be mentioned. The first concerns “augmented reality”, i.e. the instantaneous insertion of elements stemming from artificial vision or generated by simulation software into real world images. Well-known in the world of video games and the military field, and made popular by Google glasses (see the article on p. 22), augmented reality is now increasingly used in manufacturing, in maintenance work in hostile environments, in logistics and in surgery. From a working conditions perspective, one key question involves finding the right balance between a worker’s own visual and sensory perceptions and those generated by an augmented reality system, with a view to guaranteeing both safety and performance.

The second issue is that of the complexity of work situations. On what should we focus our attention, for example to prevent accidents, given the plethora of information processed and issued by robots? How can we anticipate the behaviour of a mobile robot? How can we design safe workplaces used simultaneously by robots and humans? What does collaborating with a robot actually mean? Collaboration between humans is often based on the definition of common goals to be achieved as a team, but can there be goals shared by robots and workers? Such questions are more concerned with work organisation choices than the intrinsic performance of the technology.

The third and final issue concerns the intuitive interfaces in the interaction between a worker and a robot: not just tactile interfaces such as those used in smartphones, but also gestures, verbal expression, emotional reactions, spontaneous movements. Intuitive programming, which is based on a worker demonstrating certain movements and the...

The digital economy in a nutshell

Looking at the various definitions of what the digital economy is, we see four overriding features. First, the sheer mass of digitalised information (“big data”) available for exploitation by very powerful algorithms, is becoming an increasingly strategic economic resource, in all sectors and on a global scale. Second, a new model of industrial production is emerging, sometimes referred to as “Industry 4.0”, with the help of a new generation of inter-communicating devices (the Internet of things), machines capable of learning through exploiting big data and of moving around without human intervention. Third, networks are becoming an organising principle not just of the economy but also of society, profoundly changing our conception of distance and time. Last but not least, the online platform business model, also known as “two-sided markets” is gaining ground, gradually replacing more traditional business models for providing services or distributing goods. These features are not completely new, with the exception of the platform model. They combine trends associated with the development of the information society and observed for many years now, with more radical changes, often termed “disruptive”.

The digital economy is a new form of economic organisation, driven by digital technologies and platforms, which enable and facilitate the creation of value through the provision of services or goods on an on-demand basis. The digital economy is characterised by the use of digital technologies, data and algorithms to create, distribute and utilise economic value.

Platform work

The expansion of business models based on online platforms is one of the features of the digital economy. These models promote the development of new forms of work, such as crowdworking or on-demand work (see box, p. 16), giving rise to what is now known as the gig economy. These new forms of work cover a wide variety of situations. Those most visible are the services provided with the help of platforms: the driver working for Uber, the Deliveroo cyclist (see the article on p. 17), the handyman doing home repairs via Taskrabbit, the nurse providing care services in people’s homes via an on-demand healthcare platform. But these are just the tip of the iceberg.

The platform economy also employs large numbers of workers behind the scenes, for instance workers in “click farms” who spend hours clicking on “likes” to fake popularity rankings, “web cleaners” whose job it is to remove from the web various forms of disputed or illegal content or simply content undesired by those paying to have it removed, “web taggers” who add keywords or lapidary comments to photos or videos, or “decoders” who perform recognition tasks on images, sounds or texts that robots are still unable to perform. And then there are those whose work consists of producing fake reviews on travel websites, fake consumer advice or fake news (see the article on p. 31). Finally, also in the submerged part of the iceberg, we need to mention all the unpaid work done by “prosumers” (producers/consumers) who fuel the platforms by providing them with their personal data, preferences and habits, their ranking of the goods/services they buy, etc. This information generates value which is then exploited by the platform. However, when a human performs an activity within a minimal contractual context (the click accepting the platforms terms and conditions) that generates value monopolised by a capital holder, this is to be seen as work...

From a working conditions perspective, platforms rely on a “just-in-time” and “just in case” workforce, whether on a global or local scale. Working hours and workloads are hardly predictable, and urgency is the main factor governing the management of time. High availability is required, and safety / well-being at work provisions are non-existent or, at best, minimal. Remuneration is set per task (gig), and is sometimes very fragmented or even subject to bidding, i.e. given to the lowest bidder. Workers are isolated from those ordering their work, negatively impacting their balance of power. People permanently working online are particularly exposed to technostress. Via the disclaimers in their standard contracts, platform owners assume no fiscal or social responsibility, instead passing it on to the service providers and users.

But what drives people to work in the gig economy? They are driven by unemployment, precarious work, under-employment or even poverty in some countries. In Europe, according to a series of surveys in several countries, the majority of these
In our de-structured world of virtual work, workers find themselves confronted with the need to rebuild their own personal professional identity.

Working for platforms

The platform business model now extends to labour markets, reviving the principle of labour exchanges and auctions. We can distinguish between several forms of platform work: those open to crowds (i.e. crowdworking platforms) or those based on an exceedingly flexible employment relationship in the form of on-demand or on-call work.

The first category covers immaterial micro-tasks. Operated on an international scale, the “gigs” offered are subject to competitive bidding (i.e. the lowest bid gets the job) and without any professional requirements. Amazon Mechanical Turk is a typical example of such a platform, constituting a globalised marketplace for virtual and exceedingly fragmented tasks. A further form of crowdworking platforms, while also focusing on immaterial tasks, targets a more restricted clientele consisting of freelancers certified by the platforms, i.e. adding a certain degree of professionalism. This is leading to a standardisation of freelance work, in the form of fixed hourly rates. Finally, crowdworking is also found in the field of material services: transport, temporary lodgings, packet/meal deliveries, household work, etc. Rates are set either by the platform (e.g. Uber, Deliveroo), or by supply and demand (e.g TaskRabbit, Listminut).

The second category exploits the potential of digital technologies (geolocation, smartphone apps, web platforms) to get the most out of contracts not specifying a fixed volume of work (e.g. zero-hour contracts), thereby developing the “just-in-case” management of large reserves of on-call workers. Though not new, in combination with online platforms and with geolocation used to match supply and demand, this form of employment is on the upsurge. This can involve tasks which have nothing to do with the digital economy (e.g. homecare, babysitting, household repairs), but which are managed by digital systems.

crowdworkers work for platforms for extra income, though there are indications that this is not the case in Asia and Africa[10].

Work, but with what employment relationship?

The development of these new forms of work is threatening the very foundations of traditional employment relationships. The notion of the workplace, one of the cornerstones of labour legislation, is questioned by the development of digital nomadism and virtual work, with the borders between work and private life becoming increasingly blurred. Similarly, the increase of project-based/target-based/task-based work is making the significance and measurement of working time more complex, as work now has no direct relationship to the amount of time actually worked.

Wage formation is questioned by the practices prevalent in the platform economy, as seen by the use of piecework and competitive bidding for work. The principle of subordination governing the employer-employee relationship is becoming blurred, with a no-man’s land now existing between employee status and self-employed status. At the same time, we are seeing a certain entrepreneurial logic developing among employees who now find themselves competing with each other, and conversely a wage logic developing among the self-employed, who are calling for joint standards and codes.

In the face of these trends, ways of generating social bonding at work and expressing collective action are taking on new forms. In the de-structured world of virtual work, workers are finding themselves confronted with the need to rebuild a specific professional identity, able to ensure both self-esteem and recognition. They are also feeling the need to voice their opinions via online tools enabling them to manifest their collective interests through for example circulating petitions, developing alternative systems for rating platforms or those placing orders, sharing positive and negative experiences, and reaching out to the media (read article on p. 36). At stake here is the relationship between individual and collective interests.
Delivering for FoodTech: at your own risk

You now see them everywhere in the city. Food takeaway couriers have taken possession of city roads. Within less than five years, the digital platforms have amassed whole battalions of young riders. But practised under such conditions, is riding really that good for your health?

Denis Grégoire

ETUI
The young man's face is full of thick scars, the result of an accident in July 2016. Barthelemy, a student from Bordeaux working evenings for the Belgian Take Eat Easy platform, crashed into a car and his head went through the rear window.

"I was riding fast and a car braked hard in front of me. The more you're out on your bike delivering meals, the more you earn", he was to explain to the press.

While the majority of accidents are less serious, skids, more or less heavy falls, collisions with other road users, taxi doors that open suddenly in front of them are what delivery riders have to put up with every day – but nothing to really worry about! Many riders just say: "These are the risks that come with the job." This tendency to play down the health consequences of their work may be explained by the young age of the riders and by the fact that many of them uphold the "biker" culture.

"I didn't want to have a possible death on my conscience." Arthur, self-employed courier

1. The forenames of the self-employed couriers working for Deliveroo and cited in this article have been changed, as their contracts contain a confidentiality clause which continues to apply "after having finished working for the platform, ad infinitum".

2. Whatever their status (student, self-employed, etc.), the principle applied by the three current leading players in the sector (Deliveroo, Foodora, UberEats) is the same: the "partner" uses his own equipment (bike or scooter, smartphone, helmet, etc.), making sure that all are in good working order at his own expense. The platform provides him with sportswear and rainwear featuring the company logo and, of course, the insulated bag. However, the rider has to pay a ca. €100 deposit for these.

"There's something seductive about becoming a courier. A bit exotic, a touch of New York, a bit radical – out in the urban jungle on a bike", stated one courier riding for Deliveroo who wanted to remain anonymous.

In contrast to regularly-employed professional couriers working for traditional bike delivery companies, this self-employed rider had no work-related accident insurance. And as he didn't consider it necessary to take out a policy with a private insurance company – in line with most other self-employed couriers in Brussels –, he risks having to pay for all the costs associated with medical care himself in the case of an accident and of losing his sole source of income if he's not able to get back on his bike quick enough.

That's exactly what happened to Idriss.

"I got knocked down by a bus. As a result of the accident, I was under shock. I didn't want to go out any more, didn't want to get on my bike. I stopped for a whole week. My €1800 bike was a wreck. I had to buy a new, but much cheaper one", said the 22-year-old self-employed rider, stating that he rode between 9 and 12 hours a day, 7 days a week.

Safety: the gap between words and deeds

How do the platforms react in the case of an accident? If we are to believe what the riders say, one could think that they don't really care. In the case of an accident, the procedure to follow is to contact customer service. If the rider can't continue riding, he is logged off the application. If the goods carried are still OK, another rider is despatched to the site of the accident to take them over and deliver them to the customer.

Although nearly all of the thirty Brussels Deliveroo riders interviewed praised the good, easy-going contacts they had with platform staff – in particular the customer service centre –, many complained about the lack of empathy in the case of an accident.

"I had an accident and required stitches. When I rang them up, all they asked me was whether the meal was OK. They didn't bother about how I was doing", remembered Steve, a student.

While safety is a leitmotiv at Deliveroo, apart from checking the condition of the bike during recruitment, few concrete measures are taken. Wearing a helmet is advised (it's not mandatory in Belgium), but nobody checks whether people follow this recommendation. And if you're out on your bike on a hot July day, odds are you won't be wearing one.

Benoit, while always wearing a helmet, often interprets the highway code his own way: "I often go through red lights. But carefully", he admitted. "It's impossible to do this work and to fully respect the highway code. You can't meet the deadlines if you're stuck at red lights all the time. You can lose 2 – 3 minutes on each light."

While the latest arrival on the Brussels market, the US UberEats, does not even bother to check that its riders' bikes are in good working order and that the riders themselves are capable of riding in the city, Deliveroo has a selection procedure requiring an accompanied city ride. Called a "trial run" in the company's business jargon, this test was originally supervised by a Deliveroo employee in Belgium. It has since been subcontracted to experienced self-employed riders.

Arthur once accepted going out with candidates on these trial runs. "They offered two euros for each candidate. I stopped after an incident occurred, with one of the candidates just missing getting hit by a bus. I didn't want to have a possible death on my conscience. That's was just too much responsibility", he stated.

The riders supervising the trial runs are called "ambassadors" by Deliveroo, and the platform supplies them with a distinctive jacket. "They basically play on your ego, giving you the feeling that you've got an edge over the rest of the couriers due to the distinctive sign. But riders who manage to carry out 1000 deliveries also get a distinctive jacket", said Arthur with a touch of irony.

The heir to Take Eat Easy, Deliveroo relies on people's passion for cycling to recruit and motivate riders, benefiting from the performance spirit of many of its couriers.

Some even compete in international competitions of cycle couriers – the last world cup, which took place in Paris in August 2016, was sponsored by the London platform. In such a context, the dividing line between leisure and work becomes blurred.

"When I'm on my bike, I don't feel as if I'm working", said one of the few women couriers opposite the Bourse de Bruxelles, one of
"When I’m on my bike, I don’t feel as if I’m working."
A young woman courier

The cooperative model: a credible remedy against Uberisation?

In Belgium, Deliveroo pays the majority (at least 85%) of its partners via a cooperative called SMart (acronym for a société mutuelle pour artistes). Set up in 1998, SMart originally addressed arts and stage professionals not wanting to work in a self-employed capacity. Being a member of a “société mutuelle” – SMart has since adopted the legal status of a cooperative – means that they can be paid as employees.

SMart has expanded greatly since, and now operates in nine European countries and has some 100 000 members, mainly artists, but increasingly journalists, photographers, translators, etc. And as of 2015 – but just in Belgium – takeaway couriers. An expansion not welcomed by everyone. Certain organisations, and in particular unions, are of the opinion that the cooperative encourages the establishment of precarious forms of employment in sectors as yet little affected.

For Sarah Ledant, project leader at SMart, such accusations are unfounded. By signing up couriers, the cooperative was not seeking to drape its workforce, but instead simply trying to respond to a fact, she stated.

"The ball started rolling when a graphic designer invoiced us for courier services. Numbers of couriers registered with us grew rapidly. We started getting worried about their working conditions, as we quickly realised that they were not achieving the minimum wage through their work. Indeed, the ‘priority booking’ system used by the now defunct Take Eat Easy involved paying couriers for each delivery and not by the hour. Only couriers deemed to perform sufficiently well were assigned deliveries by the platform. The others stayed out in the cold. To remedy this situation, we knocked on Take Eat Easy’s and Deliveroo’s door with an agreement corresponding to the legal minimum required under Belgian legislation, especially with regard to minimum 3-hour paid work periods", she explained.

When Take East Easy went bankrupt in July 2016, the cooperative guaranteed the payment of the sums due to its members, while the self-employed couriers in Belgium and elsewhere in Europe went home empty-handed.

The couriers paid via the cooperative – which charges 6% of their income for its services – are also covered by work-related accident insurance and third-party liability insurance, and their social security contributions are paid. For Sarah Ledant, these elements explain why the latest arrival on the Belgian market, the US platform UberEats, quickly terminated the discussions it had initiated with the cooperative on starting up on Belgian market. At the end of October, Deliveroo followed suit, also ending its “marriage” with the cooperative. The platform justified this move by stating its desire to offer its couriers greater flexibility, something the minimum 3-hour block system imposed by SMart did not allow. “We have been convinced for a long time that the large amounts of capital available in these so-called ‘disruptive’ platforms are partly dedicated to perpetrating a perfectly concerted, massive and intense social disruption", replied SMart in a vitriolic statement.

Contrary to what one might think, Benoît, the rider prone to going through red lights, is anything but a “hothead”. He does not belong to the biker community on which Deliveroo depended when it started recruiting its first “partners”. He doesn’t ride a “fixie”, one of those fixed-gear bikes without brakes on which aficionados can shift at speeds of up to 60 km, but instead a 10-year-old mountain bike.

When I'm on my bike, I don't feel as if I'm working.
"I'm no professional biker. I picked up a mountain bike which had been lying around in a garage but which was in very good working order. I was thus able to start without investing anything. After an unhappy time spent working in a job in line with my qualifications, I looked for a job that was easy to perform, didn't require much creativity, and was reasonably well-paid. I could carry on working in a self-employed capacity, while at the same time doing work in line with my training", said the university graduate.

As with the majority of interviewed Deliveroo riders, this "slasher" was very happy with his choice. He can be considered as "privileged", as he is one of the few riders with fixed working hours. "This working time stability was indispensable for me, as it enables me to do my two jobs without the one getting in the way of the other", he said.

This is a luxury not available to most other riders. People are constantly applying, and sometimes the supply of riders outstrips demand (see box, p. 21). This has now reached such a stage that the riders' cooperatives, set up in the last few months to represent workers in the sector, are starting to demand a hiring freeze.

Fuelled by an increasingly varied social breeding ground – the "bikers" and "slashers" have been joined by a new, even younger, cohort from working-class districts –, the leading platforms have started dropping low-rated riders.

"Deliveroo disconnected me because I refused more than 20% of orders they sent me", said Bastien, a 20-year-old rider who has since started working – on an e-bike – for Takeaway.com, a Dutch platform specialised in delivering pizzas.

Thanks to geolocation, platforms now have a mass of data allowing them to evaluate the effectiveness of their workforce: the average time taken to deliver meals, average speed, their knowledge of the city, etc.

Apart from this objective data, the feedback of restaurant owners and customers on service quality and rider behaviour allows a platform to rank its riders. And bad luck for those who haven't understood that "the customer is king."

"The golden rule is: we do what the customer requires of us. If a customer wants me to climb several flights of stairs to deliver..."

Steve, student rider
something to a client’s door, I’ll do it. We are required to always behave impeccably, to always be polite and respectful. If that’s not the case, we get down on our knees and apologise”, observed Benoît, without taking offence.

For a long time, Benjamin belonged to the elite of Brussels couriers: “For several months, I was in Deliveroo’s good books. I got emails praising my work, I was ranked as one of their top riders. But then things started going downhill. They summoned me, telling me about complaints from restaurant owners. I tumbled down their ranking. They tried to make me look like someone with bad character, something that really rattled me. Restaurant owners can say anything they want about us. The platform just doesn’t care about our side of the story.”

Benjamin, who got paid via SMart, suspects that Deliveroo wants to reduce the number of its couriers belonging to this cooperative, as this type of worker was becoming too expensive. Perhaps intuition, four months after our meeting with this young father – now working for the Belgian post –, this is just what has happened (see box, p. 19).

### Burgeoning protest

Faced with the downward development of their pay, inversely proportional to the rise in their work (see box), takeaway couriers have started setting up organisations to represent their collective interests. Using mainly the social media to mobilise and put forward their demands, they are for the most part local movements.

The first protest movements emerged in London in summer 2016 in reaction to Deliveroo’s decision to stop paying its couriers by the hour and instead by delivery. A similar pattern was repeated – for identical reasons – in other European cities. In October 2016, couriers in Turin working for the German Foodora platform logged off the application for three weeks.

In Germany, several protest actions developed over the past 100 years, yet returned without the use of the institutional tools described in the box. The union official, himself a cycling fan, has a good insight into the courier “community” and its libertarian spirit. Rather than being an obstacle to collective organisation, he views it as an opportunity for the union movement to develop.

But “established” unions are only rarely actively involved in these actions. Vida, the Austrian union for transport and service workers, supported the establishment of a works council – the world’s first in the digital platform sector – at Foodora in April 2017. In France, a self-employed courier is organising cycle couriers in the Gironde region at the initiative of the CGT union, with Bordeaux, the region’s main city, the scene of the first mobilisations. These targeted Deliveroo following last July’s announcement that the platform would be ending its pay system based on hourly rates – a system enjoyed by the longest-serving riders. The movement spread to other French cities and culminated with protest actions in Paris, Bordeaux, Lyon and Nantes on 27 and 28 August.

In Belgium, the first demonstration of takeaway couriers took place at the end of July. It was organised by a riders’ action group and two federations belonging to the CSC, one of the two major Belgian unions, to protest against the relocation of Deliveroo Belgium’s customer service centre to Madagascar.

But apart from these actions, the major unions seen to be draging their feet. Asked about the protest action in Brussels, Martin Willems (CSC) did not view it as a sign of disinterest on the part of the established unions, but rather as a desire to let the movement develop at its own pace.

The union official, himself a cycling fan, has a good insight into the courier “community” and its libertarian spirit. Rather than being an obstacle to collective organisation, he views it as an opportunity for the union movement to develop.

“The challenge associated with this so-called ‘new economy’ is undoubtedly the chance to take unionism back to its roots, without the use of the institutional tools developed over the past 100 years, yet returning to the true sense of the term ‘organising workers’, by themselves and for themselves”, he wrote on his union’s website.
DHL experiments with augmented reality

The logistics services provider DHL is a pioneer in innovative developments in the Netherlands. Employees at two distribution centres have volunteered to take part in a trial of vision picking with smartglasses. Productivity is increasing, employees are satisfied. The Works Council is keeping a close watch. Frank Pot, Professor of Social Innovation of Work and Employment, points to the importance of involving the shop floor in digitalisation.

Pien Heuts
Freelance journalist
DHL employee Heidi walks at a swift pace along the huge racks of pallets where she picks orders for customers of Nikon, the maker of digital cameras and accessories. According to her step counter, she walks about 12 kilometres on a busy day. In the 10 years she has been working for DHL, she has lost seven kilos in weight, she says with a chuckle. After she has given a command in English, she sees instructions on which items she has to collect displayed in the top right-hand corner of her hip Google Glass smartglasses. And she is given instructions telling her in which box to place the items on the trolley she pulls behind her.

"Look," she says in German-flavoured Dutch, "I see all the information in the top right-hand corner of my glasses. As soon as I have scanned the barcodes with the finger scanner, colours indicate where I have to place the items on the trolley. It’s really simple – within 20 minutes, I had mastered vision picking." Site manager Theo Willems points out that, unfortunately, it is not possible to have scanning done through the vision picking glasses. "We use a finger scanner with laser beams, which are harmful if they come close to your head. As soon as there are LED applications, genuine hands-free scanning will become a prospect."

A colleague of Heidi walks into the aisle. He still uses a traditional hand scanner, executing order picking instructions through the text on the screen. And this means that his hands are not free. "My colleague has to perform a lot more scanning actions, says Heidi. Vision picking works faster, and if something does not work, the system immediately fixes it, sometimes with the aid of the troubleshooter. I very soon got used to having information in the corner of my eye. I can also look around me in the normal way. I really enjoy it." "It works like a navigation system," Willems adds, "simply following instructions."

**Trial running until 2019**

Heidi is one of around 10 volunteers who are taking part in a vision picking trial that will run until March 2019 at the DHL site at Beringe in the southern Netherlands. A trial is also taking place at Bergen op Zoom, as well as in Ireland, the United Kingdom and the United States. Privacy laws do not allow this way of working in all countries. Traditional, manual order picking is being compared with vision picking during this pilot project.

The DHL warehouse, close to the German border and one of the largest in western Europe with 120 000 square metres of floor space, collects, adds value (VAL) and distributes goods for some 13 customers, including Nikon. "Nikon used to have several distribution centres in Europe," says Theo Willems, walking through one of the halls in the distribution centre. "For the past few years, distribution and storage have been centred here in Beringe. For us, this means that there are far more actions, and often smaller orders have to be sent to all parts of Europe. An innovation like vision picking enables us to work faster, fewer errors occur, employees are more involved, and the work situation is safer. And the induction of new staff is easier."

Willems explains that innovations of this kind are always introduced in consultation with the customer. Customers want innovation and keen prices. There is a constant need to work more smartly. "Customers want to make savings on the fee structure every year. Then you join them in looking at how the work can be done more efficiently and how costs can be saved. With vision picking, we achieve an average productivity gain of 10%.

DHL (a subsidiary of Deutsche Post) is a pioneer in technological innovations. Willems knows that you have to be so if you want to stay in the race. "Innovations are constantly taking place – it’s a never-ending process. Vision picking is, in fact, an application of augmented reality. We’re really just at the start of advance applications of intelligent glasses in a logistic environment."

Last year, DHL chief Markus Kückelhaus predicted at an international conference that logistics will end up being completely different over the next 5 to 15 years as a result of innovations, for example with big data, sensors, augmented reality, 3D printing, robots and drones, which DHL has also been experimenting with in recent years. He says that 80% of warehouse operations are still performed manually.

**A good feeling**

"I have a good feeling about it." Gino Hauzer, Chairman of the Central Works Council of DHL Supply Chain Benelux and a member of the European Works Council, is clear...
Companies in the Netherlands are obliged to survey the health and safety risks through what is known as a Risk Inventory and Evaluation (RI&E). There is also an action plan associated with the RI&E, describing measures to counteract the risks as far as possible.

"With vision picking, we achieve an average productivity gain of 10%.

The trouble with new digital applications on the shop floor, employment experts say, is that impacts on health and well-being become apparent only as the years go by. Naima van Willigenburg, an expert in working conditions with the FNV trade union federation, also finds saying anything about the effects of employee’s health complicated.

"Research always lags behind the facts, she says. But you can assume that some employees will experience more stress or work pressure, that targets will be raised, that people will have less autonomy because the software dictates, that uncertainty about losing your work due to automation will increase and that not every distribution worker will learn how to cope with new technology such as vision picking. On the other hand, technology can also make the work safer and lighter."

Van Willigenburg emphasises that the trend towards digitalisation cannot be halted. It is clear, however, that trade unions have a role to play in preventing any adverse consequences, not just in terms of health but also in relation to employment and quality of work (see box). "As a trade union, it is also our task to support the Works Council. They are on the front line when it comes to giving consent for innovations of this kind and including possible risks to health and safety in the company’s mandatory risk inventory and evaluation (RI&E)." According to the FNV, the risks must be surveyed as early as possible, ideally before a trial begins. It soon becomes clear how the risks must be monitored.

Largely positive

A first study by HumanCapitalCare, a consultancy in the field of work and health, showed that participants in the vision picking trial are largely positive and that there does not appear to be any impact on physical strain and the musculoskeletal system.

After working for more than four hours, eyesight and visual comfort do, however,
Software dictates

Frank Pot is Emeritus Professor of Social Innovation and Chair of the Advisory Board of the European Workplace Innovation Network (EUWIN). He has not made a specific detailed analysis of the DHL pilot project with vision picking, but in general he takes a positive view of the opportunities and consequences of digitalisation. Pot was the Director of TNO Work and Employment, the research agency that makes scientific research applicable in the long term, these trends will lead to new employment. But whether digitalisation does or does not lead to a decline in employment, one thing is for sure: job content and working conditions will change.

The Netherlands Trade Union Confederation (FNV) is therefore launching a large-scale study on the quality of work as a result of technologisation at the workplace. The FNV wants to develop quality criteria (a checklist) according to which innovations can be tested in the field of safety, robot ergonomics, job content and the autonomy of the employee. The FNV also aims to develop a strategy in which the introduction of new technologies is influenced from the perspective of employees (trade unions and works councils) and the quality criteria are significant conditions in the implementation of new technology.

What consequences are there for the quality of work in the professions that remain? What is the situation regarding health and safety, job content and working conditions: are new technologies used to lighten the work of employees or does technologisation instead lead to work becoming more intensive and pressure of work being intensified? And do new technologies make task enrichment possible, or do they lead instead to job content autonomy being eroded, so that employees become an extension of the machine?

"You can assume that some employees will experience more stress (...) that they will have less autonomy because the software dictates."

Organisational choice

Good introduction of new technology, according to Pot, should fulfil a number of conditions. That was true a hundred years ago and is still true today. An important principle is to organise first, then automate. Otherwise you create chaos, according to Pot.

FNV research, technologisation and quality of work

The emphasis in discussions on robotisation, automation and artificial intelligence is generally on the consequences for employment. However, what the precise effects will be is often a matter of conjecture. Some research indicates that automation and robotisation will lead to mass unemployment, while others conclude that, in the long term, these trends will lead to new employment. But whether digitalisation does or does not lead to a decline in employment, one thing is for sure: job content and working conditions will change.

The Netherlands Trade Union Confederation (FNV) is therefore launching a large-scale study on the quality of work as a result of technologisation at the workplace. The FNV wants to develop quality criteria (a checklist) according to which innovations can be tested in the field of safety, robot ergonomics, job content and the autonomy of the employee. The FNV also aims to develop a strategy in which the introduction of new technologies is influenced from the perspective of employees (trade unions and works councils) and the quality criteria are significant conditions in the implementation of new technology.

What consequences are there for the quality of work in the professions that remain? What is the situation regarding health and safety, job content and working conditions: are new technologies used to lighten the work of employees or does technologisation instead lead to work becoming more intensive and pressure of work being intensified? And do new technologies make task enrichment possible, or do they lead instead to job content autonomy being eroded, so that employees become an extension of the machine?


"Make use of what is called the 'organisational choice'. Organisations have a choice in how to apply technological innovations. This is sometimes forgotten. Do you allow the software to dictate, or does this support the autonomy of the employees? Do you employ technology so that you are left only with ‘poor jobs’, or does digitalisation ensure high-quality jobs and greater responsibility? It is, in addition, important to involve not just the works council and trade unions but employees too in the process, to take a joint look at how work processes can best be formulated, in order to guarantee quality of work and also achieve efficiency."

A third significant component, according to Pot, is the government, which has a responsibility with regard to limiting and offsetting the adverse consequences of technological developments through legislation, incentive programmes and research.

Social innovation
The Social and Economic Council of the Netherlands (SER), a government advisory body on which employers, employees and independent members sit, drew up a work agenda. "People and technology: working together" at the request of the government in 2016. This analysed possible consequences of the transition to a digital economy for the labour market, the organisation of work and industrial relations.

It was about time, Pot feels. In Finland and Germany, he believes, they are far ahead in terms of social innovation. In these countries, the government encourages technological innovation on a large scale, but always linked to programmes for improving work and organisation. "It’s good that the SER is linking digitalisation to social innovation,” says the Emeritus Professor. The two things are complementary.

The European Commission too has included in its policy that "technical innovation should be complemented with workplace innovation”. Pot continues: "So it’s a matter of new and combined interventions in work organisation and personnel policy in a participatory way in order to improve organisational performance, job quality and industrial relations simultaneously. Particular organisational attainments are work productivity and the innovative capacity of the organisation. Social innovation is crucial. Involvement of the shop floor is, however, sometimes forgotten”. He refers to the 'Smart Industry' programme of the Dutch metal employers' federation (FME), supported by the Ministry of Economic Affairs, that was concerned with new technology but forgot about the people. "In the meantime, the FNV trade union federation has managed to get social innovation included in the Smart Industry 2018-2021 implementation agenda."

Checking, checking, double-checking
Last summer, there were quite a few breakdowns in the vision picking system at DHL in Bergen op Zoom. This might happen, says Willems, before they take the next step up to order packing, because different software systems have to be attuned to each other. "The software here is linked to our own warehouse management system. If there is a breakdown, we can therefore deal with it quickly." Willems shows that vision picking does not stand alone. The whole system is based on checking, checking and double-checking. In the order packing department, employees see on the screen what items, such as directions for use, must be added to the boxes of orders. "At first, we were still using paper work instructions: it's faster digitally with two screens, and errors are ruled out – the system dictates." Before the order receives a printed packing list, the system checks whether the order is correct in terms of weight. When the boxes are sealed, there is still one last check based on the code of the country and carrier. The orders, in this case destined for Poland and the Czech Republic, are ready for despatch. •
Exoskeletons: taking off the strain?

Seen as somewhat futuristic, there is a certain amount of hype about (powered) exoskeletons in the media. On paper, these devices are seen as a way of making strenuous or repetitive tasks easier for their users. But is that really the case? What side effects do they have? A spotlight on these new-style devices.

Denis Baudier
Journalist
In the lobby of this splendid Haussmann building on the Champ-de-Mars in Paris, Aurélien Grilla, an employee of SOE Stuc & Staff, is preparing to climb up a small scaffold to sand the ceiling. In the building trade, this is not a much-liked task as it involves working overhead, keeping one’s arms up in the air for long periods. "Though the sander weighs just 2 - 3 kilos, believe me, by the end of the day it feels it weighs a ton!”, said Aurélien Grilla.

"Most people find changing a bulb in a ceiling fixture strenuous, but that's something that only takes a couple of minutes. Here, you have to work overhead the whole day", said Bruno Rondet, head of this specialist plastering company. However, Aurélien Grilla does not seem too apprehensive about this afternoon’s work, as he is now equipped with an innovative device specially designed for such tiring and strenuous work: an exoskeleton, a sort of overall with mobile "armrests", somewhat like the stirrups found in hospital labour wards. Resting on a tripod, this strange contraption is hoisted up onto the scaffold. All that Aurélien Grilla has to do is to put it on, in a way similar to putting on a backpack. This takes just a few minutes, as the exoskeleton has been previously adjusted to his body shape.

Aurélien Grilla then picks up his sanding work within the company.

"The augmented worker"

Sanding ceilings is just one of the many applications for exoskeletons, a device that has recently received growing attention in the health and safety arena. But the principle is by no means new. First experiments in this field date back to the 1950s/1960s, but were only long-lived due to the technology not being sufficiently mature (see box, p. 30). But over the last few years the miniaturisation of electronic components and batteries has revived interest in these futuristic assistant devices. Some of them, for instance, can boost an employee’s strength, enabling him to carry things weighing 10 kilos as if they just weighed one.

Several Japanese banks are already providing their employees with exoskeletons to help them carry heavy loads such as wads of notes, reduced their felt weight by 40%. DHL is studying the possibility of equipping its sorting centre staff with exoskeletons allowing them to effortlessly handle packets weighing up to 25 kilos (see also the article on p. 22). In short, the spotlight is again on exoskeletons. They obviously have great potential for preventing musculoskeletal disorders (MSDs), numbers of which have increased 60% in the last ten years and which “now account for 87% of work-related diseases in France”, stated Jean-Jacques Atain-Kouadio, an ergonomist working for INRS, a French health and safety body.

According to the Work Foundation Alliance, some 44 million workers suffer from MSDs in the EU alone. In certain sectors, workers have to lift around 10 tonnes a year. But "when an exoskeleton is well designed, it can reduce muscular activity, i.e. relieving the muscles used", added Jean Theurel, head of research at the INRS lab for physiology and ergonomics.

Though these findings are encouraging, such devices are not to be seen as a simple one-size-fits-all response to posture problems or problems associated with manual work. An exoskeleton is no ordinary and by no means simple tool: worn by its user, it is a device providing physical assistance, but whose design and development require a great amount of attention and care. Many issues remain open. One of the main risks
involves shifting physical stress and strain from one part of the body to another, without this being initially felt. There is as yet little data available on this subject.

"Reducing physical stress and strain locally can lead to it being shifted elsewhere or induce a user to make unaccustomed movements, risking for instance muscle wasting or neuromotor mismatch," explained Jean Theurel.

Bruno Rondet remains cautious: "We need more feedback, as our system is still in its infancy. Like any medicine, we need time to make sure that it doesn't produce any side-effects."

"We've got to keep our feet on the ground. In the field of exoskeletons, there are still many things we don't know and little research has been conducted into device-assisted movement. We still don't know exactly how stress is distributed throughout the body and whether, when providing relief to a certain muscle or joint, we might end up over-compensating via another muscle or joint," added Jean-Jacques Atain-Kouadio.

Moreover, putting on such an "overall" can cause discomfort or even embarrassment. In the above-mentioned exoskeleton used for sanding for example, the first model's metal "spine" ended up hurting workers' backs. At their request, the manufacturer installed a small inflatable pocket along this spine, which the employee can inflate using a rubber bulb, easily accessible at the back of the suit. Also potentially undesirable is the "straitjacket" effect: as the exoskeleton works so closely with

Questions put to Bruno Rondet, head of SOE Stuc&Staff
What made your company buy an exoskeleton for sanding ceilings?

Each year we define a challenge for improving working conditions. Just one, but one that we always end up overcoming. In 2012, we decided to take on the challenge of sanding, with the idea of providing relief to workers having to hold the sander the whole day above their heads. We looked at what was available on the market, for example for decorators, and purchased a device like a giraffe - i.e. a long neck attached to a wheeled undercarriage. But we quickly realised that, as the "giraffe" didn't have a firm grip of the sander on starting, we ended up with unsightly rings on the ceilings, incompatible with our quality standards. So that was the end of the "giraffe".

What was your next step?
We contacted a manufacturer of film-making accessories, one which produced "steadicams", systems allowing a movie camera to be held and manoeuvred fluidly. We requested the company to adapt their system to hold a sander. But again, this turned out to be a failure, for similar reasons: attached to the end of a long arm, the sander again produced rings when starting. But flipping through the manufacturer's product catalogue, we came across an exoskeleton which allowed a person to work overhead without fatigue. We tried it out at one of our sites, and found the results encouraging. But we needed to make a few modifications to give users more freedom of movement and to improve their overall comfort. At the end of the day, it took two years to arrive at an operational exoskeleton fully satisfying all users and the company.
A (powered) exoskeleton modifies a person’s habitual physical and ergonomic movements, making it easier for example to lift heavy weights but more difficult to make simple movements.

**Hardiman, the origin of exoskeletons**

The first serious attempt to make an exoskeleton dates back to the 1960s, when General Electric wanted to develop a model able to help people carry heavy loads without overusing the body. The first applications targeted were in the military field, for instance enabling people to lift bombs in an aircraft carrier; other applications involved handling weights in such fields as underwater construction, nuclear power stations or in space. Going under the name of Hardiman, the prototype greatly increased a user’s strength, enabling him to carry weights of up to 680 kilos. Unfortunately, the project soon ran against major technical obstacles: the machine itself weighed three-quarters of a ton and suffered from uncontrollable movements when it was turned on. We had to wait until the 2010’s and the miniaturisation of the components for exoskeletons to get back into the spotlight.

The operator had both hands tied to the system, as if handcuffed. "In the case of a fall, the operator would not have been able to cushion it at all. And especially in a building site environment, so many unexpected things can happen. We therefore requested the manufacturer to modify the device to give the operator’s hands a certain freedom, though without sacrificing safety for comfort", added Bruno Rondet. And then there is the aspect of social acceptance: an exoskeleton can change the way colleagues view the wearer or even how the operator views his role vis-à-vis the set task, making him feel he is worth less or even substituted by the "machine" – aspects likely to reduce certain users’ acceptance.

Companies may also be tempted to demand that their employees become more productive, given the fact that their tasks have been made easier. Productivity improvements may in turn lead to job cuts, with one employee now able to carry out the tasks previously performed by several workers.

A “Swiss army knife” exoskeleton

"You don’t buy an exoskeleton like you’d buy a screwdriver or a power saw. You need to know in advance what it’s for and what requirements it has to fulfill. Otherwise there is a great risk that it will be unsuitable and thus quickly abandoned or, worse, that it will cause side-effects impacting health in the long term instead of improving it", summarised Jean Theurel.

"What we are seeing is that these devices provide specific assistance for a given task. However, only a few tasks are that specific, and in many cases a worker needs to do several different things. This means that it is essential to adopt an approach allowing users to assess the real value of exoskeletons and to make sure they meet up to expectations", added Jean-Jacques Atain-Kouadio.

Interested in their potential, management of SNCF’s maintenance division has initiated just such an approach, developing an exoskeleton model adapted to its requirements. In their daily work, its employees find themselves confronted with a wide range of situations at work, requiring them to work in carriages, on ceilings, in maintenance pits, or to handle heavy items such as brake shoes.

"We would therefore like to develop a ‘Swiss army knife’ exoskeleton capable of adjusting to work in this variety of situations. But we are also aware of how complex such an undertaking is. This is the reason why it is being conducted by a multi-discipline project team made up of ergonomists, methods engineers, representatives from our maintenance depots and from the trade unions. Moreover, the project is being conducted as an ‘open innovation’ project together with the manufacturer", stated Yvonnel Giovannelli, in charge of the department responsible for ergonomics and organisational and human factors in the SNCF maintenance division.

Aware of the need for proper reflection before purchasing an exoskeleton, the French standards organisation AFNOR (Association française de normalisation) recently published a “tool-box” helping companies wanting to purchase such devices to ask the right questions and make the right choices. It contains tools and guidelines for assessing their use and their interaction with humans. The bottom line: a well-designed exoskeleton suited to a specific task can help improve working conditions.
In Veles, meeting the producers of fake news

In Veles, a run-down city in Macedonia, a discrete but prosperous sector is booming – the fake news industry. Hitting the headlines during the US elections, the industry is in the hands of young people with in-depth knowledge of the social media and their followers. Without any prospects of finding decently paid work, they have occupied this niche in the digital economy – and are doing very well out of it. Yet there are certain red lines they are not prepared to cross.

Barbara Matejčić
Freelance journalist

Elena, 34. Her teacher’s salary is not enough for her to lead a ‘decent life’. She also sets up juicy news websites targeted at Americans. Images: © Robert Atanasovski (p.31, 32, 34)
"This is for the great people of Veles, I couldn’t do it without you!" Here in Veles, a run-of-the-mill city in the centre of Macedonia, I’m shown a tweet from Donald Trump dated 9 November 2016. The day he won the US presidential election. Trump never visited Veles, 7553 kilometres away from New York City, but a large number of Veles inhabitants "worked for him" during the election campaign. The tweet is fake, Donald Trump never wrote it. It’s a joke on account of so many fake news launched from Veles in a favour of Donald Trump during the campaign.

In 2016, a gold rush took hold of this 43 000-inhabitant city, formerly an industrial centre but now impoverished. Hundreds of websites, including WorldPoliticus.com, TrumpVision365.com, USConservativeToday.com, DonaldTrumpNews.com, USADailyPolitics.com first saw the light of day here. They publish mostly fake news benefiting the Republican candidate with a headlines as: "Hillary Clinton in 2013: I would like to see people like Donald Trump run for office; They’re honest and can’t be bought”; "Wow! Queen Elizabeth invited Trump – This is a game changer”; "This is why we need Trump in the White House". The Guardian was the first to become interested in Veles, with its journalists naming more than 150 web domains registered in this provincial city in the heart of Macedonia in August 2016. Since then, the number of websites launched in Veles has shot up so much that nobody is now able to come up with an exact number.

A monument to Trump

"We need to erect a monument to Donald Trump. So many people have made a money out of him. 50% of the young population here are or were involved in the websites. I reckon that we had 3000 – 5000 websites active during the US elections. But that number has now gone down to about 200", said Bojan, lighting up a Marlboro while looking at his iPhone. "Here, take a look at my baby. Looks good, doesn’t it?", he proudly says. The design is simple, without frills, the texts short, the titles juicy – and all is spiced with lots of photographs and prominent ads. "Everything I own, I owe it to these ads", he added, wiping the sweat from his forehead.

Bojan finished a high school of economics in 2016, one of the four high schools in Veles. His family of four scraped by on the €230 a month earned by his father in a factory making car spares. Many years ago, his father used to work in the Zletovo zinc and lead foundry, the largest factory of its kind in the former Yugoslavia. This plant provided Veles not just with large numbers of decently paid jobs, but also gave the city the unenvied title of one of the most polluted cities in the Balkans. The plant is now closed, a fate shared by many other factories in the city. His mother is unemployed, as is the case with 25% of Macedonians. Bojan intended to work for a couple of years, saving up enough money to go to Skopje, the capital of Macedonia just 50km down the road, to study. But finding a job in Veles is quite a challenge. With a bit of luck, he might have got a job as a machine feeder in the factory like his father. But all he would have made there would have been €250 a month, hardly enough to get together the money needed to go away and study.

"Renting an apartment in Veles costs €100 a month. With more than €100 in expenses and €200 for food, you’re already up to €400. There’s no work here paying that sort of money. I started looking around for possibilities to work abroad. Lots of young people from here have gone off to work on cruise ships in America. But then, in the summer of 2016, people started talking about making money from websites. I previously had no idea what the term fake news meant.” Working with a couple of schoolmates, it took them just seven days to learn on the Web how to make money on the Internet. They start working at around 4 o’clock in the afternoon so that they can supply their readers on the other side of the Atlantic with fresh news.
"The money’s there waiting for you. All you have to do is to buy a domain name and create a web page. Something simple on Wordpress.com, something that looks serious, but without needing to invest too much effort because hardly anyone is going to actually look at the website. Instead, they’ll just be clicking on the news relayed via the social media. Next step, you add content to your page. You look for news on foreign sites. It doesn’t matter whether it’s fake or not. You might want to make a couple of changes to the content, but the main thing is to add a prominent title. And you prefix the title with Shocking, Breaking news or Spread this! You then register with the advertising networks, for example Google AdSense, which automatically add ads to your site. You publish your text in various Facebook groups of Trump supporters such as Reclaim America, Trump Troopers 2017 or Trump Train – and then you just wait for them to click on the text, and then on the ads. That’s when the dollars start rolling in", explained Bojan.

The hunt for US clicks

However, it took quite some time for the clicks to transform into dollars. Bojan and his two friends earned just €50 in the first month. The number of followers of their website’s "fanpage" on Facebook was not that high, and they didn’t have enough money to invest in advertising on Facebook. And none of their news went viral. Nevertheless, each of them spent the whole night in their rooms in parent’s apartments searching for the Facebook pages most often visited, opening new profiles and dreaming up increasingly effective headlines. As the audience for their texts grew, and thus their profits, they invested more and more in Facebook ads, giving them greater visibility and thus more clicks.

In October 2016, just three months after launching their site, they netted their first thousand dollars, around the amount their respective fathers together earned in one month. The following month, they raked in $3 000. After 11 months, their total amounted to $65 000, a fortune in a country with an average monthly wage of $372.

“Our business is not that big. There are others here in Veles who made more than a million euros”, stated Bojan. Seeing my surprised look, he was quick to add: "And that’s not fake news, it’s the truth. You’ll see it next year on the tax declarations. They belong to those rare people whose Facebook ‘fanpages’ have more than 800 000 followers and who spend $200 – $300 a day on Facebook advertising. Such high investments generate lots of clicks. US clicks. They’re worth much more than all the others."

The Veles entrepreneurs create sites targeting the US market because clicks from US are the worthiest in the world and they produce news on Trump because his supporters are the most inclined to click on it. Yet nobody is really interested in Trump and the majority of Macedonian fake news producers don’t follow US politics. At the beginning, a few of them posted news benefiting Hillary Clinton, but they quickly noticed that this didn’t bring in that many clicks. So they switched sides and focused on Trump. "We post fake news for just one reason: audiences for fake news are bigger than for real news", they say as justification.

The most-read news item on Bojan’s website is the one about the Pope supporting Trump. Though not invented in Veles, many of the city’s websites posted it. Generally speaking, rather than inventing news, they copy it from US websites such as TheRightists.com, Conservative101.com, Angrypatriots.com, Libertywriters.com. And anyway, most youngsters like Bojan don’t have sufficient command of English to write faultless fake news. On the other hand, a few top players may employ up to 8-10 people, including foreigners speaking English fluently. Work is shared – someone scans the Web for news, another for photos. Someone dreams up the titles, two others take care of posting the content on the social media. Someone else does the translating.

Facebook is reacting

Once upon a time, the Veles factories produced clothing and china sold throughout Yugoslavia. Nowadays, small workshops assemble fake news for the US market. The members of this new digital workforce earn €350 – €500 a month for their work. By comparison, the national TV correspondent in Veles earns €300 a month.

Bojan’s team has stayed the same size, with the three of them still doing everything themselves and sharing the profits. They dispense with everything that makes media work expensive – the work of editors, photographers, graphic designers, the marketing, the technical equipment. Installed in a sparsely-furnished rented apartment in one of those high-rise concrete buildings typical of the Communist era, they start work around 4 o’clock in the afternoon so that they can supply their readers on the other side of the Atlantic with fresh news when they check their Facebook thread in the morning. They work until around 3 am and sometimes take turns to work through the night. They live by US time.

When the audience for political news melted away after the elections, they decided to refocus their work, launching two new sites, the one devoted to cars, the other to food. But the principle remains the same: they copy news articles, add ‘juicy’ titles, and post them on the social media. "That’s not bringing in that much at the moment, but we’re patient and determined. At the same time, we’re beefing up our political site in preparation for the next US elections", explained Bojan.

Over the last few months, Facebook has deleted several pages from sites in Macedonia due to breaches of usage terms and conditions. This is tantamount to killing these businesses, as 95% of site visitors come from Facebook. Some of them didn’t receive payment from Google for their advertising profits, mostly because the content was plagiarised. Although Google has profited from their fake news or rather from the ads posted on their pages, the share due to the site owners has not been paid. As a result, Bojan and his friends have changed their subjects and are posting more videos on their sites, as such content is not checked so much.

"Healthy food brothers"

In Veles, the era of digital fake news actually started with food. The precursors of the golden age were the famous Healthy food brothers, Borë and Aleksandar Velkovski, the brothers responsible for launching Healthyfoodhouse.com. They posted texts full of health and beauty advice, such as “putting a slice of lemon near..."
We pay for the national TV channel to lie to us, so where do you think young people are going to learn that the truth counts?

**Nothing that endangers lives**

We talked on the main Petre Priljko street, opposite the brand-new Džinot Theatre. Cafés and shops align this unimpressive artery, but the new *jeunesse dorée* doesn't find much here to show off its riches. A mobile phone, brand sneakers, a restaurant dinner, a bottle of whisky, that's all they can treat themselves to here – unless they go and spend their money in one of the many casinos that have sprung up.

The theatre is the only new public building constructed in the city since the disintegration of Yugoslavia in 1991. No kindergarten, no sports hall, no cinema or no new hospital has been built. In June 2017, after 11 years of the conservative VMRO-DPMNE government, a new government was formed by the social democratic SDSM party. Two websites were set up just before the elections, Saznajemo.rs (“We are learning”) and Alo.com.hr, disseminating fake news in the hope of discrediting the opposition. Nova TV, one of the rare independent media channels, discovered that the two sites were under the control of New Media Enterprise, a company belonging to Filip Petrovski, the director of the National Archives of Macedonia and a member of the VMRO-DPMNE party then in power.

The Veles “lads” did not get involved in the Macedonian elections. “There was nothing to earn from the UK or French elections, and even less from the Macedonian elections. Ad clicks aren’t worth much in Europe, and readers here are not as gullible as the Americans. In the elections here, we left the posting of fake news up to the politicians. What we are interested in is making money”, smiled Bojan.

He went on to explain: “But I’m not prepared to post any news whatsoever just for the money. For example, I came across some fake news saying that Syrian terrorists were about to attack New York. That’s something you can’t take lightly.” His credo is not to post anything that could endanger lives. Everything else is acceptable.

“I’m having more difficulties with our food website. This type of site could tell you that this or that food can help cure cancer, but that might be wrong and could endanger people’s lives. But I’ve got no scruples with fake political news, because politics is full of charlatans anyhow”, he said.
The young man has postponed his planned registration at the Faculty of Economics. “I’m going to continue with this as long as it goes well, trying to save as much money as possible. That will probably get more and more difficult, because war has been declared on fake news. Anyway, it’s not a real job, even if I’m earning much more than any other work here in Macedonia”, he added. As with all other digital workers in Veles, Bojan is not officially employed, and he is not paying any pension or social security contributions. He considers his savings to be his best insurance policy.

The Frankfurt Mafia

The mayor, Slavoče Ćadiev, received us in his office. It’s 7 pm. “Times are hard, I’ve got to work”, he said. He’s a member of VMRO-DPMNE, the right-wing conservative party that governed the country until recently. We asked him about the city’s unemployment rate. He didn’t know it exactly, but supposed it was somewhere around 8 - 10%. What was the youth unemployment rate? He didn’t know, but he stated that it was quite low. How many young people had left Veles to go and work abroad? Again, he didn’t know.

Somewhat later, his spokesman Orazh Nikolov passed on to us data stating that the unemployment rate in Macedonia was 24.5%, and that it was of the same order of magnitude among young people. There was no official data on the number of Macedonians working abroad. The mayor evidently knew that Veles had gained a bad reputation on account of its fake news industry, but that didn’t seem to worry him: “The lads are getting by. They haven’t breached any law in Macedonia and they’re paying their taxes.” He did however admit that the community had not benefited from it: “They only profit from it themselves. You see more fancy cars in the streets, but the money is not finding its way into the city economy.”

“It’s a bit like it used to be with what we called the Frankfurt Mafia, but less dangerous”, Ace Kocevski, the former mayor of Veles, told us. After his defeat in the 2009 elections, he had set up 200 - 300 fake news sites, he said, among them the first political site conceived in Veles. That was back in November 2015. It was called Usapoliticstoday.com. Though Borče has earned well through the digital boom in Veles, he himself has no website of his own and is not involved in fake news. He doesn’t need to. He knows lots of people working in this business and he can confirm that they are not a new professional workforce.

“They’re all just amateurs. All they understand about the technology or the Internet is what they need for their business. Moreover, they don’t think about what they will do when the source dries up, when they get blocked by Facebook and Google. They’re not investing in new opportunities, not starting up new companies. They’re spending their money on fancy cars, holidays in Thailand, shopping on AliExpress.com, expensive bottles of alcohol at the weekend. Though quite rare, maybe one of them will open a café with the money he’s made. They’re young people who’ve made money quickly and want to enjoy themselves”, he explained.

A decent life

Elena doesn’t dream about trips to faraway countries or luxury cars. She just wants a decent life for her family. 34 years old, she teaches physics at a high school in Veles. Her monthly salary is €370. Her husband is a taxi driver and earns €200 a month. They have a 4-year-old daughter and Elena is 4 months pregnant. We met up in the Gardenia, the best hotel in town on the outskirts of Veles, to avoid her being seen in the company of a journalist. What is now a 5-star hotel used to house the admin departments of Loza, a large agricultural cooperative that went bankrupt.

“I’ve got a degree and a good job, but I live on the breadline. That’s why I set up my own website in April 2017. Everyone said that it was easy to make money that way, so I gave it a try”, she said. As with all the others, she taught herself everything she needed to know on the Internet, because nobody wanted to help her get it running. She designed the site herself and paid $42 for the domain name AmericanTodayreport.com. Her audience swelled after just two days, after she posted a news item on the conflict between North Korea and the US. Elena generally posts juicy news items about Trump, but no fake news.

“Ethically, I find that unacceptable. Anyway, readers are increasingly recognising fake news, posting the comment fake news under such items and you end up getting blocked in this group and losing your audience”, she explained.

During the day, she searches for news items on such well-known media sites as the New York Times, The Independent, The Guardian or the Daily Mail, then assembles them and posts them on her site. Around midnight, she starts sending out the links from her kitchen while her husband and daughter calmly sleep. On the Facebook groups where she posts under her own name, she often discovers posts from her pupils.

“If the kids manage to earn money this way, then I can manage to do it as well”, she said. Nevertheless, up to now she has only earned €80. “I work just a few hours a day on it, posting up to seven news items. But obviously, that’s not enough. During the summer holidays, I’ll step up my work. I’d be happy just to earn a few hundred euros a month”, she told me.

While we were talking near the hotel swimming pool, her brother’s girlfriend rang her up. She and her brother had wanted to do seasonal work in the summer in Greece. They had paid €100 per person to an agency in Skopje which had ensured them they would be hired. But they had heard nothing since. “That’s life in Macedonia. Everyone deceives you”, says Elena. Her brother now plans to start up a food website.

From the neighbouring table, we picked up snippets of conversation from a group of well-dressed middle-aged men having dinner. They were speaking of Facebook and advertising on the social media. When we left the hotel and we were crossing the former industrial zone in the car, Elena tugged my sleeve: “Do you see those two over there?”, she said, pointing to two young men in the half-light. “They’re into politics, broadcasting fake news”, she said. Small Veles has become the Mecca of the post-factual era.
Crowd work and the “on-demand” economy

Ten years ago, university researchers launched a website in the United States giving digital platform workers access to information on the clients of these platforms, and therefore the opportunity to denounce those least respectful of their rights. With the support of trade unions, the project was adopted in Germany in 2015.

Six Silberman
IG Metall
Ellie Harmon
Portland State University
Lilly Irani
University of California, San Diego
Kai Li
Independent worker, data scientist, and programmer

Faced with “Uberisation”, researchers and IT experts are responding by developing software to evaluate the platforms’ “social performance”.  
Image © Belga
Digital labor platforms such as Amazon Mechanical Turk, Uber, Upwork, Deliveroo, and Ohlala let customers use software—a website or a mobile phone app—to quickly outsource many types of work. These platforms connect customers to workers offering both local and remote services, from personal transportation, restaurant delivery, domestic work, and sex work to data processing, content moderation, graphic design, engineering, and programming.

Workers on digital labor platforms must usually agree that they will be legally classified as independent contractors, not employees. They are thus not entitled to minimum wage or other benefits and protections afforded to employees such as paid vacation, sick pay, overtime pay, dismissal protection, or collective bargaining. In some cases, legal experts and worker advocates agree that this classification is appropriate. In other cases, platform operators exert a great deal of control over pay, job assignment, working times, and working methods. In these cases, workers and unions argue that workers should be classified as employees.

From a union perspective, digital labor platforms pose both opportunities and risks. On the positive side, digital labor platforms expand labor market access: they make paying work available to people who might not otherwise have access to it. For example, internet-based platforms allow workers to work from home; this is especially important to people with care giving responsibilities. Workers who previously had no access to work are often grateful for it; however, expanded labor market access can also have negative consequences. For example, the increased competition among workers in a larger labor market can produce downward pressure on wages, job security, and job quality. More generally, the growth of precarious and largely unregulated work through platforms risks eroding workers’ bargaining power, which may in turn lead to increasing economic inequality. Economic inequality in turn threatens democracy, a risk that can be seen in the recent advances made by anti-democratic movements in Europe and North America.

With these stakes in view, this article offers a short history of two efforts to support and improve digital platform workers’ professional networking, collective identity formation, working conditions, and bargaining power.

Mechanical Turk and Turkopticon, 2008–2017

Mechanical Turk (“MTurk”) is a website operated by Amazon on which clients, called “requesters,” post tasks, and workers choose tasks to complete for pay. As on many online labor platforms, workers must agree that they are independent contractors, not employees. After workers submit their work, requesters review the work and decide whether to “approve” or “reject” it. Workers are paid for approved work, but not for rejected work. Requesters can reject—and decline to pay for—work for any reason. MTurk has an “application programming interface” (“API”) that allows requesters to automate the process of posting and reviewing work. That is, requesters can write software that will decide automatically whether or not a worker will be paid for work.

In 2008, in response to reports from workers describing conditions of low pay, slow pay, poor communication, and arbitrary rejections (nonpayment), Lilly Irani and Six Silberman, then graduate students at the University of California, Irvine, designed Turkopticon, a website and browser extension that workers use to review requesters.

In the original version of Turkopticon, workers give requesters numerical ratings from 1 (worst) to 5 (best) on four dimensions: pay, pay speed, fairness of evaluation, and communication. In Turkopticon’s early years, this rating system allowed workers to compare experiences and share thoughts about what it meant to be a “good” requester in terms of these four dimensions (e.g., what wage constitutes “good pay” or “good communication”). But after a while, disagreements emerged about the proper use of the rating system. Some workers, for example, would give good pay ratings for tasks paying around USD 6 per hour, while others argued that

any task paying less than US minimum wage should be given the lowest rating.

Some workers argued that the “fairness” criterion should be used only to indicate unfair rejections, while others found it useful to use this criterion to indicate other problems with tasks (for example, problematic screening methods). These disagreements created confusion and tension among workers. When new workers joined, they unwittingly entered this complex situation.

As a result, between 2015 and 2016 Irani and Silberman worked with workers to redesign the review format. As part of the redesign, reviews were changed from reviews of requesters to reviews of tasks, necessitating an entirely new version of the website and browser extension. Kai Li, an MTurk worker, data scientist, and programmer, volunteered hundreds of hours to co-design, build, and refine the new version of the site, which launched in March 2017. In addition to being centered on task-reviews rather than requester-reviews, the new review format attempts to separate “facts” about tasks from workers’ opinions about these facts.

For example, instead of asking, “On a scale of 1 to 5, how good was the pay?” the new form asks how much the task paid and how long the worker took to complete the task. Because different workers have different ideas about what an acceptable wage is, the new version does not assign any evaluation to the wage data; it simply displays it. Similar changes were made to the questions about fairness of evaluation, pay speed, and communication. By September 2017 there were about 85,000 registered users; about 25% of these had written at least one review.

We know from speaking with requesters and from independent research that Turkopticon changes requester behavior in ways that are favorable to workers; but from a worker perspective the system has some drawbacks and limitations. Turkopticon is complex and time consuming to learn and use. Community members spend many unpaid hours writing, reading, and moderating reviews—time they could use to earn money.

These activities can become psychologically taxing, as Turkopticon users sometimes post aggressive or profane reviews, harass or threaten requesters or each other, or engage in well-meaning but heated debates about appropriate use of the system. The new version tries to address some of the most obvious problems of the original version. But, because we did not want to force workers to switch versions, there are (at least for now) two versions of Turkopticon, adding to possible confusion.

On its own, Turkopticon does not “solve” any of the problems facing workers on MTurk. Turkopticon is part of a large and complex network of informal mutual aid practices operated mostly on a volunteer basis by MTurk workers. This network includes worker-owned forums such as Turker Nation and MTurk Crowd; sophisticated software programmed by workers; and some tools developed by researchers. These forums and tools help ameliorate some of the issues arising for workers on Mechanical Turk, but they do not change the fact that MTurk is a challenging, high-speed working environment characterized by “arms-length” and often automated management and fierce international competition.

Turkopticon is part of a large and complex network of informal mutual aid practices operated mostly on a volunteer basis by MTurk workers.


In 2013, IG Metall started to devote significant attention and resources to the topic of crowd work. As one result of these early efforts, IG Metall officials Christiane Benner and Vanessa Barth, with the researcher Florian Alexander Schmidt, published Crowd work – zurück in die Zukunft? Perspektiven digitale Arbeit? ("Crowd work: back to the future? Perspectives on digital work") in 2015. This volume brings together researcher and unionist perspectives on the opportunities and risks of digital labor platforms for workers and unions. In May 2015, IG Metall launched FairCrowdWork.org, a website that lets workers rate working conditions on platforms.

In late 2015, IG Metall entered into dialogue with several German platforms, including the platforms behind the “Crowdsourcing Code of Conduct,” a set of guidelines developed by several German platforms for "prosperous and fair cooperation" between platforms, clients, and crowdworkers. In collaboration with these platforms, Benner, Barth, Silberman, and colleague Robert Fuss surveyed hundreds of German crowd workers on six platforms in 2016.

These surveys collected information about demographics, earnings, other employment, and workers’ opinions about the platform and the Crowdsourcing Code of Conduct. To find out which points in the Code of Conduct were most important to workers, Fuss and Silberman developed an online version of a topic prioritization method that is often used in union workshops. In the “offline” version, items are listed on a flipchart. Participants are given a set of 3-10 stickers which they are asked to place on the flipchart next to the topics they find most important. Topics are then ranked according to the total number of stickers received.
In addition, the international nature of some labor platforms challenges traditional modes of regulation and organizing.

In the 2016 online survey, Fuss and Silberman listed the ten topics in the original Code of Conduct and asked workers to distribute ten “virtual stickers” among them. Each person was limited to placing at most three “stickers” per topic. By far the most highly rated topic was “fair payment.” This confirmed our hypothesis that many people work on digital labor platforms to earn money, and not simply “for fun” or “to pass time,” as others have suggested.

After discussing our survey results with the platform operators who had initiated the Code of Conduct, the “fair payment” topic was revised in a second version of the Code, released in late 2016. In the first version, this text had simply stated that workers should know how much they would be paid for completing a particular task. In the second version, text was added indicating that platforms would include “local…wage standards” as a factor in setting task prices. This is one small step toward setting fair standards for platforms.

During this same time period, human-computer interaction researcher Ellie Harmon and Six Silberman were designing the second version of FairCrowdWork.org. IG Metall’s website about digital labor platforms.

In addition, the international nature of some labor platforms challenges traditional modes of regulation and organizing. While platforms for “in person” work (e.g., cleaning, transportation) can be regulated by workers’ local governments, and their workers can be represented by local unions, it is more challenging to regulate platforms and represent workers who perform tasks remotely. What can be done legally and institutionally to support a worker working in Country B for a customer in Country C? What rights does such a worker even have? And who should defend those rights?

As platform based work continues to grow, workers, forward-thinking platform operators and customers, unions, researchers, regulators, and other stakeholders will need to work together to develop answers to these difficult questions.
Site remediation at the expense of workers' health

After 50 years, the Lacq gas field in South-West France has run dry. Before quitting the industrial basin, its operator, Total, is legally obliged to remediate the soil there. Each time a plot of land is sold, subcontracting companies excavate tonnes of polluted soil steeped with toxic substances. Working under pressure, a number of these companies are neglecting to protect their workers, without Total seeming to care. One of these workers has been fighting for five years to have his exposure recognized. This is the story of this whistleblower.

Elsa Dorey and Ariane Puccini
Journalists, correspondents of Bastamag.net

The diggers gradually remove the traces of what was the largest gas field in France. Images: © James Kinoghi
(p. 40, 42, 43)
August 2012. As so often over the last ten years, Thibaut Moncade strides through the security gate of the Lacq industrial platform, just a few miles down the road from Pau, the main town in the Pyrénées-Atlantiques département. Employed by a small earthmoving company, he takes his seat at the controls of his mechanical excavator, set to spend the day shifting soil, filling a hole here, levelling a mound there.

Around him, the earthmoving “ballet” has begun: workers at the wheels of dumper trucks dump piles of rubble a few metres away. Suddenly, Thibaut starts feeling queasy. Covered in sweat, he clambers out of his excavator and heads for the exit, passing a pile of earth emitting an unbearable stench. While he throws up, it suddenly dawns on him: he’s been poisoned for years.

Nicknamed the “Béarnese Texas”, the Lacq platform operated by the oil company Total used to employ up to 8,000 people. Total used to extract up to 33 million m³ of natural gas a day. But now the field is virtually exhausted. The sulphur coming out of the few remaining wells is used by a handful of chemical companies to make fertilisers, pharmaceuticals, cosmetics or agrochemicals. The focus is now on cleaning up the site. For the last ten years, that has been the work of Thibaut Moncade, a man in his thirties employed by the earthmoving company Marsol, one of the many subcontractor companies engaged by Total Exploration Production France (TEPF), the Total division responsible for operating the gas field.

**Earth steeped with hazardous chemical agents**

Thibaut Moncade was dismissed on grounds of incapacity in 2015, and has since exhausted all his legal options in order to be entitled to unemployment benefits. While looking for a new job, he lives off the salary of his wife, a teacher. What has happened to him since that awful day in August 2012 when he felt sick? Sitting at the table in his sitting room, the Frenchman gets all worked up when talking about what happened then. “Ever had food poisoning?”, he asks. “Even years later, when someone puts the same dish in front of you, you’ll feel you want to throw up. It’s the same thing with me. I’m programmed on that stench that made me feel queasy for months.”

The worker used to enjoy his work, which mainly involved solidifying drilling fluid coming from gas wells scattered throughout the region. However, at some stage he started losing his appetite, suffering from headaches, nausea, diarrhoea and heartburn. He never even thought this could have anything to do with his working conditions, initially putting his condition down to a long spell of gastroenteritis. When he was sent to work at a different client’s site in March 2012, his symptoms disappeared.

Back in Lacq in early August, he finally realised that his symptoms were linked to this pile of earth. A few days earlier, he had received safety training before starting work on this new Lacq site. “I had never previously heard anyone speak about site remediation, about decontamination.” For the first time in 10 years, he was told that the soil of the Lacq platform was steeped with heavy metals and a toxic cocktail of other carcinogenic, mutagenic and reprotoxic (CMR) substances. Above all, he was told that, when working in contact with such pollutants, it was necessary to wear a “spacesuit” — so many coveralls, masks, boots and gloves — things he had been deprived of for all those years. All he and his colleagues had ever worn on such sites was a helmet and overalls.

At the end of the training, he was still not worried. “Honestly, I wasn’t really troubled.” His employer would know what needed to be done, he confidently thought. And Total, the company subcontracting the remediation work, had a reputation as a leader in work-related safety. “Even today, I wonder how I let myself be taken for a ride.”

His gaze, underlined by two rings full of fatigue, is posed on a red folder, bursting with official documents. “It’s posed on a red folder, bursting with official papers, email correspondence and letterhead papers, bearing witness to the amount of energy he has put into obtaining an official document attesting his exposure to hazardous substances. A document he has still not obtained, even though he should have been given it as a matter of course.

**Workers kept in the dark**

When Thibaut Moncade started working with his mechanical excavator in Lacq, reconstruction of the industrial basin had already begun. The Total TEPF division is selling its gas platforms plot-by-plot to companies wanting to set up shop on this Seveso-classed site. Toray Carbon Fibers, a Japanese company specialising in the manufacture of carbon fibres, is set to acquire a 16-hectare plot. Before handing over a plot to a new owner, TEPF is required to fulfil its legal obligation to remediate the soil polluted by 60 years of operating the gas wells. A slew of subcontractors from the construction industry are taking care of this. Some thirty workers, including Thibaut Moncade, worked on the Toray plot, crossing paths without really knowing each other. Excavating the earth several metres deep at the site of the future factory, they piled it up in the open air. From November 2011 until the end of February 2012, his team dug trenches along the edge of the plot, locating and filling in the networks of underground pipes. The term “decontamination” was not uttered once during these four months, but the workers registered the nauseous stench coming from the earth above them.

**Such an imbroglio often turns a subcontractor worker’s quest for health into a warpath**
steeped with hydrocarbons, and the iridescent puddles tinged with blue, yellow or violet.

On becoming aware of what was going on, Thibaut Moncade’s first reflex was to get his hands on the site prevention plan, a plan required by the French Labour Code when a subcontractor carries out work for another company. In it, each company lists the risks associated with its activity and the prevention measures to be taken to protect workers. But in Thibaut’s case, all the foreman had done at the start of the work was to read out to employees the risks associated with the company — road accidents, landslides, rockfalls —, omitting the part referring to the specific risks associated with the Lacq site. This however clearly spelled out the risks of exposure to hydrocarbons, solvents and CMR substances, as well as the personal protection equipment that employees should have worn.

On reading the whole document, Thibaut Moncade felt anger building up inside him. “Everybody knew about it right from the start.” He contacted Dr. Duretz-Camou, his occupational physician working for Prissm, a local intercompany occupational health service. “I should have had urine samples taken at the start and end of the site work with a view to checking for the presence of such chemical agents in my body”, he said.

However, there is one occupational physician tasked with monitoring the Marsol workers and another one working for TEPF. Who is responsible? Such an imbroglio often turns a subcontractor worker’s quest for health into a warpath, with the worker fighting against more or less wilful negligence. The tests needed to check whether employees were protected against contamination from toxic substances were the exception rather than the rule. “Urine samples were taken once and never again. I didn’t even see the results”, recalled one of Thibaut Moncade’s ex-colleagues, who had to quit in 2015 after 33 years spent working for the company.

A further condition is to be found in Thibaut’s medical file. He was diagnosed as having multiple sclerosis in 2008, six years after arriving at Lacq. His occupational physician never informed him (as he should have done) of the neurotoxic substances present on the site. While the link between this disease and exposure to heavy metals has not yet been established, this lack of clarity is not very reassuring for him, especially as Thibaut had to prod the occupational physician several times before the latter noted in his medical file that he had not benefited from protection.

Thibaut is convinced that he was purposely kept in the dark. Worried, he talked with other workers, noticing that he was not the only one noting safety deficits at the site. The Lacq basin platforms are the home of 21 Seveso-classed companies. 70 subcontractor companies work for them, carrying out dangerous work such as site remediation, site maintenance and industrial cleaning. These workers speak of dilapidated facilities, of totally polluted steel frames, of rusty safety valves, of much too old plastic pipes. If they were able to, they would prefer to work elsewhere.

**An unheeded call for help**

Having exhausted all other means of obtaining a document listing the period he was exposed to CMR substances and hazardous chemical agents, Thibaut Moncade turned to the industrial tribunal. “If I get cancer tomorrow, or if in 10 years’ time it is scientifically proved that multiple sclerosis is caused by a certain substance, I’ll have proof”, he explained. However, the judges did not take the same view, with Marsol, his employer, winning the case in first instance and on appeal. “This decision is totally incomprehensible”, said Alain Carré, a retired occupational physician in charge of post-occupational health monitoring and vice-president of SMT, a French occupational health association, who knew about the tribunal’s ruling.

“Thibaut has not only a right to his exposure file, but also to certificates attesting his exposure to hazardous chemical agents and to carcinogens, and his ‘notice de poste’, a document specifying exposure risks required by French law.” He went on to state that “if we have a case of an occupational disease, the company is responsible, or maybe even culpable. And that can be expensive for it. Moreover, an employer can be convicted of inexcusable conduct, since protective measures are subject to an obligation to achieve a specified result.”

The current reform of the French Labour Code is set to sweep away such provisions. The decrees planned by Emmanuel Macron would do away with provisions regarding the traceability of any harm associated with hazardous chemical agents. In the government’s view, these provisions are too complex. The result of a series of Labour Code amendments, this final coup de grâce will make occupational exposure invisible.

For his part, Thibaut Moncade has filed a case with the French supreme court (Cour de Cassation), but without much hope. He
is now looking for a job in a completely different sector, well aware that no other local construction company will take him on. In this small ecosystem, companies are at daggers drawn to get the best deals. Vindictive employees are persona non grata, with preference given to employees who won’t start stirring things up.

However, there was one person who listened to Thibaut. Following his inspection of the Marsol premises in January 2014, Dominique Waeghemaker, a labour controller from Pau, filed an infringement report with the public prosecutor in Pau, recording the absence of exposure prevention files, "notices de poste" and medical examinations measuring employee exposure. Three years later, in June 2017, the file was closed. The only action taken by the prosecutor was to hear the head of Marsol.

A "lean" investigation in the mind of Thibaut’s lawyer, Pascale Dubourdieu. "The prosecutor should have gone a lot further, demanding that all prevention plans for the last ten years be sent to him, and questioning other employees, also from other subcontractor companies. And above all checking Total’s monitoring of the recommendations set forth in the prevention plans." Why? Because the Total division TEPF is responsible for site safety and must make sure that personal protection equipment is worn by subcontractors.

"From a legal perspective, one could have called Total into question”

"They have the power and the obligation to stop work when they notice that prevention measures are not being taken”, declared Gérald Le Corre, a labour inspector and unionist. At the site in question, the level of protection seemed to depend on the goodwill of each subcontractor company. Examined carefully, the prevention plan reveals further deficits.

The term "CMR" for example is generic, covering hundreds of hazardous substances. "The prevention plan should have been a lot more detailed, listing the substances present in the earth”, explained Gérald Le Corre. The only way of knowing these chemical substances is to have soil analyses performed before starting work. "Most of the time, analyses were done after the work had started, and we got no feedback on the results”, stated a Marsol employee.

Did the prevention plan contain other hidden defects? "It should have also mentioned the installation of mobile showers, as well as how to store and dispose of the chemical waste after use", explained Gérald Le Corre. No such items were listed in the document. "I’ve never seen a shower at any of the sites. And three-quarters of the time we don’t even have water”, confirmed a Marsol employee. The commissioning company had clearly not met its obligations. "From a legal perspective, one could have called Total into question”, stated Thibaut Moncade’s lawyer, Pascale Dubourdieu. "But then we would have had two companies running for us.”

A clean sweep at Marsol – and then the whole merry-go-round starts again

After Thibaut Moncade blew the whistle, two other colleagues fell ill, without any indication of the causes. This got workers thinking: "Maybe Thibaut was right. Maybe it’s worth putting up a fight…". Seven of his colleagues have decided to demand their exposure certificates, taking their cases to the industrial tribunal. At the same time, Marsol went through a lean spell, as its contracts with TEPF were not renewed. A coincidence? Neither Marsol nor TEPF were available to answer our questions.

Deprived of its main client, Marsol’s business declined. Its staff were of course the first to suffer, on technical unemployment for weeks on end or forced to take leave. More than half the staff working at Lacq at that time quit. Fighting to make safety a priority at sites, the two staff representatives were sitting on ejector seats. The head of Marsol tried to dismiss them three times, but without being able to gain labour inspectorate approval.

Since this great cleansing operation, business has started turning up for Marsol at the Lacq platform. A dozen workers, many of them agency workers, are working on two new sites, again excavating contaminated soil. Bitter, their ex-colleagues sense a certain déjà vu. At one of the sites, the prevention plan has not been read out to workers. At the other one, the foreman has only read the Marsol section. "I told him I wanted to see the other part”, said one of the workers, recalling the fight put up by Thibaut Moncade. "He told me he didn’t have it.”

"The earth has some quite unnatural colours. If I was sure that the earth was contaminated, I would ask for single-use coveralls and masks", one of them confided to us. But for the company, these all constitute costs...”, he added, as if defending his employer. Savings realised on the backs of defenceless employees, whose safety is put at risk without the company batting an eyelid. At Lacq, the cocktail of precariousness, subcontracting and the endangering of staff to chemical risks is set to continue.
Chinese survivors’ compensation claims following workplace deaths at sea

The families of Chinese seafarers who die at sea face various challenges from labour-supplying companies, shipowners and their liability insurers. The fragmented and transnational nature of employment relationships increases the difficulties that victims’ families have to face, which give overseas employers more power to control the claim. Although the families try to seek justice through petitioning, demonstrations and online activism, the current Chinese social and legal environment presents many obstacles.

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About 2.3 million workers are killed every year as a result of work-related ill health and injury all over the world. In 2015, 152 seafarers lost their lives at sea and 199 seafarers went missing in marine casualties. Every death has an impact on at least 20 other people, meaning that, in addition to the estimated global seafarer casualties, 7,020 people would have been affected by workplace fatalities at sea in 2015.

With 650,000 seafarers, China is the largest maritime labour-supplying state. As transnational transport workers, seafarers are subject to labour and maritime laws of multiple jurisdictions, including the flag state of the ship and the labour-supplying state where the employment agreements are established. The structure of employers is complex, including shipowners, operators and multi-level crew agencies. This complexity makes the compensation claims process extremely challenging for the victims’ families.

The management of fatalities, including cases of seafarers missing at sea, involves various domestic and overseas organisations and institutions. There are three main parties involved in handling seafarer casualties: crewing agencies, who recruited the seafarers on behalf of shipowners; shipowners themselves and their representatives, including their liability insurers’ claim handlers and lawyers who manage the claims and cover compensation liabilities; and administrative and judicial authorities, who act as arbitrators or adjudicators to restore justice.

Victims’ families usually have to go through four stages: post-accident communication with crew agencies; negotiating compensation with shipowners’ representatives; seeking remedies; settling compensation disputes and obtaining payment from shipowners. This article, drawing on eight Chinese seafarers’ families’ accounts, reviews the difficulties they face in the claims process.

**Post-accident communication**

Nearly half of Chinese seafarers do not have long-term employment and have to change their crew agencies frequently to obtain job opportunities. Crew agencies are responsible for informing the families of marine casualties, but they also refuse any liability arising from the accident and are unwilling to help survivors.

As one survivor, Fu Zhang, recalled: "When I arrived at their office, the crew agency told us that they assumed no liability for this casualty. We asked for the foreign shipowner's information, but they refused to tell us and said there was nothing they could do and the shipowner was too busy to meet us. This was extremely outrageous!"

Preserving the dignity of the deceased is another challenge. To minimise compensation liability, some shipowners try to deny the work-related nature of fatalities, as interviewee Tian Zhu said: “One legal adviser and two managers were always emphasising my husband would sign off next morning, but he just died several hours before. [...] What they tried to say was my husband ‘almost’ died off duty. Later, they told me my husband might have committed suicide, so they would not pay compensation, but only a little humanitarian contribution.”

This phenomenon reflects the "blame-the-worker" culture in the workplace, which has been extended to the post-fatalities communication, shifting the balance of power away from families towards management.

Within this culture, the sacrifice of seafarers and the pain suffered by their families are also rarely recognised. From the perspective of family members, company practice is inhumane, with the financial aspect being its only concern.

"For us, my father was as important as the sky. [...] For the company, it was just a loss of an instrument, a tool, so why would they care about it?"

Nan Fan, daughter of a captain.

As another survivor, Fu Zhang explained: "My brother’s body had not been found. The crew agency said it was not their business to search for bodies, and then referred us to staff from the shipowner's insurer. We requested that all the bodies should be found, but he told us it was expensive to do so, and it was very difficult to find the body in the high sea. If we insisted that the bodies should be found, all the costs would be deducted from our final death compensation. As you already know, the death compensation is capped at CNY 1,000,000, so we had to give up our requests.”

As the weaker party in this dispute, family members are not able to push through...
their requests. Faced with the threat of deduction of costs from the damages to be awarded, they are led into giving up their rights and entitlements. Their right to know the facts about the seafarer’s accident is not respected in many cases.

Negotiating compensation

The negotiation of compensation is the core battle between victims’ families and shipowners, the result of which can determine the future living standards of these families. The families attempt to assertively defend their rights to compensation, but organisations aim to control the loss arising from accidents. Therefore, it is inevitable that the bereaved families and shipowners dispute compensation standards and amounts. However, considering their inadequate knowledge of the law, legal entitlements, skills of negotiation, social resources and political power, seafarers’ families are at a disadvantage.

In the first instance, the families’ legal knowledge determines the scope of their claims in the negotiations, which means the more families understand about legal entitlements, the higher the compensation that can be claimed during a negotiation. Claimants who are able to conduct legal research are more likely to receive higher compensation, as Tian Zhu, the wife of a chief engineer, said: “I checked the law day and night online. There was a regulation from the Ministry of Transport that said that the dispatched seafarer has three entitlements: the work-related injury insurance, shipowner’s P&I club insurance and commercial life insurance. I used this to claim work-related injury insurance and commercial life insurance from the labour supply company.” I claimed this amount and the company eventually accepted. Combining these three parts, I justified CNY 1 770 000 as my claim amount.

However, if the families are not able to identify the proper legal instruments, the compensation they obtain will be very limited. The companies are able to take the initiative and decide the compensation amount. Fu Zhang described how they were treated by crew agencies when they did not have sufficient legal knowledge: “The crew agency insisted the death compensation should be calculated according to rural income level, the lowest standard. Our family could only receive CNY 200 000 to CNY 300 000. Someone reminded us that we should use foreign-related legal standards to obtain a higher amount of compensation. I didn’t know about this specialised foreign-related maritime law before, but the crew agency should not cheat us. Why did they only insist on using the low domestic rural standards?”

In the second instance, shipowners, charterers, managers and operators of seagoing ships can limit their liability for maritime claims arising from vessel operation accidents. From 1992 to 2013, in foreign-related personal injuries/ incidents of death at sea, Chinese law entitled shipowners to limit their liability to CNY 800 000. This legal regime has created significant obstacles for seafarers’ families to pursue satisfactory damages, as Nan Fan said: “We asked for USD 400 000 according to my father’s income level. But they argued that CNY 800 000 was the limitation of liability for the shipowner. They insisted that the compensation should not be more than CNY 800 000. Through many efforts made by my father’s friends, we achieved an amount of CNY 1 500 000. It was a significant step from CNY 800 000 to 1 500 000. Without their help and encouragement, we could not have achieved it. The CNY 800 000 limitation was set in 1992, and is out of date, but the shipowner still took advantage of it.”

The liability limit of CNY 800 000 became a significant obstacle for seafarers’ families, with shipowners being protected by this legal “shield” in cases of fatalities between 1992 and 2013. Since the case of the Spring Merchant in 1999, this rule has been criticised as anachronism because the actual loss can be much higher than CNY 800 000 due to inflation. Nan Fan’s family obtained a higher compensation through the political influence of his father’s social network. As shown in the case files, a leading official of the Ministry of Transport called the labour supply company to urge the shipowners to settle the compensation dispute responsibly. Meanwhile, the lawyer advised the shipowner that there would be a potential political risk for their future operation in Chinese ports if they insisted on short-changing seafarers’ families in this way. Politics thus played a key role in settling this particular dispute.

However, many bereaved families do not have such strong social and political ties as Nan Fan’s family. To accept the compensation offered by companies is the only solution for them. The interviewee Nan Chen described his experience of failing to challenge the liability limitation: “We raised an amount of CNY 1 300 000. However, they had better lawyers. Our lawyer was not as dedicated and loyal as theirs was. In the negotiation, we could not achieve more and we just wanted to solve this quickly and did not want to overly immerse ourselves in dispute and grief. We eventually accepted the company’s compensation of about CNY 800 000.”

In the third instance, the bereaved might be subject to strategic attacks from the companies during negotiations. These strategic attacks involve what can be regarded as “negotiation skills”, which are used to increase the psychological pressure on the opposing parties. These attacks aim to stigmatise claimants, and employ police power to force the claimant to abandon their claim. The effects of these strategic attacks are largely dependent on the social and political power possessed by the company.

Stigmatisation is another typical kind of attack on claimants. In addition to the general stigma of greediness, in China, families of deceased seafarers may have to confront political stigmatisation.

The following example is an illustration: “I sent my claim amount to [the labour supply company’s manager], and he replied, ‘you are extorting as a greedy lion’, and then hung up the phone rudely. [...] The negotiation paused for a while. Several days later, the police officer came to visit me before the 18th National Congress of the Party. At that time, the negotiations were in a deadlock. The police officer’s eyebrow was straight [surly] and he said: ‘I heard you are involved in a dispute’. [...] Then the police officer told me the company reported to them that I was a socially destabilising element.”

The stigma of being a “socially destabilising element” relates to Weiren (social stability maintenance) activity. If a person defends his/her civil rights for a long time and tries to attract public attention to obtain The more families understand about legal entitlements, the higher the compensation that can be claimed during a negotiation.
justice, he/she may be labelled as a socially destabilising element threatening political stability. Therefore, in this case, the company made use of political stigmatisation to impose extra pressures on the claimant. Through this strategy, the seafarer’s family may be forced to abandon further claims, or just accept the compensation offered by the company in order to free themselves of the stigma.

**Seeking justice**

The compensation process makes the rights of family members secondary to the interests of shipowners. Some families choose to bring their grievances to authorities, such as their local police station or the petition offices of the local government. Fu Zhang recounted their experience of petitioning: “At the beginning, the labour supply company just ignored our requests, so we called the police. It was useless. The police said the marine casualty was beyond their jurisdiction. Then we went to the petition office of our provincial government. They sent a message to the company, and the company agreed to negotiate with us, but it was not very helpful because they were still perfunctory. All these methods were useless.”

Lately, many claimants have taken up the defence of their rights online. Family members can post their experiences on online communities and social websites, such as Tianya, Sina Blog and Weibo (China’s equivalent of Twitter). By using social media, claimants hope that the government will take their requests seriously. Tian Zhu wrote posts on the Tianya online community and Sina Blog. However, these posts were deleted three times by the website administrator.

She commented: “The labour supply company had the money to bribe the website administrator to delete my online posts on the defence of my rights, but was unwilling to improve our compensation a little bit.”

Nan Yang also tried to post comments on a news page to attract public attention to her nephew’s death on board: “There was news on the shipping website regarding the dispute between shipowners and their insurance companies. I attached my nephew’s story as a comment on that news, hoping more people would pay attention to it.”

Nan Chen also wrote a post in a seamen’s online community to seek help for his cousin’s disappearance. However, these efforts have not been successful.

Demonstrations, sit-down protests and occupations have been adopted as forms of resistance to unfair compensation offers and mistreatment in negotiation. Following the first round of negotiation, Tian Zhu wore mourning dress and exhibited her banner at the labour supply company to highlight the company’s unfair treatment of her family. She purchased paper money and burned it in front of the company in memory of her husband. The company called the police to stop her demonstration. Nan Chen adopted a sit-down protest at the company’s premises. She and her parents wore mourning dress and sat down quietly at the labour supply company.

She said: “We sat there quietly every day. No fight, no complaint and no noise. We did not disturb their business violently so they could not call the police. All seafarers coming to the company would know our grievance. This imposed heavy pressures on the manager.”

According to the accounts of the families, the experience of seeking assistance from governments and society to restore justice is disappointing and frustrating. The difficulties met by Chinese seafarers’ families reflect the lack of government oversight of the organisational behaviours of shipowners and labour supply companies. In contrast, the law granted shipowners the right to limit their liability for maritime claims. As a consequence, the imbalance of power between shipowners and surviving families has been exacerbated.

**Settling compensation claims**

Making compensation payments through instalments is another way to reduce financial pressures for companies, as Qing Wu said: “The total compensation for my aunt was CNY 600 000 and the first instalment of CNY 150 000 was paid instantly. Now two years have passed, yet the compensation has not been paid completely.”

Payment by instalments makes the settlement unpredictable. Therefore, some victims even sacrifice some compensation in exchange for an instant lump-sum payment, as Nan You said: “It is hard to trust the company, and undue delay may bring troubles. Therefore, even if they would promise a higher compensation by instalments, I asked them to pay me cash instantly.”

The wording of settlement agreements is final, but the agreements are usually drafted in favour of shipowners’ interests aiming to diminish their liability. Nan Chen expressed her anger about the settlement agreement: “The terms and conditions were unfair. They only wrote down things favourable to themselves and harmful to us. I was so angry that I did not want to sign it at all.” Fu Zhang explained his feeling of helplessness when he signed the agreement: “I was bullied in the agreement. However, if I did not sign it, we could not get the compensation, so I had no choice.”

Labour supply companies’ deduction of costs from the compensation payable to seafarers’ families causes further harm. It has become a common practice for labour supply companies to deduct the company expenditure incurred in hosting families, including transport and accommodation, from the amount due for the death compensation.

Fu Zhang said: “After the deduction of the labour supply company, the CNY 800 000 became CNY 650 000. We did not know the breakdown of this deduction. Is it enough to raise my brother’s kid? It is impossible to pay the education of my nephew and support my parents in the future.”
Nicolas Latteur explains the political thrust of his project as a collective and democratic repossession of work. Work constantly involves weighing up policies, he tells us, whether we’re talking about the fight against occupational cancers, collective restructuring measures or the use of night work. None of this is avoidable. We do have choices. Though the narrative itself cannot ensure the right conditions for democracy, it is the pre-condition for any self-organisation.

We can thus read this book in different tenses. For instance, that of listening to testimonials focused on concrete activities, exploring the many facets of a work which has nothing to do with that portrayed in annual company reports. While each of these testimonials, condensed into a 7-8 page text, stands alone, together they give rise to a more overarching reflection, drawing a dynamic picture – just as successive frames create a film. This reflection feeds on the conclusions presented by the author – very justifiably – in a separate section. Such distance is valuable, as it does not a priori detract from the force of the testimonials. It is not a "lesson" illustrated by examples. Its purpose is to open the debate and to be open to debate. It questions the power balance between the experts (whether scientists or policymakers) and the world of work. The book is rounded off by brief afterword by Sophie Béroud (Lumière University Lyon 2), positioning the book in the context of sociology and political reflection on unionism.

The book’s quality lies in the multiple intelligences deployed by the author. As a sociologist and union trainer, he puts across abstract notions on exploitation and domination through direct and simple language, visualising the collective intelligence of the world of work, making everyday working life the starting point and finish of politics. The verbatim accounts of working conditions provide a pleasure similar to listening to someone tell their story. Yet this immediate perception is backed up by structuring questions which rest as much on an ability to analyse as on a commitment to fight. It is exactly these questions which allow us to incorporate each of these unique stories from today’s world of work into an overarching emancipation project putting work back into its rightful place at the heart of the balance of power.

— Laurent Vogel
A worker’s survival kit: dope!

At the dawn of capitalism on the American continent, the Spanish crown adopted laws with an ambivalent attitude towards coca, a drug in use for thousands of years among the native population. All use associated with religious cults was banned and severely persecuted by the Inquisition, while the consumption of coca – also used as a means of payment – was made mandatory for the Potosi silver miners, as it was thought this would get them to work faster through reducing the feeling of fatigue.

Capitalism in its present form – free of the religious considerations of King Philip II – has nonetheless maintained a profound ambivalence towards the use of psychoactive substances. This edited volume coordinated by Renaud Crepon (sociologist), Dominique Lhuilier (professor emeritus from the Conservatoire National des Arts et Métiers) and Gladys Lutz (ergonomist) explores different facets of the use of psychoactive drugs at work, looking at an array of both legal and illegal substances: alcohol, tobacco, amphetamines, cannabis, cocaine, heroin, caffeine, medicines and painkillers.

Coming from various disciplines, the contributions provide a critical overview questioning current prevention policies. Indeed, many acts of law, collective agreements and prevention programmes are meant to combat this usage on the basis of a biomedical model linked to stigmatising the practices of deviant individuals. Screening practices are increasing, often in a legal hiatus where privacy protection is quickly sacrificed. Their usefulness is questionable.

This managerial approach is focused on addiction or dependency as such, seeking to list the vulnerability factors in terms of a person’s psychosocial profile. Sometimes, the approach will be paternalistic, focusing on support and accompaniment. At other times, it may be authoritarian, using warnings and sanctions.

In her contribution, Quebec sociologist Marie-France Maranda shows that we need to refocus the debate, looking at the situation from another angle. First and foremost, we need to question the way work is organised, analysing individual defensive strategies in the face of management pressure to increase productivity. In her view, parallels exist between doping in sports and doping at work, mirroring “this culture of the high-performance individual in a production-driven society”.

Several researchers and a unionist, Éric Beynel, are proposing alternatives centred on transforming collective working conditions. Éric Beynel highlights the importance of psychosocial risks, treating addiction as a work risk stemming from many different factors, as may be the case with cancer or a burn-out. In doing so, he stresses the difficulties the workers concerned have in speaking about their problem with union teams.

Sociologist Fabien Brugiére presents a concrete case study on cannabis consumption among airport service workers. Analysing many different facets, this study shows that cannabis is sometimes used as an individual way of protecting oneself against hardship at work, linked for instance to fear of accidents or the boredom of monotonous work.

In the book’s conclusions, Dominique Lhuilier puts it succinctly, stating that: “What we are seeing is a radicalisation of ignorance – to be understood as a lack of knowledge coupled with a head-in-the-sand attitude towards health and work issues, based on the growing invisibility of real work. And on an individualisation of health issues, masking the pathogenic nature of certain work situations and favouring causal explanations by individual causalities. This in turn leads to a tendency to reduce the question of the usage of psychoactive substances to one of vulnerable workers / workers with a certain predisposition who have become ‘hooked’ on one or many substances and need treatment to protect both their health and the safety of human and technical systems.”

While undeniably of great interest, this book also has one shortcoming: the historical dimension (apart from a few succinct paragraphs at the beginning) is missing. It would have been useful to show how the issue of alcoholism was at the centre of debates and forms of worker organisation in the 19th and first half of the 20th century, in particular in Northern European countries. Similarly, the spread of assembly-line work was accompanied in a number of countries by a sometimes massive use by company medical departments of painkillers or psychoactive drugs to “adapt” workers to their working conditions. For example, workers in the watch-making industry in the Jura were given Saridon, a medicine extremely toxic for the kidneys.

— Laurent Vogel

Se doper pour travailler
Renaud Crepon, Dominique Lhuilier, Gladys Lutz,
Toulouse, éditions ERES, 2017

1. Fabienne Scandella’s article on page 6 shows that these individual approaches are not limited to the field of addiction.
Working conditions in the beauty sector

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