

Abstract

As the world of work is undergoing the substantial transformation known as ‘Work 4.0’, this paper explores and develops possible avenues for a corresponding transformation of labour law. It begins by identifying the underlying transformational trends (Section 1-2) to argue five core priorities for the near future of labour law: activation 2.0, transversal career management, sustained labour quality focus, continuous and integrated talent development, and active support of economic participation (Section 3). Adopting a long term view, it describes the potential dismantling of the employment contract to develop a future of labour law as a ‘law on persons’ beyond employment status, with a corresponding need to reconfigure collective consultation and bargaining (Section 4). It concludes by stressing and illustrating how the future of labour law is a choice (Section 5).

Contents

1. Work 4.0	1
2. The future of work	2
A. Talent shift	2
B. Economic shift	4
C. Technological shift	5
3. The future of labour law	7
A. Activation law	7
B. Career law	9
C. Labour quality law	12
D. Talent law	14
E. Activity law	16
4. The end of labour law	17
A. The end of work	17
B. The end of the employment relationship	19
C. Law on persons	22
D. Consultation law	24
5. The future as a choice	25

1. Work 4.0

The world of work is undergoing a revolutionary change generally referred to as ‘Work 4.0’. Described as the most radical change in the labour market since the first industrial revolution, not a week goes by without yet another study heralding the large-scale disappearance, transformation or innovation in work, labour organisation and employment relationships. But what do all these

predicted employment changes entail for the legal framework of employment? If the future of work is set to change, what will the future of labour law be? This paper aims to provide an approach to this key question. My ambition is both modest and wide-ranging. I take use predicted trend shifts in the world of work to formulate hypotheses on the future of labour law. My aim is to develop vision and perspective, rather than completeness or technicity, which requires conceptualisation and reduction, as well as projection and postulation.

Bearing in mind Donald Rumsfeld's famous Iraq war quip, I will discuss the 'known known', the 'known unknown' and the 'unknown unknown'. The *known known* relates to the ongoing transformation of the world of work (part 1). The *known unknown* relates to the paradigm shift in labour law we already perceive and anticipate today (part 2). The *unknown unknown* relates to the long-term future of labour law in a world in which the essence of labour, working, the concept of employer and employee are all fading, without turning to futurology (part 3).

My focus is on the Western world, which combines trade openness, market economics, the welfare state, employment regulation and the presence of unions. My premise is that the economic, demographic, sociological and technological developments that are transforming the world of work will also transform labour law. In my view labour law is primarily a reactive branch of the law, responding to changes it does not generate itself.¹ However, I obviously do not deny the shaping and controlling force of a branch of the law that historically emerged as a political brake on laissez-faire capitalism. In this regard the future of labour law is also the future we want ourselves (part 4). I am consequently not making predictions, but will formulate the future of labour law in terms of key topics and questions.

The future of labour law will reflect the future of work as it is perceivable or predictable from current underlying trends that are themselves changing the world of work. There is a general consensus on these long lasting and wide-ranging *megatrends*.² Adopting a widescreen perspective, we can notice that the Western world of work is changing as a result of three simultaneous tectonic shifts:

- *A talent shift*, driven by overall demographic 'greying' (ageing) combined with demographic 'greening' (rejuvenating) in sub groups, by generation diversity, mass immigration, ethnic and cultural hyper diversity and by changing values with respect to work-life balance.
- *An economic shift*, driven by globalisation, market changes, new company structures and shifting human resources (hereafter: HR).
- *A technological shift*, driven by the internet, internet platforms, robotics, artificial intelligence (hereafter: AI), HR-Tech, 'big data', 3D-printing, nanotechnology, genetics and biotechnology.

I will discuss these megatrends on the basis of their significance in relation to work and will then translate them into megatrends for labour law.

2. The future of work

A. Talent shift

The talent shift illustrates how economics and labour are driven by demographics and sociology. The large post war baby boom generation – its emergence, its careers and now its gradual retirement – has a profound generational impact on the world of work. In the coming period this will mainly affect social security and its affordability within a context of inter-generational repartition based funding.

¹ M. De Vos, 'Arbeidsrecht in transitie' ('Labour law in transition'), in *Liber amicorum Hubert Bocken*, Bruges, Die Keure, 2009.

² For an overview see, e.g., Federal Ministry of Labour and Social Affairs, *White Paper Work 4.0*, Berlin, 2017; National Academies of Sciences, Engineering, and Medicine, *Information Technology and the U.S. Workforce: Where Are We and Where Do We Go from Here?*, Washington DC, The National Academies Press, 2017; World Economic Forum, *The Future of Jobs*, 2016.

On average, working Europeans are living ten years longer and working ten years less than in 1970.³ As long as life expectancy continues to rise and as long as social security does not tilt towards capitalisation, extend the number of active career years that contribute to the financing of pensions will remain a core mission of labour law and labour organisation. We are merely at the beginning of an evolution in which the focus will increasingly be on career thinking.

The generational switch represented by the baby boomers' retirement is confronting the labour market for the first time with a peaking working population in the succession of age cohorts: a loss of 30 million people of working age in the European Union by 2050. Not for the last time. The baby boomers only mark the start of an ongoing period of birth rates below the natural replacement rate. The future of work will consequently take place within a labour market with negligible spontaneous generational growth in an overall ageing working population, and in countries such as Germany or Italy it will even coincide with a significant drop in the overall working population. Immigration or boosting the active share of the population will be the only remedies: two obvious key topics in terms of labour market policy and labour law in the coming decades. Without demographic growth economic growth can only be achieved with improved activity and productivity.

Immigration represents a challenge, in terms of both quantity and quality, for the future labour supply in our economies. Western European countries, once key emigration countries, have known historically high net immigration flows for several decades. However, vulnerable geography, population explosion on outer borders, chain migration, humanitarian migration and policy shortcomings across the entire spectrum have turned immigration into a problem rather than a solution for their labour markets. Low participation, job polarisation, 'precariousness', work-poor families, a mismatch between supply and demand, the informal economy, ghetto formation, poor mobility and discrimination are the unfortunate phenomena associated with a population increase which should normally engender a spontaneous dynamic.

Moreover, the overall population development conceals concentrated natural growth in sub groups with higher birth rates, the above mentioned 'greening', specifically in those migrant communities where parents have usually suffered deprivation and discrimination. Neither society nor the labour market can afford this combination of demographic ageing and failed demographic diversity. There is no doubt that the economic integration and participation of immigrants and their descendants in the labour market will become an absolute policy priority. The question will be what labour law can signify in this process, knowing that the common technique of discrimination bans is mainly symbolic: it crowns cultural progress, it enforces this 'wielding a big stick', but does not offer significant leverage for active integration.

Demography, once a free benefit for the European economy and labour market for a long time, has thus become a disadvantage or at least a risk. And that is definitely worrisome. We are living in a knowledge and a service economy in which human talent makes the difference, and where top talent supported by technology and globalisation makes a world of difference. Just as talent is becoming of vital importance, we are suffering from a structural decline in talent. The European Union has approximately 9 million unemployed, low skilled or unskilled young people. It is clear that the active phase of life, and consequently also labour law, will have to be mobilised in order to compensate or combat a talent crisis which even the unique democratisation of education in Europe has not managed to avoid.

Leaving aside the impact of technology on the demand for labour, more of which later, the decline in available talent alone constitutes an overriding *talent development* policy priority, both for and in the labour market, throughout every life and career phase. In the hyper diverse societies that are today's and tomorrow's Western countries this sets a complex challenge, which will also be affected by cultural factors. For instance, changing value patterns amongst the Millennium generation and

³ ILO, *The Future of Work we want*, 2017.

subsequent Generation Z can make work quality, wellbeing, job satisfaction, work/life balance, autonomy, time sovereignty, personal flexibility, personal growth and business values more significant in the organisation of labour.⁴ In a talent war talent will be able to impose more personal demands and preferences. Evolving family structures, family responsibilities, role patterns and caring needs will also play a part.

The increasing importance of ethnic sub groups will also affect the world of work. Religion or the position of women in Muslim communities, for example, are social issues with a potentially major impact on employment, the labour market, companies and organisations. We are already tasting the beginnings in school environments, where questions relating to ethnic and religious accommodation are interfering with traditional neutrality. On the whole, and compared to what happened in the past, employees' expectations, preferences and choices will become more diverse and more personal. What all this means for the aggregate labour supply, labour productivity and labour costs, no one is able to calculate. However, the shift in talent will herald a profound qualitative change in the world of work, which will undoubtedly become even more difficult and complex than it already is.

B. Economic shift

The *economic shift* in recent decades has mainly been driven by globalisation. The gradual reduction in trade barriers, the opening up of new markets in cheap developing countries with large labour reserves and the free flow of investment capital have fundamentally changed our economic and business structures. Major differences in labour costs with low wage countries have diminished, changed or shifted Western industrial production. International companies have become international chains that maximize profits through country differences and advantages, including subcontracting, outsourcing, offshoring and delocalisation. Behind every parent company or brand stands a multilevel labour reality that is both economically and legally fragmented.

In Western countries it is mainly either highly productive labour benefiting from the advantages of scale and specialisation offered by globalisation, or low productive labour disconnected from globalisation, that are thriving. Furthermore, the playing field between leading companies that are exploiting globalisation ever more successfully and the rest is polarising. Success is increasingly dependent upon knowledge, creativity, innovation, teamwork and strategy – factors that have truly transformed personnel management. Supported also by information and communication technology, human talent is key and makes all the difference. Business champions often stand out because of the extent to which they can attract and foster talent.⁵ Globalisation has internationalised labour specialisation and increased the premium for talent and talent management in the West. This makes the importance of the talent shift all the more significant.

Providing the political world order remains stable, the underlying currents of globalisation are not likely to change fundamentally. That does not mean the end of industrial employment in the West though. High-end production, supported by new state of the art production processes, will continue to blur the boundaries between the knowledge economy, services and industrial production in Western countries. The most profound change is expected from what has been christened 'hyper globalisation'.⁶ The legions of cheap workers of a few decades ago are now a growing global middle class of several billion consumers. By 2025 almost half of the global consumption will originate from countries affected by severe poverty just thirty years earlier. The world is moving towards major regional market areas with their own production and outlet markets. The fight for the consumer will

⁴ See, e.g., the recurrent *European Values Study*. Value patterns will obviously affect the entire lives of generations, for example as students and consumers, with a corresponding economic impact.

⁵ For more details, see M. De Vos, *Les vertus de l'inégalité*, Saint-Simon, 2017.

⁶ See, e.g., A. Subramanian and M. Kessler, *The Hyperglobalization of Trade and its Future*, Global Citizen Foundation, 2013.

become the definitive battle field of hyper globalisation. Competition between countries and sectors will gradually evolve into competition between leading companies from different countries, who will battle it out less on the basis of labour cost and more on the basis of quality and innovation, with global champions in all regions of the world.

Hyper globalisation is more perceptible in qualitative international economic integration, as is already the case in the European Union, rather than in flows of unfinished products within the transnational value chains of multinationals. Globalisation and hyper globalisation share international competition and international trade as a common denominator. This immerses their entire world of work, including labour market policy and labour organisation, in requirements of specialisation, flexibility and adaptability. These familiar phenomena acquire even greater significance when hyper globalisation ramps up the competition further and makes success even more dependent upon an international clientele. Hyper globalisation makes international success more personal because it depends more on company performance, whereas globalisation makes international success more political because it depends on general market factors. Both entail important adaptation requirements for employees and businesses alike.

Globalisation has generated complex business structures in which labour is stretched and sliced along a chain, with a particular impact on industrial employment in more expensive countries. Under hyper globalisation this trend could disseminate to knowledge sectors and the micro level of individual contracts. Business structures would then evolve into malleable eco systems that shadow the changing economic climate. Planning, organisation, production, services and consumption would no longer be separated but connect and interact. Using outsourcing, contracting, freelancers and a panoply of ad hoc contracts, an increasing share of the population would waltz through their professional lives as temporary pieces of an ever-changing mosaic of economic partnerships. Flexible labour would no longer be a buffer for and within organisations but the core of business organisations and a reflection of labour distribution across organisations.⁷

C. Technological shift

The technological shift is generally considered the most fundamental and 'disruptive' megatrend. That should not really surprise us. After all, technological innovation has been transforming labour for more than four hundred years. Old technologies become redundant, eventually new technologies themselves become outdated and the cycle starts again. The impact on labour is the same with every cycle, every turn of the technological wheel. Jobs in old technologies become scarcer and eventually disappear altogether. That is the minus side. The plus side relates to technological innovation itself, which requires and creates new jobs. The weavers have gone, but weaving looms that have replaced them require raw materials, assembly, electricity, design, production, operation and maintenance. Similarly, there are no coach builders or coachmen anymore, but there are mega automotive assembly plants, networks of suppliers, studios crammed with designers, gigantic steel producers, paint factories, specialist machine builders, car dealers, etc. The best innovations develop into entirely new economic sectors with completely new value chains.

Thanks to technology and the capital behind it, new jobs are usually more productive than the old ones: they generate greater economic value and output per input. This margin has beneficial effects: on the profitability of the businesses, on the income of the workers and on society in general, which benefits from both. Technological innovation is nothing less than the beating heart of the unique capitalist progress machine, the basis of mankind's spectacular prosperity growth through the centuries. Despite occasional profound and disturbing adjustments, its impact on labour is without a

⁷ See D. Vinik, 'The Real Future of Work', Politico, 2018.

doubt impressive: the number of working people in relation to the total population and the average quality of work have continued to improve.⁸

A structural sea change in this global quantitative and qualitative progress is not upon us. On the contrary, also driven by the demographic transition of the retiring baby boomers, the developed world is facing a talent shortage rather than a work shortage. Nevertheless, there is a growing fear or conviction that, for the first time in the annals of capitalism, technology may become an existential threat to labour and the working man. The assumption that 'this time is different' is fostered by various findings or expectations. New technology profoundly affects the *service economy* which is the backbone of modern society, whereas earlier technologies tended to impact agriculture and the industrial economy. The *internet* and *internet platforms*, with Uber the most well-known name in an increasingly long list of contenders, digitalise and fragment work relationships into an automated flow of fleeting tasks. The processing power of computers, combined with breakthroughs in sensors, mobile communication, connectivity and so-called 'block chain' technology, is making such leaps forward that *artificial intelligence* could replace human intelligence in jobs that have until now remained outside the remit of technology. *Robots*, for a long time merely valets for simple but arduous work, are said to be on the verge of what would exponentially increase their circulation: imitating human actions.

Add all this together and technological innovation might, for the first time in history, generate a negative rather than a positive job balance. Estimates and opinions differ, however.⁹ Optimists merely expect more creative destruction, a combination of job losses and job gains, but still with a positive bottom line. Pessimists think certain professional groups and sectors are threatened with extinction. Doomsayers predict that humans are doomed to become like horses: once a productive economic entity, then superfluous except for the pursuit of leisure. Only in this total apocalypse, which we will describe as highly unlikely hereunder, will labour law eventually become devoid of purpose. In all other scenarios labour law instead becomes increasingly important as we face fundamental economic convulsion.

What unites all these visions, however, is the expectation that the normal cycle of job destruction, job creation and job transition, typical of each technological innovation, will structurally and fundamentally accelerate, deepen and widen to include virtually all sectors, professions/jobs and educational levels. According to a well-known estimate, between 75 and 375 million workers worldwide could change jobs as a result of technological shifts by 2030.¹⁰ Furthermore, the content of many jobs that do not disappear is likely to change profoundly and consequently will require major adjustments.¹¹ In each scenario there is obviously a key role for labour law.

The interplay between these megatrends, generically referred to as 'Work 4.0', opens up huge change potential for work and economic activity: more productive, flexible, connected and international. The central position of work and work based social protection in our Western societies, economies and welfare states turns these shifts into fundamental transformations for people, companies or organisations, public authorities and countries. Fundamental change in the world of

⁸ For an overview, see M. De Vos, *Les vertus de l'inégalité*; J. Appleby, *The Relentless Revolution. A History of Capitalism*, Norton, 2010. For data on progress see, e.g., S. Pinker, *Enlightenment now*, Allen Lane, 2018.

⁹ For a summary of the various studies and their diverse assessments, see European Parliamentary Research Service, *The impact of new technologies on the labour market and the social economy*, European Parliament, 2018; E. Winick, 'Every study we could find on what automation will do to jobs, in one chart', MIT Technology Review, 2018.

¹⁰ McKinsey Global Institute, *Jobs lost, jobs gained: Workforce transitions in a time of automation*, McKinsey, 2017.

¹¹ See L. Nedelkoska and G. Quintini, *Automation, skills use and training*, OECD Social, Employment and Migration Working Papers, OECD Publishing, Paris, 2018.

work comes with huge challenges in terms of adjustment, investment and innovation at all levels of society. Obviously, the nature, extent, timing and impact of these changes will vary between countries, regions, economic sectors and companies. The following is an attempt to transcend differences and to describe how labour law, as a reactive branch of the law, can be mobilised to guide, or respond to, the challenges of Work 4.0.

3. The future of labour law

A. Activation law

Economic, technological and international changes are nothing new, they have always been around. The convulsions of Work 4.0 may be more extensive and profound, but labour law has had to cope with disruption before. In that sense labour law in near future will look much like a repetition or reinforcement of its recent past, a past that put labour law on the path towards *labour market law*. Mass unemployment following the oil crises of the 1970s, post industrial reconversion, the emergence of the knowledge economy, internationalisation via the European internal market and globalisation, the welfare state crisis: at every stage labour law was part of the transformation. Target group policies, support and protection in case of restructuring, employment mediation and activation are but a few of the now familiar, tried and tested labour regulation solutions that supersede the micro relationship of an employment contract in a macro perspective of labour market change.

During the most recent phase the labour market perspective was used not only to complement labour law, but also to *modernise* it. Recognising that change and uncertainty are the only certainties in modern open economies, so-called '*flexicurity*' aims to secure the employability of people in the long term. This implies a paradigm shift in terms of labour law. The primary objective is no longer static job security through protection from change, but dynamic work security by providing support in the event of change.¹² Flexicurity is reflected, for example, in focusing dismissal law on job transition, in an overall attention to training and education, in an emphasis on flexibility and personal autonomy, and in the decentralisation of collective bargaining.

This also implies new roles and responsibilities for the actors of labour law. For the *government*, as sustaining employability implies initiatives outside the labour market, in education, social protection and public services. For *employers* and *employees*, whose legal status and responsibilities henceforth surpass their personal employment relationship. For the *social partners*, when negotiating terms and conditions and implementing occupational social protection, during dismissal and change processes, and in their capacity of alternative labour regulators. For *employment mediators*, *administrations* and *public service providers*, who contribute to people's development and economic deployability at different stages of their lives.

We don't have to reinvent the wheel. Many of the insights and objectives underlying the agenda of Flexicurity are also benchmarks for Work 4.0 labour law. And there is ample scope. There has always been a considerable gap between the rhetoric around Flexicurity and the reality in statute books and in the workplace. The resistance to change and even the contention of the fundamental paradigm premise are real. We must conquer this resistance.

The megatrends mentioned above make the overarching social challenge abundantly clear: to promote opportunities for everyone in the structural changes and to strengthen our capacity to adapt to these changes. This is obviously a challenge running across an individual's life and the entire policy spectrum. Fundamentally, it requires a transformation of the welfare state into an *investment state* with a systematic, preventive and curative approach to the development of human talent.

¹² See, e.g., M. De Vos and J. Konings, *d'Une sécurité de l'emploi vers une sécurité du travail sur le marché du travail*, Brussels, Anthémis, 2007.

Although this encompasses much more than just labour law, labour law is a key component of this process.

From the perspective of the labour market, *transition* becomes a significant mission of labour law in the short term. Navigating between jobs, avoiding or overcoming unemployment, entering the labour market following a period of inactivity or upon leaving the education system, economic participation following immigration, progressing from illness or care to work, starting work as a refugee: they are all variations on the same transition theme. Transition will be of primary importance if we want to offer our diverse working population the best possible chance of inclusion and our changing economy optimum chances of finding employable talent.

We are taking up this challenge not without experience. Labour market policy has experimented extensively with measures, rights and obligations, under the heading of ‘activation’, in recent decades in order to facilitate employment opportunities and foster a willingness to work. The results are mixed.¹³ The task will be to do it better and broader going forward. Doing better means, for example, focusing more on geographic mobility, filling vacancies more quickly, reducing regulatory barriers that protect professions or sectors from newcomers, organising preventive activation that anticipates change, and reactivating people who have become inactive.¹⁴

Reactivation will truly become a priority for Work 4.0, because the reported structural talent shortage forces us to get non-active groups onto the labour market. In that sense the activity rate rather than the unemployment rate will become the main policy barometer. An appropriate combination of financial incentives, guidance, training, work flexibility and job/profession accessibility will be required.¹⁵ We are already familiar with target groups that require specific efforts. If the technological revolution were to lead to large scale technological unemployment and inactivity, we would be steered towards new target group measures. The lessons learnt from successful and failed industrial reconversions in the past will prove very useful for the future.

The interface between the labour market and the above mentioned megatrends will affect various groups in society in various ways. Training levels, gender, geographic region, economic sector and/or age will influence the eventual impact of Work 4.0. In 2018, for example, technology reveals a gender and an age gap in the labour market. If that doesn’t change the gap will turn into a chasm. More active women and longer working lives will be necessary not only from a social and budgetary point of view. In the Work 4.0 era they are an existential necessity against a background of a structural talent shortage. Targeted activation priorities will consequently be common sense.

Activation will become a collective and holistic task, exceeding both the labour market and the traditional divisions in social protection. Its impact will be transversal, not just for those looking for work in unemployment, but also for refugees in the process of recognition, for immigrants in integration, for benefit recipients in inactivity, for the long-term sick in recovery, etc. Activation 2.0 will be most effective via a single contact point uniting all competent authorities and relevant services. It will offer a bespoke solution, based on investment, using a carrot and stick approach, proactive and preventive for problem groups and regions, curative for others. It will be fully integrated in all benefit systems. It will require a focus on effectiveness and efficiency, more policy data and greater responsibility amongst supervisors and trainers.

Activation 2.0 is also seamlessly connected with dismissal law. Throughout the OECD the needle of dismissal regulation has hardly moved over the past twenty years: a fitting illustration of theory

¹³ See, e.g., the overview in A. JG Brown and J. Koettl, ‘Active labor market programs – employment gain or fiscal drain?’, *IZA Journal of Labor Economics*, 2015, 4:12.

¹⁴ See, e.g., C. Frey, ‘The Future of Jobs and Growth: Making the Digital Revolution Work for the Many’, *G20 Insights*, 2017.

¹⁵ See Eurofound, *Reactivate: Employment opportunities for economically inactive people*, Publications Office of the European Union, Luxembourg, 2017.

versus practice in Flexicurity.¹⁶ Both individual and collective redundancies are still primarily a fight for compensation rather than a transition. On the other hand, redundancies are avoided on a grand scale using temporary contracts, particularly at the beginning of a working life. Activation law should replace dismissal law with *transition law* and should generalise transition law for any type of employment agreement. Only then will what is a critical labour market necessity also filter through to all work relationships.

B. Career law

When one takes the labour market as the starting point, the emphasis lies on *careers* rather than on jobs. I anticipate that the career will become the dominant perspective in employment regulation. This perspective is already appropriate today. Our global labour market with generally impressive job creation and participation hides an increasing diversity in flexible and temporary contracts, second jobs, self-employed workers, freelancers and part-timers. This trend is not equally prominent everywhere. In some countries it can be a temporary crisis phenomenon. It is not always a permanent reality for those involved. But what is commonly referred to as 'flexible labour', atypical vis-à-vis the historic model of permanent full-time employment, is gaining ground. Estimates vary, but in Europe and the US up to a quarter of the working population can already be associated with one or another type of flexible labour, in total more than 160 million people.¹⁷

The trend towards diversification in work relationships will be reinforced by the megatrends behind Work 4.0. Both on the supply side, i.e. talent, and the demand side, i.e. the economy, Work 4.0 represents variation and diversity, with a good dose of globalisation and technology which injects flexibility right into the DNA of labour. The traditional differences between permanent and atypical labour will continue to fade away. Work relationships will increasingly be based on tasks, orders, peaks and periods. Atypical will become the new typical, which has both positive and negative connotations.

Positive is better access to the labour market and a more seamless work/life balance. Where knowledge economy and technology meet, amongst highly trained mobile knowledge workers and independent professionals, flexible or independent working could even become a lifestyle. In this group the emergence of freelance work is a dream of career variation, freedom of choice and continual personal development, while also generally serving the economy well.¹⁸ Young people in particular are attracted by the opportunity of being able to maintain control over their own job and career.¹⁹

Negative is the risk of *segmentation* in the labour market, in which part of the working population has to be satisfied with insecure and lower paid jobs with few career prospects. Persistent marginalisation of sub groups is a painful reality in today's labour market, partly overlapping with the increase in atypical labour. *Job polarisation* through a combination of unattractive low paid jobs, disappearing routine jobs in the middle and attractive highly paid jobs higher up, is already a reality today. It will predictably increase if hyper globalisation and the technologization of work continue without an appropriate policy framework.²⁰

The paradox of present-day labour law is that it tends to exacerbate rather than diminish labour segmentation. Under pressure from the above mentioned megatrends, continental European countries have opted for *asymmetric liberalisation*, increasing the opportunity for atypical work

¹⁶ See W. Eichhorst, *What Is a Good Job?*, IZA DP No. 9561, 2015.

¹⁷ According to McKinsey Global Institute, *Independent work: choice, necessity, and the gig economy*, 2016.

¹⁸ See The Adecco Group and LinkedIn, *Flexible Working: A career and lifestyle pathway*, 2018.

¹⁹ See ManpowerGroup, *Gig Responsibly. The Rise of NextGen Work*, 2018.

²⁰ See European Parliamentary Research Service, *The impact of new technologies on the labour market and the social economy*, 2018; M. Lawrence et al., *Managing Automation. Employment, inequality and ethics in the digital age*, Institute for Public Policy Research, 2017.

alongside the traditional 'typical' work, the legal status of which has remained largely unchanged. The proliferation of alternative contract formulas is a pull factor, increasing the polarisation between successful *insiders* and disadvantaged *outsiders* in the labour market. The switch from labour law to career law should reverse this incongruous effect. To maintain the choice and diversity that gives people autonomy, to facilitate the dynamics and variation that the economy needs and at the same time prevent people from being 'subjected to' flexibility and caught in fragmented work relationships without basic rights: that is the central triangle hypothesis of *career law*.

As Work 4.0 will continue to boost the biodiversity in jobs in the economy, the focus needs to shift from the job to the career. Generally speaking labour law will then lower the barriers to flexible work relationships, enhance secure rights across those barriers and focus more on the employability of workers in the labour market. This is not without precedent. The regulation of *agency work* illustrates the practice of labour law as career law. It facilitates and limits flexibility at the same time, creates a level playing field of minimal rights and guarantees their transferability when changing clients. It also implies a third party who is responsible for the continuity of protection in the discontinuity of employment.

In order to evolve further in the direction of career law, the continuity and transferability of employment protection must also become feasible when switching *between social security statuses*. In essence it should be possible, irrespective of the status and duration of work or the identity of the parties, to link economic activity to benefits that meet the following three requirements: the employee or otherwise economically active person must own and take their benefits with them; the other economic party must contribute to these benefits on a pro rata basis in line with the extent to which the parties collaborate, and the benefits must at least be partly independent from the legal qualification of that cooperation. Rather than fundamentally fragmenting basic labour protection between, for example, employees, the self-employed, freelancers and civil servants, employment status should be transcended by shared rights that seamlessly shadow and serve career variation. Moreover, substantively protection should focus more on *career development* and wide ranging employability, ensuring that 'flexible work' signifies more than just working differently.

Here again, labour law evolution is already underway. Various European countries are experimenting with early variations of fully fledged *career accounts*.²¹ A career account is a multifunctional career instrument that offers a financial lever to manage and support career development tailored to the individual. The career account can be used for training and education, leave and reduced working hours, bespoke work formulas, in the event of redundancy or retirement, etc. It replaces or reinforces collective systems that work solely with generalised target groups, which produce suboptimal results in terms of individual career needs and artificially affect the personal career behaviour of employees, with adverse effects on the entire labour market.

A well-structured career account puts the career at the heart of future labour law. Career competencies, development, planning, management, termination and transitions: everything is facilitated. A career is a shared responsibility that transcends the individual work relationship, which is why the career account is established within a three-way relationship between employee, employer and the government. It may also involve other parties such as insurance or HR providers. The employee will personally contribute to the career account, financially and by working, as it is through employment that the career account is built up by the employer and/or the government. Employee involvement illustrates how the evolution from labour law to career law entails not only new rights but also new responsibilities.

The employee shares responsibility for the accumulation and disbursement of career account resources, which is the best guarantee for their effectiveness in line with his/her personal situation.

²¹ See M. De Vos, 'Naar een betere arbeidsmarkt (Towards a better labour market)', in *Roadmap 2014-18*, Brussels, Itinera Institute, 2014.

This is the major difference compared with collective systems supported exclusively by third parties, in particular the tax payer. Financial contributions from employees may consist of a percentage of their wages and/or the exchange of time for money. In other words, a career account could also permit the more familiar 'time saving' where the employee voluntarily exchanges holidays, leave or other periods for capital that they can later use to work less or not at all.

Depending on the actual career objective, financing in the above mentioned three-way relationship may vary and existing collective systems may be reduced, converted or stopped altogether. The maze of work suspensions, leave periods, vocational training and reduced working hours that makes modern labour law so complex and often needlessly encumbers the labour market, can be comprehensively simplified via career accounts. This would again improve the transferability and fluidity of social protection through the job changing process.

For the *employee*, a career account represents a supported cultural shift towards different and sustainable working practices, better talent management, more voluntary change and fewer compulsory transitions. For the *government*, a career account is a flexible catalyst for policies that aim to promote employability, reward longer working lives and discourage early retirement. The government can contribute to 'earmarked' account expenditure in order to support activating career objectives. It can provide additional contribution to the account in the event of extraordinary career events or use it as 'wage insurance' or 'adaptation insurance' during labour market upheavals. It can extend the account into other areas such as family policy, or use it as a quasi universal instrument for personalised social policy.

Because it can be linked to any type of employment, a career account can also maintain career development for 'atypical' temporary labour. This does away with the familiar disadvantage that employers are less inclined to invest in the future of temporary personnel. For the *employer*, the career account is an instrument to put talent management at the centre of human resources. When labour diversifies, organisations and companies evolve towards talent ecosystems with levels and gradations of collaboration that require integration and coordination. Again, a career account can play a facilitating role.

Career law will support both involuntary and *voluntary labour mobility*. Indeed, the changes associated with Work 4.0 will also create many opportunities. It should be made easy for employees to seize these. Traditional labour law is too strict for employees who are interested in more than just their employment contract. Competition rules often prevent employees from using their talents elsewhere, either simultaneously with, or upon termination of, an existing employment agreement. Intellectual property law and the confidentiality of professional information as company information can disconnect employees from career tools that are also their personal merit. Resigning often has unfortunate consequences in terms of both accrued rights and protection from unemployment. Combining and circulating between jobs requires a complete understanding between the parties. In a nutshell: the legal equilibrium between the parties of an employment contract is one-sided and does not facilitate a career approach. Modernisation is required. A career account can offer both financial and organisational *empowerment* to employees who want to venture out.

Compared to the standardised, collective protection associated with a particular job, a personalised individual account linked to an overall career entails greater management and organisational complexity. This disadvantage can be managed, however. We are already familiar with third party service providers who take on and manage the organisational complexities of employment relationships. Career law will undoubtedly facilitate incorporate a new biotope of career services. In this evolution, the organisational potential of technology will be a critical factor. The data and communication technology that is changing the way we work will also transform and facilitate the organisation of work. Technology is the stepping stone to improved quality in labour organisation and labour management. To this we now turn.

C. Labour quality law

When we consider a career and consequently a long-term approach as the benchmark, the *quality of work* is, or should be, a key consideration. Our contemporary policy outlook on the labour market is dominated by quantitative criteria such as unemployment, activity, age, income, seniority and productivity. From a legal perspective, labour quality is a key component of labour law. The essence of traditional labour law, with its focus on employment conditions such as remuneration, working hours and working conditions, can be considered a regulation of labour quality.

However, these traditional qualitative criteria are remnants of a disappearing past of traditional labour and labour organisation based on secure jobs, decent income and employer responsibility.²² This does not make them irrelevant. As long as people work to live criteria such as remuneration, working hours, holidays and work environment, to name but a few, will continue to be important. But Work 4.0 will alter jobs, diversify income and multiply the parties involved in the provision and organisation of work. We will have to reconsider work quality conceptually if we want to prevent the gap between insiders and outsiders of the labour market from widening and if labour regulation is not to restrict the economy and job creation. We also need to transpose existing quality principles to the new employment reality.²³

Translating labour quality into labour regulation is tricky because quality is often specific, relative, contextual and partly subjective.²⁴ But difficult doesn't mean impossible. We have already noted that *activation law* focuses on quality in the shape of quantifiable effectiveness and efficiency. From the perspective of *career law* the extent to which work generates career rights becomes a quality benchmark. The quality dimensions in this respect are obvious: training, education, career development, career services and the like have to generate results. Autonomy and personal flexibility are quality aspects throughout the diverse range of employment statuses. Health, safety and wellbeing are tied to the nature and organisation of labour. Social inclusion and equal opportunities parameters are also feasible. Our interaction with technology and the use and protection of personnel data also provide new quality angles.

The penetration of information and communication technology in work and work relationships is the greatest ally of labour quality law. For *work organisation*, technology is an instrument for time autonomy, time and location flexibility and for a seamless life/work balance. This is a major quality benefit because work autonomy, wellbeing and health go hand in hand.²⁵ For *work itself*, technology offers a quality leap forward with the support of man by machine and interaction between man and machine. Technology will assist and support workers. Typical examples include digital assistants, health sensors, accident prevention and efficient mobility. Man and intelligent machines will become colleagues. Collaborative robots or co-bots will bridge the gap between man and machine. They will assist or replace humans when arduous tasks are involved. They will enhance our physical, sensory and intellectual capacity. Technology will give older and/or disabled people more opportunities to participate in work and society.

The human factor is the crucial success factor in the world of Work 4.0. Technological transformation, AI and robotisation equate to reinvestment and reinvention rather than automation. They do not merely pose a threat to certain human jobs; they also and even more so represent a reinvention of human roles and functions. As machines continue to liberate us, specific human characteristics, capacities and roles will come to the fore that machines cannot handle and are

²² See, e.g., the ILO indicators for 'decent work'.

²³ See Federal Ministry of Labour and Social Affairs, *White Paper Work 4.0*, 2017; IPA, *Working Well: Perspectives on Good Work and why it matters*, London, 2018.

²⁴ See W. Eichhorst, *What Is a Good Job?*, 2015.

²⁵ See, e.g., J. Gonçalves and P.S. Martins, *The Effect of Self-Employment on Health: Evidence from Longitudinal Social Security Data*, IZA DP No. 11305, 2018.

dependent upon.²⁶ Technology can be embraced as an opportunity to enable people to work more effectively, improving quality and efficiency.²⁷ If the future of work lies in technology, each business strategy will identify tasks that have to be executed by technology and simultaneously develop processes to synchronise these tasks with the human activities that utilise them.

The success of a company is dependent upon the wellbeing of its employees when talent, effort, creativity, cooperation and conduct are the defining factors. We can therefore expect organisations to embrace technology in order to humanise personnel policy.²⁸ If HR was forced to make people work like machines whenever possible in the past, it will enable them to work as little as possible like machines in the future. More and better data imply greater productivity and less waste. Technology will make business processes and decisions smarter and faster. Technology can personalise personnel policy. Whether in recruitment, training, education, guidance or evaluation: technology can stand to benefit the individual and the organisation alike. Behaviour, commitment and satisfaction can be measured and stimulated via communication technology and metadata.

The history of centuries of technological innovation has always resulted in more, better and more productive labour. There is no reason to suspect that it will be any different in the future. Work 4.0 presents a huge opportunity, not to replace working people but to help them in both the productivity and quality of their labour. Greater productivity means higher income and more time. In people's private lives technology will, as in the past, liberate them from, or assist them with, tasks and jobs. More private time will also facilitate their professional life. Medical technology and care robots will become crucial to accommodate our ageing population. As a society, we just have to make sure we develop and seize these quality opportunities.

Progress will not be without its 'progress diseases'. We are already familiar with stress, burn-out and bore-out as the peripheral phenomena of an evolution that has shifted the workload problem from the physical to the mental. The quality perspective of Work 4.0 requires boundaries: for employee availability and accessibility, for data control and communication within an organisation, for the interaction with new technology that entails wellbeing risks. The anchor points of labour organisation are shifting: work location, working hours, authority and control are changing and making employment more personal. Labour is becoming a porous process: the lines between mandatory and voluntary work, between work and leisure time, between autonomy and control, are fading. This demands a new balance, connecting work diversity to work quality.

The same technology that gives people more autonomy also subjects them to greater controls and corresponding psychological pressure, a phenomenon that is already manifesting itself in the platform economy that permanently shadows app users. We can expect other phenomena to emerge and we will have to cope with them, from a preventive and curative as well as a regulatory and HR point of view. When the interaction between man and machine becomes systemic, a regulatory framework is needed in which its conditions and ethical limits are defined. Labour is and remains a social reality. The emergence of intelligent machines into this reality will definitely engender social questions.

The Work 4.0 era doesn't just promise quality innovation for individuals and businesses. Legislators, governments and administrations will be able to employ technology to improve the regulation and organisation of labour as well. We can already see this in countries that manage the platform economy through registration processes that imply the automatic electronic payment of taxes related to platform transactions. The insurance requirements, contribution obligations and

²⁶ See H.J. Wilson, P.R. Daugherty and N. Morini-Bianzino, 'The Jobs that Artificial Intelligence will create', *MIT Sloan Management Review*, 2017.

²⁷ Also refer to McKinsey Global Institute, *A Future That Works: Automation, Employment, and Productivity*, 2017.

²⁸ See Gartner, *Predicts 2018: AI and the Future of Work*, Gartner Inc., 2018.

administrative overheads associated with employment, for which companies currently often rely on subcontracted HR services, can also be digitalised. Quality careers require quality regulation and management that can rely on the opportunities offered by the new technological work era.

In other words, work relationships going digital offer a major policy opportunity. It can eliminate the black economy and benefit fraud, while guaranteeing complete transparency in working hours and remuneration. Taxes and social security contributions can be paid instantly with zero bureaucracy. Platforms can organise the entire process of an employment relationship seamlessly and automatically. Employment mediation can be taken to another dimension. Longer and better careers, varied careers with more job changes, careers that facilitate training and education at every stage, careers with social protections tied to the individual: it can all be organised and supported. Technology can enable us to work longer and better.

D. Talent law

Our highly technological, globalised knowledge economy forges an intimate link between human talent and economic outcomes, a structural evolution I have elsewhere referred to as Human Capitalism.²⁹ Talent is the fuel of today's economy, the forecaster of career trajectories and the driving force for a mass mobilisation for education and training in 'the race between education and technology'.³⁰ And that is just the beginning.

The above mentioned combination of demographic ageing and retiring baby boomers, hyper diversity, intense labour market marginalisation, and segmentation amongst young people makes talent the key priority for future policy. Add to this the mass job transition and innovation that the technological revolution can entail, and it seems logical that *future labour law will fundamentally become talent law*. The development, maintenance and renewal of economically useful human talent that widely supports people in the labour market, will permeate into the DNA of labour regulation.

The perspective of talent law has several dimensions. *Conceptually it intertwines labour and education*. Our current understanding of life and work is chronological: school, diploma, work, training, education, holidays, up-skilling, etc. Our view of talent development is pillarized and fragmented. The evolution from labour law to talent law will end the compartmentalisation of talent development and blend it transversally through lives and careers. Employment relationships will become part of a continual process of education and training, involving other and new parties, new roles, new financing and new learning formulas. Training and education will not only become part of the job, but of career development on the basis of shared responsibility.

As talent law, labour law will combine with an education system that will focus more on learning ability, cognitive capacity, creativity, analytical thinking, and resilience. Education faces the dilemma that existing knowledge will become outdated and that future knowledge cannot be predicted. Work 4.0 will increase the turnover rate of knowledge. Not so much technical know how, but a capacity for change, critical and creative thinking, collaboration and dealing with complexity will be prerequisites. Being able to continually develop and adapt talent, under the motto of lifelong learning, will be the only strategy. That is why education will focus not only on the transfer of knowledge and skills, but also on so-called 'meta skills' for future proof learning that will make future adults self-reliant.³¹ This requires '*hybrid skills*': a mixture of basic technical knowledge, cognitive skills and personal attitudes that will enable us to manage technology, and evolve with it, all our lives.³²

²⁹ See M. De Vos, *Les vertus de l'inégalité*.

³⁰ See C. Golding and L. Katz, *The Race between Education and Technology*, Belknap Press, 2010.

³¹ See, e.g., P.A. Kirschner, *Het voorbereiden van leerlingen op (nog) niet bestaande banen* (Preparing for not yet existing jobs), Heerlen: Open Universiteit, 2017.

³² See also L. Rainie and J. Anderson, *The Future of Jobs and Jobs Training*, Pew Research Center, 2017.

In training and education, technology will promote quantity, quality and accessibility, as is already the case with online courses and universities. Virtual reality and AI will enable even more people to benefit from education, cheaply and from the best institutions, in an easier and more effective way. Technology will enable traditional diploma based education to evolve into teaching modules that can be taken advantage of at any stage of life. This way education will continuously underpin the labour market. Companies and organisations will have to select more on the basis of ability instead of knowledge, on skills rather than diplomas. The regulation of professional qualifications should assist in this process. Technologically personalised HR policy will make it possible to monitor employee requirements in more detail. This will optimise the timing and tailoring of talent management and development, which in turn will promote commitment, motivation and wellbeing.

For companies, talent law illustrates how *talent management becomes a key strategic business priority*.³³ The combination of quantitative talent shortage and qualitative skills transformation means that companies will never be able to make the transition to Work 4.0 without investing in retraining and up-skilling. Employing technology to increase productivity and profitability, eliminating repetitive and routine tasks and deploying people for more worthwhile activities doesn't just happen. Companies will have to invest in both hardware and software, not just in technology and machines, but also in people and their organisation. Technological innovation will only succeed if it used for innovation in work, people and labour organisation, which requires a business strategy linking technology to talent.³⁴

For society, *talent law is a vital component for inclusion and upward mobility*. Work 4.0 represents a gigantic opportunity for greater talent inclusion through lower barriers, more choice and more diversity. There is, however, also a risk of *talent erosion*. There will be losers. At the top, winners will be able to gain even more because their talent and skills can be deployed even more productively and on a larger scale. Elsewhere, the risks are real. In the middle, cognitive AI could take over routine intellectual tasks such as writing, communication, transport, purchasing, accounting, contract management, medical diagnoses and office administration. At the bottom, robots could replace human actions and interactions in low productivity jobs, production, distribution, care and personal services.

Technology is consequently not talent neutral and it seems logical that the megatrends behind Work 4.0 could amplify the *labour polarisation* mentioned earlier – the combination of a fast moving top, a disappearing middle and a stagnating bottom. There is considerable inequality in the acquisition, early in life and later in education, of the hybrid skills that can forge the connection between man and technology. If we don't reduce this talent inequality, changing job structures will likely increase labour inequality.³⁵ We will have to promote a *talent shift* across society in order to turn losers into winners. This can be done by *mainstreaming* talent development as a core value of social policy, using techniques such as training cheques, skills guarantees, individual learning accounts, subsidies and tax benefits.³⁶ Labour law will play a central and unifying role in this process.

The distant future of talent may well be a question mark, but data models can predict the job transitions and talent requirements of Work 4.0 in the medium term. These models anticipate waves of job destruction and renewal that will have a varying impact on different sectors and professional

³³ See data and trends described in World Economic Forum, *The Future of Jobs*, 2016.

³⁴ See, e.g., E. Shook and M. Knickrehm, *Reworking the revolution*, Accenture Strategy, 2018.

³⁵ See European Parliamentary Research Service, *The impact of new technologies on the labour market and the social economy*, 2018; M. Lawrence et al., *Managing Automation. Employment, inequality and ethics in the digital age*, 2017.

³⁶ See, e.g., ILO Global Commission on the Future of Work, *Skills policies and systems for a future workforce*, 2018.

groups at different times.³⁷ Using this as a basis, policy makers will be able to define priorities and prepare pathways for future job transitions with a sufficient degree of certainty. This could be referred to as *preventive target group policy in talent development*. The motto of talent law consequently does not have to be a meaningless slogan. We can organise both broad talent development for the long term and specific talent transition in the short term. This way the switch to talent law can prevent labour market problems in the future. However, we have to have the courage to opt for prevention, rather than wait until transition issues actually become a reality in the labour market.

E. Activity law

Activation 2.0, transversal career rights, preventive target group policy and a general focus on talent development will definitely reduce employment risks, but not eliminate them altogether. There will always be a dark side to the reality of Work 4.0. How should we tackle this as a society? The conservative Pavlovian reflex is to combat labour polarisation by banning it. Traditionally reactive and restrictive labour law, but adapted to the world of Work 4.0. New restrictions on work flexibility, short contracts, on call contracts, working hour fragmentation, 'just in time' orders, including the prohibition of certain work practices or commercial platforms.³⁸

Another option is to gradually lessen the differences in protection between regular contracts and atypical labour. Labour law will then evolve into a more inclusive *activity law*, offering protection irrespective of the underlying employment law status. Establishing a level playing field sounds attractive, but at what level? The general activation and career rights developed above do not differentiate between labour statuses. This is a fundamental shift with respect to the current segmentation, one which I will stretch further below in an individual rights based approach. Fundamentally, a symbiosis of employment statuses is desirable, providing it does not artificially inhibit the positive dynamics of Work 4.0. This implies a level playing field, not only through new protection for new employment practices, but also because by somewhat less protection for insiders with permanent contracts.

In essence labour law as activity law *should embrace work flexibility right to the core of the employment relationship*. Working time regulation has already moved down that path. However, Work 4.0 requires the accommodation of employment diversity within a framework that exceeds the traditional employment agreement. This can only be achieved by adapting the employment agreement into a contract that can accommodate several and changing parties. Hence the earlier reference to the model of *agency work* and the *career account* proposal. Agency work essentially puts an employee's capacity at the disposal of various employers in a flexible way. Applied more generally, this would facilitate so-called *co-sourcing* of employees by several employers, combining greater work flexibility with the retention of the employment agreement as a legal status.

Another variation is *employee pooling*, already used in Austria, France, Germany and the US. Pooling provides a legal framework to allow employees to work for several organisations and companies, capitalizing on complementary requirements and locations. With pooling the economic necessity for flexibility does not result in a fragmentation of work relationships either. Pooling and co-sourcing can even be provided as an external service to ensure that, similar to agency work, participating users are relieved from coordination tasks and participating employees are guaranteed protection. Under Work 4.0 any risks of misuse should result in smarter regulation with watertight digital follow-up rather than in prohibition.

³⁷ See, e.g., H. Bakhshi et al., *The Future of Skills: Employment in 2030*, London: Pearson and Nesta, 2017; McKinsey, *Shaping the future of work in Europe's 9 digital front-runner countries*, 2017; PwC, *Will robots really steal our jobs?*, 2018; World Economic Forum, *Towards a Reskilling Revolution: A Future of Jobs for All*, 2018.

³⁸ See, e.g., T. Hunt and S. McDaniel, *Tackling insecure work: Political actions from around the world*, SPERI, 2017.

No matter how successful and sophisticated labour regulation, protection and support, talent development and activation might be, there will be losers slipping through the net. The spectacular global growth in economic activity and employment already conceals a so-called 'precarariat' of groups with little or no career prospects. The disruptive impact of Work 4.0 on business and economy, its unequal distributive effects on employment opportunities and careers, will also require policy innovations in this regard. Unemployment and welfare benefits are the fallback position for the unfortunates of the labour market. We can connect and strengthen both in a voluntarist approach referred to elsewhere as *work insurance*.³⁹

Work insurance combines the income guarantee of unemployment insurance and social benefits with a work guarantee for everyone, against a shared background of deepened activation. In the initial phase unemployment benefits remain crucial and generous, are awarded for long enough and are high enough to facilitate qualitative job transitions. This is followed by a period of 'communicating vessels': gradually reducing benefits in line with the duration of inactivity, while increasing investment in activation. This requires a tailor-made approach. In an ideal scenario the pace, extent and methods used for benefits and investments can be adapted to the requirements of the individual and the relevant labour market reality, which obviously requires the necessary refinement in services and labour market data.

Ultimately there will always be unemployed people who cannot find work. If the outflow to the normal labour market is not successful at the end of a certain period, to be re-evaluated in the light of all relevant parameters, a transition can be made to a system of organised employment and service provision to society. Even though the people in question do not have regular work, they will be involved in a socially meaningful activity that provides them with an income. Thus, the activity law approach connects labour law to activating support/benefits and eventually transforms it into a right to work.

Work insurance takes the activation logic to its ultimate outcome, in which the activating authority itself provides the activity. It underlines the interaction between rights and obligations, which is the cement of the welfare state. Benefit fraud disappears. More than anything work insurance will guarantee that anyone willing to work remains active. Talent will not be lost. Providing it is properly managed, work insurance will also nurture talent, which can then flow back to ordinary employment. This way activation ensures reactivation potential.

4. The end of labour law

A. The end of work

Mankind has been fearing its economic redundancy ever since the invention of the weaving loom. More than three hundred years and billions of new jobs later, robots and automation are instilling that same fear in leading academics and concerned politicians alike. Official reports and ominous bestsellers are predicting a dark future. Machines are anticipated to be increasingly taking over tasks currently executed by humans. An permanent jobs crisis will be inevitable for virtually everyone except the best brains. That's what was announced... in the early sixties.⁴⁰

Fifty years later the predicted catastrophe has still to manifest itself. There's no shortage of new doomsday prophecies. Ever since two researchers at Oxford University predicted five years ago that almost half of all American jobs were threatened by computers and robots, the future of work has

³⁹ See M. De Vos, 'Naar een betere arbeidsmarkt (Towards a better labour market)', in *Roadmap 2014-18*; M. De Vos and J. Konings, *d'Une sécurité de l'emploi vers une sécurité du travail sur le marché du travail*.

⁴⁰ See the striking overview in D. Akst, 'Automation Anxiety', *The Wilson Quarterly*, 2013.; B. Miller and R.D. Atkinson, *Are Robots Taking Our Jobs, or Making Them?*, ITIF, 2013.

had an apocalyptic tinge.⁴¹ Pessimists, including several entrepreneurial icons of the internet economy, believe that artificial intelligence and robotics will eventually turn most of the working population idle. Society would then fragment into three sections: the elite who tell computers what to do, the minority who are told by computers what to do, and the majority who are replaced by computers.

Catastrophic projections about future job destruction unravel the job structure of the current economy into *task profiles* and cross these with the careering calculation capacity of computers, robots and AI. It doesn't take much imagination to presume that many tasks that are still unassailable today could probably be taken over, and performed even better, by computers. Computers will make medical diagnoses, deliver legal documents, translate texts, teach students, control planes or tankers or report the news: all examples of areas where computerisation is already underway. If, in addition to this, robots are on the verge of a major breakthrough, presenting care provision, the transport and distribution sector, freight handling and what is left of industrial production with a new wave of automation, the apocalypse is near.

However, *jobs* are not merely *tasks*. It is not because certain tasks are taken over by machines that the remaining tasks and humans disappear from the scene. On the contrary: the elimination of routine tasks is in fact the springboard to complement man in a move towards better and more productive jobs in which human talent comes to the fore even more, as emphasised above. The end of tasks means neither the end of jobs nor the end of work. Projections that look at *jobs instead of tasks*, are much more optimistic about the expected job destruction, but do predict that switching between jobs will accelerate and generalize.⁴² Moreover, Work 4.0 evolves away from jobs and professions to assignments, networks, organisation and cooperation, in a more collaborative and less structured way. The static projection of technological capacity onto existing task profiles in known professions looks at the future of work through the haze of the past. It isn't work as such, but fixed jobs and professions that face change.

Moreover, job pessimism is one-sided. There is also the optimism associated with new technologies and greater productivity, the above mentioned pattern of capitalistic innovation through creative destruction. Studies that assess both the destruction and creation of Work 4.0 indicate a surplus of greater overall employment opportunities.⁴³ Furthermore, no model can calculate the factor of choice. Just because technology can take over certain human tasks does not mean that this will actually happen. That requires companies to invest. Investment needs to be sufficiently profitable. Business organisations and the interaction between man and machine have to evolve. Employees have to be prepared, and able, to take part. Labour regulation has to follow suit. All these factors will definitely slow down and control technological transformation.

Even defeatist job pessimists don't expect large-scale job destruction to take effect until the middle of the 21st century, following a long and unpredictable course taking several decades. Even the most vulnerable jobs, such as cashier or driver, will tail off slowly and gradually with a lot of scope for adjustment, reconversion and new opportunities. The assumed 'end of work' is consequently far from imminent, it is the futurology of the unknown unknown. It adds little to the known unknown,

⁴¹ C.B. Frey and M.A. Osborne, *The future of employment: how susceptible jobs are to computerisation?*, University of Oxford, 2013.

⁴² See, e.g., M. Arntz, T. Gregory and U. Zierahn, *The Risk of Automation for Jobs in OECD Countries: A Comparative Analysis*, OECD Social, Employment and Migration Working Papers, No. 189, OECD Publishing, Paris, 2016; European Commission, *Analysis of the impact of robotic systems on employment in the European Union*, Luxembourg, Publications Office of the European Union, 2016; L. Nedelkoska and G. Quintini, *Automation, skills use and training*; OECD, 'Automation and independent work in a Digital Economy', *OECD Policy Briefs on the Future of Work*, 2016.

⁴³ See McKinsey, *Shaping the future of work in Europe's 9 digital front-runner countries*; PwC, *Will robots really steal our jobs?*.

namely that technological transformation requires labour regulation to choose the career as its central paradigm. Even if the pessimists were right, activation, career, labour quality and talent law would all remain the collective mission of the renewed labour law for the foreseeable future.

Nevertheless, a world without work continues to fascinate and inspire some to consider a total recalibration of the welfare state via a *universal basic income* (UBI) that would guarantee everyone an income without work. This isn't the time or place to scrutinise an idea that has been around for half a millennium and that in a mature format profoundly changes the DNA of personal responsibility, society, inequality, social protection and the entire economy.⁴⁴ Our perspective is based on the world of Work 4.0. In order for this world to succeed, a UBI would not offer a solution, it would present a problem. A general, unconditional basic income represents a gigantic budget cost. Each euro spent on a UBI cannot be used for investment, activation, career development, training, education, schooling, etc. Whereas Work 4.0 requires mobilisation to promote economic activity and participation across society, a UBI would spend billions in free money disconnected from any activation aim. Unconditional benefits within the context of major economic transitions and restructuring would risk inhibiting talent mobilisation and job change, rather than contributing to it.

Much more important than the quantitative calculation of lost and new jobs, is to understand what lies behind it. It is not about job destruction as such, but about the nature of jobs kept or added. We have seen how Work 4.0 affects job quality. Jobs at risk are mainly found in the middle section where routine tasks, increasingly cognitive ones, are being taken over by technology. Towards the bottom, low paid jobs requiring human action remain untouched and consequently low in productivity. At the top, where technology, globalisation and talent enhance one another, it is party time. If we want to tackle the 'hourglass' of polarising labour inequality, we should invest widely in supportive policies rather than hand out cheques.⁴⁵ For this reason alone, a universal basic income is the wrong idea, in the wrong place at the wrong time.

For those still wanting to philosophise about a world in which work is disappearing, there are enough alternatives that do not contribute to this demise by offering income without work.⁴⁶ We could extend the tried and tested concept of the negative income tax: it stimulates and remunerates work while supporting only those who need it. We could use the above mentioned work insurance to enable the unemployed to contribute to society in a useful and meaningful way: a job without work instead of an income without work. We could develop a payment model for socially important but non-economic labour such as neighbourhood watch, home care and domestic work. We could make the data economy, which makes people unemployed, pay those same people for their personal data on which the data economy thrives and which it currently captures for free online. We could boost wages by paying workers less for work and more from business profits. We could even consider working hours redistribution, although this will happen anyway as a result of higher productivity and more personalised employment practices.

B. The end of the employment relationship

The end of the working man has often been predicted but has (as yet) never happened. Mankind underestimates itself and its capacity for innovation, which time and again enables more people to work in a different way and in work arrangements between man and machine. Those who nevertheless want to explore the unknown unknown will find more immediate inspiration in the evaporation of employment relationships on the internet.

⁴⁴ See M. De Vos and S. Ghiotto, *L'allocation universelle entre rêve et réalité*, Itinera Institute and Skribis, Brussels, 2017.

⁴⁵ See M. De Vos, *Les vertus de l'inégalité*.

⁴⁶ See D.M. West, *What happens if robots take jobs? The impact of emerging technologies on employment and public policy*, Brookings, 2015.

Digital *connection platforms* such as Uber, Taskrabbit, Fiverr or Helpling connect customers with professionals for ad hoc services on demand. They provide an alternative to prospection and recruitment. In digital market places, *crowd sourcing* or *outsourcing* sites such as Upwork, Amazon Mechanical Turk, AppJobber and Airtasker, users can outsource specific and/or specialist tasks and assignments to third parties as micro jobs. They are an alternative to employment or contracting relationships. Sites for *crowd working* or *crowd funding*, such as Crowdtap, Kickstarter and Indiegogo, facilitate collaboration between participants in joint projects. They provide an alternative to business organisation and personnel groups. Digital sharing platforms or *sharing sites*, such as Streetbank, Peerby or Nextdoor, allow to use goods and infrastructure collectively, either with or without payment. They provide an alternative to property and business resources. *Communication and tool platforms* such as Facebook, WeChat, Slack, Trello or CoSchedule, enable professionals to communicate, set up meetings, organise and use various business tools. They are a project alternative to management and business structures. Through *co-working sites* such as WeWork, Hubble or Pickspace, professionals of various backgrounds can use work spaces and environments that promote both their own activities and ad hoc cooperation. They provide an alternative to business organisation and infrastructure. Well known online *web shops* and *order and delivery platforms* such as Postmates, Deliveroo, UberEATS or Foodora, offer a home delivery service for meals and other products. They are liberating consumers from travel time and are supplementing traditional economic activities with a layer of transport services organised online.

These and other variants of what can collectively be referred to as the ‘platform economy’ are taking over the world of work and labour law.⁴⁷ Employment relationships are becoming superfluous, fragmented or digitalised. *Superfluous* because a company can employ people without being an employer and workers can work without becoming an employee. Companies are evolving from static hierarchies into flexible project organisations. In essence labour becomes a commodity that can be traded on the internet. *Fragmented* because the economic cooperation that ultimately defines an employment relationship is carved up in blocks, tasks and micro orders that expire instantly. *Digitalised* because the housekeeping of economic cooperation and personnel deployment, for which labour law basically exists, is taken over by transactions and algorithms that replace the legal infrastructure with automatic management.

In the best case scenario, people are able to work and collaborate freely, with and for anyone anywhere via platforms; in brief, to be their own boss but still participate fully in large scale activity. For companies, platforms can generate expertise and capacity without the burden and cost of business and personnel organisation, which can generally promote productivity growth. In the worst case scenario, the internet and digitalisation do for the service economy what Fordism and Taylorism did for the industrial economy: reducing labour to tasks and commodities, people to links in a chain, saving costs for market players but offloading them onto people.⁴⁸

In any case the platform economy profoundly affects the traditional configuration of work and employment. It blurs qualifications, tasks and roles. It introduces hitherto unknown dimensions of flexibility, in favour of autonomy but at the expense of security. It moves the goalposts between employees and the self-employed, between paid and unpaid work, between work and non-economic activity, between workers and companies and between workers and consumers. Platforms have a turbo effect on the ‘freelancers’ trend, both from the demand and the supply side. They cut costs for

⁴⁷ See, e.g., J. Landmann and S. Heumann, *Auf dem Weg zum Arbeitsmarkt 4.0? (On the way to Work 4.0?) Mögliche Auswirkungen der Digitalisierung auf Arbeit und Beschäftigung in Deutschland bis 2030* (Possible impact of digitalisation on labour and employment in Germany up to 2030), Berlin, Bertelsmann-Stiftung and Stiftung neue Verantwortung, 2016.

⁴⁸ R. Berins Collier, V.B. Dubal and C. Carter, *Labour Platforms and Gig Work: The Failure to Regulate*, IRLE Working Paper No. 106-17; K. V.W. Stone, *From Widgets to Digits: Employment Regulation for the Changing Workplace*, Cambridge University Press, 2004.

companies and consumers, but also diminish the remuneration and social protection of platform workers. Platforms connect the entire world for services that do not require actual physical cooperation. Companies, clients or consumers in rich countries can thus tap into the labour potential of poorer countries at bargain prices: digital globalisation for the service economy.

The platform economy contains the seeds of the large-scale digitalisation of economic activity. Platforms act as interfaces that phase out the building blocks of economic cooperation. Consumers are controlling service providers: they become producers purely by consuming. Employment, labour law and employment boundaries are largely being consigned to the history books. If in due course production and distribution were run by robots, transport by autonomous machines and services by AI and block chain, platforms could eliminate the last intermediate human links, paving the way to work without employees or employers. It is not surprising that the platform economy is turning the world of labour law and labour market experts upside down, generating the predictable doomsday literature along the way.

My overriding message is to stay calm. All available data demonstrate that for the time being only a small minority of the working population is active in the platform economy, at the most a few percentage points in the most developed markets.⁴⁹ The geography of platform based work is mainly metropolitan. Furthermore, random checks suggest that only a small fraction of platform workers depend on the platform as their main occupation and income. The majority works via platforms sporadically or part-time, for short periods, and mainly because of its flexibility and as an additional income source.⁵⁰ In that sense platforms tend to mobilise labour potential that would otherwise not be economically exploited, rather than replacing employees and companies by an ecosystem of platform relationships. They are lowering the threshold for labour participation in the economy, which is good news for societies with persistently marginalised minorities.

The legal status of a platform worker represents a real headache for labour lawyers. The spheres of subservient and independent work have been converging for decades. The megatrends mentioned at the start of this paper are making many paid employees even more independent and many independent contractors even less autonomous. The platform economy turns this asymmetric convergence into an art form. On the one hand the freedom and autonomy of 'on demand' collaboration dominates via a platform that merely acts as a medium. On the other hand, the platform requires and organises reliability, quality, results, compliance and evaluation. As a result of this paradox, the interpretation of the characteristic relationship of authority which in virtually all jurisdictions is based on a mosaic of factual and organisational indicators, can go either way.⁵¹ That is, at the very least, undesirable.

If the platform economy actually were to become mainstream and claim a substantial share of the labour volume in the economy, we would be faced with a systemic problem. A substantial part of the working population would see their careers evaporate in a web of individual, insecure and often poorly paid assignments. Alternatively, the platform operators and their business model would have to change and offer better working conditions, which is often not commercially viable under their current business model. Or more ominously, technology would increasingly have to replace the human factor with machines, for example, in general or passenger transport services.

⁴⁹ See, e.g., the overview in Eurofound, *Non-standard forms of employment: Recent trends and future prospects*, Eurofound, Dublin, 2017; J.V. Hall and A.B. Krueger, *An Analysis of the Labor Market for Uber Driver-Partners in the United States*, NBER WP 22843, 2016; U. Huws et al., *Work in the European Gig Economy*, FEPS, Brussels, 2018; K. Lapanjuuri, R. Wishart and P. Cornick, *The characteristics of those in the gig economy*, BEIS Research Paper 2018/2.

⁵⁰ See, e.g., J.V. Hall and A.B. Krueger, *An Analysis of the Labor Market for Uber's Driver-Partners in the United States*; U. Huws et al., *Work in the European Gig Economy*; K. Lapanjuuri, R. Wishart and P. Cornick, *The characteristics of those in the gig economy*.

⁵¹ See, e.g., B. Means and J.A. Seiner, 'Navigating the Uber Economy', *UC Davis L. Rev.*, 2016.

The temptation to resort to regulation is all too real. Distinct platform regulation with political restrictions, a special status somewhere between employee and self-employed, or a selective ban curbing the activity of platforms: all these options are being advocated and are already a reality in some countries.⁵² It is an easy and fairly arbitrary approach, but it is not the way to a sustainable and fair future for labour law. Platforms should not be reduced to an artificially delineated sector of the economy. That would undermine their potential for innovation, productivity, inclusion and participation, and it would force platform workers into an inferior work position with little or no career development opportunities. Inserting a new category of so-called ‘independent workers’ in between traditional employees and the self-employed multiplies the qualification issues: who are these ‘independent workers’, which existing employees and which self-employed workers are henceforth ‘independent workers’ and how will the traditional distinction between ordinary employees and the self-employed workers? Instead of having one grey area, you now have four.

The issue of the platform economy forces us to reflect fundamentally on the legal framework for economically active people. If it is true that employment relationships are dying out, only the career remains as an anchor point. Whatever the case, Work 4.0 stands for the variation, fluidity and diversity of work, which makes statutory limits both shaky and problematic. Shaky because the boundaries are fading, problematic because statutory differences create as many career obstacles. The necessity to transversally prioritise the career rather than the individual employment relationship, forces us in the direction of a legal framework of *shared career rights irrespective of the individual employment relationship*. The career perspective requires personal and transferable rights that can be nourished by any and all variations of job, career and/or contracting parties. If job variation increases without a decrease in legal status variation, the development of careers and the productive use of human talent will be undermined on a grand scale. We must evolve towards a shared base of personal rights, irrespective of underlying work status. That is the gist of the legal developments I have defended above as the future of labour law.

There are already mechanisms in place that allow actors and artists to build up social benefits across all ups and downs of what is intrinsically a perennially changing project existence.⁵³ If we are all to become project workers the course seems quite clear. The same internet technology that divides work into project elements can seamlessly attach social rights to personal projects, without excessive overheads or transactions costs for the stakeholders. Platform players and the insurance sector are already experimenting with formulas that supply on the spot insurance for ad hoc services and deliveries.⁵⁴ HR service providers and partnerships already offer digital tools that enable freelancers to manage their own careers, including ad hoc social protection with each impromptu contract.⁵⁵ We are already seeing the future of labour law evolving into a *law on persons*, providing tailor made follow-up and support for the activities of economically active individuals.

C. Law on persons

As a law on persons, the future of labour law symbolizes a *uniform framework for personal economic activity*, irrespective of the parties and demarcation lines between social/legal statuses. The content of that framework is a political choice and can evolve. The demarcation lines will fade as the content of the framework grows. In addition to activation, career, talent development and work quality, labour conditions will predictably feature. When work rises above every status, when employees have become autonomous economic agents, working conditions essentially become economic

⁵² See, e.g., S.D. Harris and A.B. Krueger, *A Proposal for Modernizing Labor Laws for Twenty-First-Century Work: The “Independent Worker”*, The Hamilton Project, Brookings, 2015; ILO, *The Future of Work we want*, 14-15.

⁵³ See, e.g., D. Rolf, S. Clark and C. Watterson Bryant, *Portable Benefits in the 21st Century*, The Aspen Institute, 2016.

⁵⁴ See, e.g., The Economist, ‘How insurance policies are being adapted to freelance working’, 7 April 2018.

⁵⁵ See, e.g., YOSS of the Adecco Group and Smart.be coop.

regulation. The regulation of security, liability, insurance, even prices: all this is already familiar territory in economic law today.

From a 'law on persons' perspective such topics coincide with the labour position of the working person, in which their regulation finds political legitimacy. The platform economy today is already subject to insurance rules and open to discussion on pricing structures. In essence this is about social security and minimum wages, but for a different category of people than employees. Take this to its logical conclusion and you realise that personal law ultimately does not have to differ much from labour law. In other words: the blurring of work statuses implies a convergence between the worker and the company as a source of economic activity, raising new identification issues in economic law. Add to this the digital deconstruction of the contract as a legal vehicle for cooperation and Work 4.0 becomes the proverbial tail wagging the entire legal dog.⁵⁶

A law on persons shifts *the focus onto the person*, personal choice, talent and career. Personal law stands for an equal framework of rights and obligations, but for the unequal, personal implementation thereof. It lets labour law evolve towards regulation that can organise and facilitate a wide range of activities, supported by personal choice, responsibility and diversity and a shared base of minimal protection.

A law on persons stands for labour law which is more than just the law regarding human interaction in a work environment. It will also *regulate the interaction between people and machines and between machines and people*. The intimate symbiosis of people and machines will be a key theme under Work 4.0. Focusing on the person as the core value in the relationship, labour law will be able to set out ethical, legal, organisational, quantitative and qualitative parameters.

A law on persons approach puts people at the heart of Work 4.0. In that sense it tends towards a *'human rights' approach*, but with a crucial conceptual switch. Existing social human rights want to turn traditional labour protections into fundamental rights. They ossify the static labour law of yore, with its protective focus on the job and its obligations for employers. A law on persons symbolizes the reform of labour law and labour organisation towards promoting activating investment, career development, talent management and labour quality. A law on persons stands for a dynamic career approach, with different rights and obligations, greater personal responsibility and a diversity of parties and players with complementary responsibilities.

A law on persons can *make labour law partly transnational*. Traditional labour protection and its connection with the welfare state are tailored to the nation state. This makes labour law either an obstacle to international economic growth, or a victim, including abuse and fraud. National labour law and the international economy are difficult to combine. However, this combination will continue to spread as globalisation increases, whilst internet platforms transcend national borders and enable parties from across the globe to collaborate. An individualised activity or career account, a core instrument of labour law as a law on persons, could allow an international diversity of national labour rights and social benefits to operate on a shared basis with maximum transparency and control for the working individual. Taking the individual as the anchor point, it will also affect expectations and requirements in negotiations and contractual agreements. This initiates 'bottom-up' harmonisation of labour standards through the individual's career development.

As a law on persons, labour law structurally and fundamentally connects with *other areas of the law and policy that focus specifically on the individual and on human development*, including education, vocational training, housing, benefits, family and youth policy. It incorporates labour law in a holistic continuum of policies that invest in the development of human potential. Talent policy is no longer fragmented into life phases and institutional complexities. Actors, rights and obligations not

⁵⁶ See, e.g., F. Seghezzi and M. Tiraboschi, 'Italy's Industry 4.0 Plan: An Analysis from a Labour Law Perspective', *E-Journal of International and Comparative Labour Studies*, 2018.

traditionally included will enter the labour law domain, with an all-embracing talent mission. This requires the coordination of policy competences, at least operational, for instance via a central point of contact that divides a shared policy objective between relevant authorities and authority levels.

D. Consultation law

A law on persons offers personalised protection, *not collective standardisation via collective bargaining*. This brings us to one of the thorny political and social issues concerning the future of labour law under Work 4.0: the future of unions. In the short term unions will have to make choices. Do they want to oppose or steer the economic transformation? Do they want to resist the advance of new ways of working and new business models in order to protect old jobs, or instead defend the working conditions of these new types and models? Do they want to contain digital platforms with minimal labour protection in favour of a minority of platform workers who use platforms as their main job, or instead embrace the flexibility that helps the unemployed, occasional workers and consumers? Do they want to create and protect new insiders in the gig economy, or instead safeguard the potential for the activation of outsiders?⁵⁷ Do they want a 'copy-paste' version of traditional collective bargaining in the more associative context of freelancers, or instead contribute to individual career emancipation?⁵⁸

In the long term Work 4.0 represents an existential threat to traditional bargaining where employees and employers are the target group. Historically, union representation and negotiation has been an important vehicle to manage the development of labour and employment conditions through consultation and negotiation among equal parties. A significant side effect of Work 4.0, however, is to undermine the basic conditions of traditional bargaining as a result of changes in work structures, business structures and labour statuses. As work patterns bypass the employment contract, consultation and bargaining will either naturally fade away, or will have to be re-institutionalised.⁵⁹

At the same time, Work 4.0 offers opportunities for direct participation and consultation, facilitated by the same communication technology that is transforming labour. Here again, the platform economy is paving the way. Platform workers assemble and organize online, irrespective of their personal legal status, country or jurisdiction.⁶⁰ This is the onset of what is sometimes referred to as 'Alt Labour': informal network unions that provide a flexible platform for action and protest to counteract the flexible platform economy. Network unions act as *consumer organisations or lobby groups* when forcing companies to make concessions or authorities to take action. No longer collective bargaining in the strict sense, but economic lobbying that supersedes business boundaries and contractual relationships: a resonance of the 'guilds' of yore in the 21st century. Union protest against companies such as Uber or Airbnb is as much a protest in favour of economic regulation than it is against labour practices.

Network unions are not unlike economic cartels. They may be at odds with competition law, which only makes an exemption to the market rule prohibiting price cartels for collective labour agreements between employers and employees.⁶¹ Pricing agreements with and between

⁵⁷ Compare J. Sherk, 'Compulsory Union Representation Would Make Gig-Economy Jobs Less Flexible', The Heritage Foundation, Issue Brief No. 4637, 2016.

⁵⁸ Compare K. Stone, 'Unions in the Precarious Economy', *Prospect*, 2017.

⁵⁹ See V. De Stefano and A. Aloisi, *Fundamental Labour Rights, Platform Work and Human-Rights Protection of Non-Standard Workers*, Bocconi University Legal Studies Research Paper, 2018.

⁶⁰ See, e.g., Turkopticon, FairCrowdwork Watch, UberPeople and various facebook groups. For an overview, see H. Johnston and C. Land-Kazlauskas, *Organizing On-Demand: Representation, Voice, and Collective Bargaining in the Gig Economy*, ILO, Conditions of work and employment series, no. 94, 2018.

⁶¹ See M. De Vos, 'European Social Dialogue and European Competition Law: an Inherent Contradiction?', in M. De Vos (ed.), *A Decade Beyond Maastricht: The European Social Dialogue Revisited*, The Hague, Kluwer Law

independent service providers fundamentally remain an issue in any market economy. In fact, internet platforms are vehicles for organised pricing and incline towards natural monopolies, which makes their economic legitimacy intrinsically shaky. The future of labour law is thus linked to the future of market law, which is also experiencing new border issues and where the role of unions and bargaining is mutating.

Ultimately Work 4.0 will oblige us to redefine the right to consultation and negotiation. Rather than engaging in obstruction and opposition, unions could take the lead in a positive way. If the career becomes the leitmotif, unions could develop career services that surpass the employment status. If people are to navigate between jobs and statutes, unions could pool and coordinate social protection on their behalf, as they did before the advent of the welfare state. If employees are to become their own boss in the future, unions could offer protection via cooperatives in which people can unite for insurance coverage.⁶² If Work 4.0 merges man and machine, unions could strive to make the merger both productive and qualitative: an agenda for human and inclusive robotization.⁶³ If platforms allow people to work directly for companies and consumers, unions could strive for autoregulation and certificates that label platforms on the basis of working conditions, creating awareness amongst customers and potential workers.

Collective bargaining could consequently mirror itself positively on the new key tasks of labour law: career management, quality assurance, talent development, and individual rights. The current evolution towards decentralised bargaining focused on the company level, developing in many European countries, is a step in that direction. The difference between employees and the self-employed will also blur or disappear for the social partners. We will have to choose: expand bargaining on working conditions as part of a 'law on persons' orientation beyond employment status, transform it into economic consultation, or erode it into a tool of permanent resistance against the changes of Work 4.0.

5. The future as a choice

Societies, organisations, companies and individuals are consequently not passive onlookers subjected to the impact of Work 4.0, but proactive players who will make it a success or a failure through choice. The investment decisions made by countries and companies, the regulations on safety, privacy and the interaction between man and machine, the integration of technology into HR and the organisation of work, our priorities and decisions as citizens and consumers: they are all in our hands. Our individual and collective choices will determine the future of work and of labour law.

Instead of worrying about the threat that robots and AI might pose to humans, we should ask ourselves how we can use robots and AI to help people improve their lives and careers. Instead of obsessively agonizing about which jobs are doomed to disappear, we should investigate how we can work differently and better by taking advantage of technology. The disruptive megatrends behind Work 4.0 are an opportunity and a task for everyone to respond to the following question, both strategically and for the long term: what kind of future of work do we want to choose?

The most fundamental choice relates to the *role of work in the economy and in society*. This paper started with an identification of the trends transforming the world of work. That transformation

International, 2003; H. Johnston and C. Land-Kazlauskas, *Organizing On-Demand: Representation, Voice, and Collective Bargaining in the Gig Economy*.

⁶² France is already familiar with the 'coopérative d'activité et d'emploi' ('business and employment cooperative'): see Act No. 2014-856 dated 31 July 2014; J.-Y. Kerbourc'h et E. Prouet, *Les tiers dans la relation de travail: entre fragmentation et sécurisation* (Third parties in the employment relationship: between fragmentation and security), France Stratégie, Note d'analyse N° 65, 2018.

⁶³ C. Degryse, *Shaping the world of work in the digital economy*, ETUI Foresight Brief, 2017.

poses questions only because the economy, social security and personal wellbeing are all based on paid work. The historic compromise between capitalism and socialism has created welfare states that are quite literally addicted to economic growth and its derivative, paid work.

It is only because productive economic labour is the basis of prosperity and wellbeing that our analysis is required. A revolutionary alternative for the future of work and labour law would consequently be to cut the umbilical cord between the economy, personal income and social protection on the one hand and work on the other hand. That is essentially what the utopian agenda of a universal basic income stands for. I have rejected it as dystopian elsewhere⁶⁴, but I share its underlying concern about the role of work in our modern societies and welfare states.

If rights to healthcare, training, education, support, activation, etc. are only acquired through regular employment, Work 4.0 represents a large-scale threat to economic activity, prosperity and wellbeing. Hence my plea for general, personalised and transferable activation, career and talent rights that bridge all peripeteia of work and life. The personalisation of labour rights is an instrument for social inclusion in times of economic turbulence.⁶⁵ I follow and extend this insight to predict that labour protection will move beyond labour. It will be incorporated in, and combined with, a transversal policy focus on personal talent development for, and throughout, a career.

In essence the *social contract regarding the role of work and employment in our society* needs to evolve. More job variation and job change means that social policy serves not only those without a job but also those with a job. The traditional welfare state, which fills in the gaps after and between jobs, must evolve into an investment state, which offers ongoing, anticipatory and preventive protection. Hence the catchphrases of career law and talent law.

Labour law faces the choice to accompany or to obstruct Work 4.0. The way in which countries, regions, social partners and businesses deal with labour regulation and labour organisation will be a significant factor for success or failure under Work 4.0. The way in which the future role of unions and bargaining is, or is not, institutionally vested will be a critical factor for the adjustment of Work 4.0 to social requirements and wishes. Making a choice about the future of work also implies making a choice about the future of social consultation and collective bargaining.⁶⁶ Labour law which embraces Work 4.0 will transform itself through *personalisation*. The focus will be on the individual who will work more directly as economic agent than by putting his or her labour force at the disposal of an organisation. Labour did not use to be a commodity, but will become one when Work 4.0 evaporates and varies the intermediate links of human cooperation and organisation.

We must fall prisoner to reductionism. Work 4.0 is much more than just a work issue. The future of work is tied to so much more than the regulation and organisation of labour. As a society we will have to adopt a more holistic approach to technological transformation: in the economy, in the environment, in politics and ethics, from a cultural, social and legal point of view. We will have to learn to consider and manage work and careers as a continuum throughout all phases of our lives.

We should also not generalise. There will not be a total revolution affecting everything and everyone at the same time. Regional differences will become more important because societies in general are subject to urbanisation and because cities are the particle accelerators of innovation.⁶⁷ Economic sectors, subgroups, jobs and professions will disappear, shrink, grow, upgrade, fragment, digitalise and/or internationalise. New fault lines will ensue. It is highly likely that the reality of Work 4.0 will

⁶⁴ See M. De Vos and S. Ghiotto, *L'allocation universelle entre rêve et réalité*.

⁶⁵ See and comp., e.g., A. Supiot et al., *Beyond Employment. Changes in work and the future of labour law in Europe*, Oxford University Press, 2001.

⁶⁶ See ILO, *The Future of Work we want*, 22 et seq.

⁶⁷ See, e.g., Shift: The Commission on Work, Workers, and Technology, *Report of Findings*, 2017.

be dominated by specific problems that demand specific solutions: the future of transport, the role of banks, technology in the care sector, the position of the elderly, the careers of unskilled workers.⁶⁸

The potential of advanced robots, for example, is closely linked to the nature of the business activity and to labour cost, not to mention companies' investment power, strategy and organisation. That is why the anticipated robotisation will mainly occur in specific industrial sectors and in specific production countries.⁶⁹ In these cases robots represent an improvement in productivity within an economic ecosystem that is already heavily robotised: not so much disruption, but rather the continuation of a familiar trend, with known but more acute requirements for talent development and career support for certain groups and in certain regions.

I expect the choices affecting so-called 'older' workers in the labour market to change fundamentally. Work 4.0 crosses a peaking and ageing working population with technological innovation. The *future of work* will, to an important extent, be older. The older population will be much in demand. The burden of 'working longer' because you have to, will become the pleasure of working longer because you can and because you are wanted. Technology, which currently often ignores older people, will have to mobilise them, with work tailored to individual requirements, roving careers, roles that evolve and a combination of activity and retirement.

Work 4.0 also, and possibly primarily, represents a psychological switch. The archetypal idea of 'a job', being a functional role within an organisation, with a set of responsibilities, functional competencies, a title, a rank and a career path, is disappearing. It will be replaced by tasks, projects, targets, teams and results, which offers more variation, choice and options. But this won't happen by itself. Working on a human scale makes work both easier and more difficult. We will have greater control over work, but also more responsibility as a result. There is no alternative to performance.

In order to be successful, we will have to learn to organise and manage ourselves, without the comfort blanket of a supporting organisation and professional community. This demands both practical and mental discipline.⁷⁰ The wandering 'gig worker' is a versatile 'gig self manager'. This requires a learning process that will be vital for the quality of work under Work 4.0. Talent development and personal wellbeing are mutually supportive. In theory, Work 4.0 can make the world of work more accessible, inclusive, varied, productive and emancipated, with greater quality and freedom as a result. Whether theory will become reality, will depend on choice.

⁶⁸ In that sense, for example, PwC, *Will robots really steal our jobs?*, 2018.

⁶⁹ See The Boston Consulting Group, *The Robotics Revolution*, 2015.

⁷⁰ See G. Petriglieri et al., 'Agony and Ecstasy in the Gig Economy: Cultivating Holding Environments for Precarious and Personalized Work Identities', *Administrative Science Quarterly*, 2018.