



MINUTES

Meeting of the European Group on Ethics in Science and New Technologies (EGE)

Brussels, 4-5 July 2017

Present: Prof. Emmanuel Agius, Dr. Anne Cambon-Thomsen, Prof. Ana Sofia Carvalho, Prof. Eugenijus Gefenas, Prof. Julian Kinderlerer, Prof. Andreas Kurtz, Prof. Jonathan Montgomery, Prof. Herman Nys, Dr. Siobhán O'Sullivan, Prof. Laura Palazzani, Prof. Barbara Prainsack, Prof. Carlos Maria Romeo Casabona, Prof. Nils-Eric Sahlin, Prof. Marcel Jeroen van den Hoven, Prof. Christiane Woopen

Excused: -

Commission: Jim Dratwa, Rasida El-Haouzi, Joanna Parkin

Nature of meeting: Non-public

Tuesday 4 July 2017

Morning session: (BERLAYMONT building, room Jean Rey)

Introduction and updates

Jim Dratwa welcomed the members and introduced the meeting. Christiane Woopen, Chair of the EGE, greeted the participants and then the agenda and minutes of the previous EGE meeting were approved, as were the amended Rules of Procedure. The Chair provided several updates, including: the receipt of the letter from Commissioner Moedas of 28 June 2017 requesting an Opinion on issues related to the future of work; a debriefing of her meeting with a delegation of the Scientific Advice Mechanism High Level Group (SAM HLG) and SAPEA on 13 June in Berlin; and the outcome of the meeting of 26 May with the EGE Secretariat and the Vice-Chairs. She also reported on her contacts with the ECtHR on the topic of the Future of Work Opinion.

Julian Kinderlerer informed of a change by the European Patents Office of rules on biological patents, recalling the reference to the EGE in Art. 7 of Directive 98/44/EC on biotechnological inventions. Julian Kinderlerer also informed of his participation in the MSCA 2017 Conference in Malta where he presented the EGE statement on research integrity, as well as his forthcoming participation in a DG SANCO organised conference on food and health in the autumn.

Jim Dratwa provided several updates including the calendar of EGE meetings for 2018. He indicated that the EGE meeting in Strasbourg on 26 October 2017 will be preceded on that day by a joint session with the Council of Europe's Committee on Bioethics, a historic first. He also confirmed that a small delegation of EGE members will attend the NEC Forum in Estonia in November.

Scoping of the EGE Opinion on the future of work

The Chair opened the discussion on the scoping of the Opinion, directing discussion on how to focus the topic, which issues to include and exclude. The following set of points was raised by the members:

- The need to take into account what forms of work could disappear, the projected impact on sections of the workforce and how to manage their adaptation. At the same time, the need to nuance and interrogate the dominant 'robots taking jobs' narrative.
- The need to focus on the character of work and how it is changing (including the adaptation of jobs). Examples of accountancy and radiology as prime examples of jobs that have changed significantly in the past and are continuing to do so but which show no sign of being made obsolete.



- Historical trends, including taking into account the relative novelty of the way we work now and the inevitability that this will change again.
- Can we claim for sure that there are skills and human attributes that cannot be substituted by AI/robotics (e.g. creativity, manual manipulation, emotional intelligence)? Or will AI and robotics re-frame the very notions of concepts such as creativity? Who/how will value judgements be made?
- The need for a systems perspective, taking into account the confluence of challenges (not only technological but economic (e.g. discrepancy between productivity and income, operation of financial systems), demographic, political. Recognition that no aspect of European societies will be left untouched.
- Who is made vulnerable by these changes? What new vulnerabilities are being exposed? What widening discrepancies in social justice? (including a specific reference to internal EU inequalities, mobility and brain drain.)
- Semantic distinctions between terms such as 'work' and 'labour'. Includes the relationship between these terms as well as the implicit values embedded within them.
- The focus on ethics to include how to use ethical principles to guide the creation of new models for safeguarding security while promoting innovation and positive change.
- The need to consider the existing legal framework (EU and national labour laws) in order to understand current flexibility/security debates.
- The need to interrogate proposals delinking income and work such as the Universal Basic Income, or an alternative voucher-based system.
- Trends should examine workplace monitoring and the blurring between professional and private life (genetic data and tracking; also ECtHR case *Bărbulescu v. Romania*).

The EGE members agreed on an initial, preliminary draft structure, as follows:

- **Introduction** (to be drafted at a later stage, to highlight the 'systems perspective' approach of the Opinion)
- **Concepts and definitions** (to examine what we mean by work, why work matters?)
- **Trends** (to capture shifts across a broad spectrum of areas, with specific technologies to be explored in small vignettes)
- **Ethics** (to highlight those values and principles that should be preserved and promoted, and those under pressure, potentially via the prism of the Charter of Fundamental Rights)
- **Governance** (to examine whether existing models and frameworks still stand, where are the gaps, how might they be adapted?)
- **Recommendations** (to be drafted by the group at a later stage)

Afternoon session: (BERLAYMONT building, room Jean Rey)

Expert Hearings

Christiane Woopen and Jim Dratwa welcomed the visiting experts. Johannes Klumpers, Head of unit from RTD 01 and Jeremy Bray, Deputy-head of unit from RTD 01 also joined the session as observers.

Maria Nyberg

European Commission Directorate-General for Employment, Social Affairs and Inclusion (DG EMPL),
Policy Officer in charge of Collaborative Economy, Digitisation, Future of Work, Entrepreneurship Education

Maria Nyberg began her presentation by highlighting the divergent predictions and forecasts regarding the future of work (with estimates of the proportion of jobs disappearing ranging from 47% to 9%). She nevertheless noted that technological change (digitisation, robotics etc.) will fundamentally alter the labour market and that these changes should be managed by policymakers. She focused her presentation on, first, changes in the structure of the labour market and, second, changes in labour market transitions.

As regards changes in the structure of the labour market, evidence shows a trend towards a skills polarisation, with the proportion of high skilled jobs (and to a certain extent low skilled jobs) increasing versus a hollowing out of medium skilled occupations.

The European Commission's key response is to prioritise lifelong learning (it is estimated that 90% of all jobs in the future will require some degree of digital skill). She cites a number of Commission initiatives including the



[Digital Skills and Jobs Coalition](#) flagship initiative; the [Blueprint for Sectoral Cooperation on Skills](#); the [Digital Competence Framework](#) (DigComp); and the [Entrepreneurship Competence Framework](#) (EntreComp).

As regards changes in labour market transitions, she highlighted the growth of new forms of (non-standard) employment and a rise in self-employment as key trends. Changes are driven partially by recent economic crisis and high unemployment figures, as well as new platform-driven and collaborative business models.

Non-standard forms of employment allow people to work more flexibly, although the lack of stable arrangements can translate into uncertainty, a lack of labour rights and social protection. Non-standard work tends to be lower paid and offer fewer training opportunities. She noted that careers are becoming less linear and people are increasingly combining salaried and self-employment. She also noted that the distinction between salaried employment and self-employment is becoming blurred, with the increase of so-called 'dependent self-employment' (whereby an individual provides services to just one client). This leads to the 'self-employed' individual shouldering more risk and having access to fewer of the opportunities typically associated with self-employment. Currently there is no common EU definition of self-employment.

Maria outlined a number of European Commission initiatives in this domain, including the [European Agenda for a Collaborative Economy](#) which provides guidance on how existing EU law should be applied to this sector. She also noted that the [European Pillar of Social Rights](#) aims to serve as a compass towards better working and living conditions. It includes: a reflection paper on the social dimension of Europe; principles and rights to support fair and well-functioning labour markets and welfare systems; social scoreboard; and initiatives related to work-life balance, information for workers (e.g. revision of the Written Statement Directive to also cover casual and temporary workers), access to social protection (unemployment insurance currently not available to self-employed in 10 member states), and working time.

As a response to the data gap and lack of a solid evidence base in this area, the Labour Force Survey will include as of 2022 a new module on the collaborative economy.

Sergej Koperdak

European Commission Directorate-General for Education and Culture (DG EAC), Advisor

Sergej Koperdak began with reference to deep-rooted universal principles of education focusing on self-realisation, personal growth and how to be part of a flourishing society. Education therefore should be seen as much more than preparation for work.

He located the discussion on education and the future of work within current EU policy frameworks, including the [Council conclusions on education and training in Europe 2020](#), noting that education in council documents is geared primarily towards employability.

The [2006 Recommendation on key competences for lifelong learning](#) cites 8 key competences: Communication in the mother tongue; Communication in foreign languages; Mathematical competence and basic competences in science and technology; Digital competence; Learning to learn; Social and civic competences; Sense of initiative and entrepreneurship; and Cultural awareness and expression. A [review](#) of the recommendation underway and is foreseen for adoption in the 2nd half of 2017.

The [Council Resolution on a New Skills Agenda](#) was adopted in 2016 to respond to new ways of working, the way in which automation and robotisation are affecting the types of knowledge, skills and competences and the rapid technological and structural changes in many sectors. It places a primacy on digital competence and transversal skills as necessary to overcome skills gaps and mismatches and to enable people to perform and adapt to future jobs and societal changes.

Sergej then turned to the question of Artificial Intelligence in education. He highlighted the advantages brought by AI in education (e.g. in tailoring teaching, in catering for special needs students and fostering cross-border collaboration) as well as the emerging ethical dilemmas. In particular, he raised question marks over whether AI can teach character or emotional skills development, as well as risks that subjects such as arts and humanities may come to be neglected. Human beings require more than knowledge, and education has a key role in nurturing self-understanding, a sense of higher purpose and personal identity. In this vein, he raised the question as to whether the EU Charter right to education may be interpreted to include also the right to be taught by a human.



In the discussion that followed the presentations, the following questions/points were raised:

- The impacts of ageing on the future of work (e.g. in some member states, demographic change likely to alleviate the impact of certain trends).
- The tendency within public discourse/debate to focus on those with ability/flexibility, and the relative lack of attention paid to those who cannot 'upskill' or adapt.
- Teaching and skills: what are the desirable characteristics we want to nurture and how can skills be tailored for future needs? Should the objective be to promote well-rounded, transversal skills to enable individuals to adapt to fast-changing environments ('persistence and grit')? Can attributes such as creativity be taught? Reference here to the growing area of non-formal education.
- How can we classify unpaid work? Where does unpaid work fit within this changing picture of work?
- Regarding non-standard work, which demographics are more prone to engage in non-standard forms of work (youth, women)?
- Are traditional concepts within employment law fit for new economic/business models such as the collaborative economy?
- Does the use of flexible workers favour innovation: mixed evidence, with indications that innovation benefits from longer job durations and that rigid labour markets may have higher labour productivity gains than liberalised market economies.
- Is consumer choice king or should restrictions apply, particularly where the decisions of consumers are influencing the development of new employment models? How much power is ethically advisable to give to consumers to shape labour markets?

Vivian Loonela

European Commission, member of Cabinet for Andrus Ansip, Commission Vice President for the Digital Single Market, digital economy and society

Vivian Loonela began by introducing the European Commission's Digital Single Market Strategy, including its 3 pillars of 'access' (better access for consumers and businesses to digital goods and services across Europe); 'environment' (creating the right conditions and a level playing field for digital networks and innovative services to flourish); and 'economy & society' (maximising the growth potential of the digital economy).

Turning to digitalisation and the labour market, she highlighted the benefits of digitalisation, including the reduction of red tape and costs of public administration, which in turn fosters new businesses and job creation. At the same time, it can also be linked to labour market polarisation and the move from jobs away from certain sectors and employees. Regarding the skills gap, she noted that currently 1.8 million digital jobs in the EU remain to be filled and referenced a projection by the WEF estimating that 65% of current schoolchildren will perform jobs that currently do not exist.

Regarding the role, responsibility and regulation of platforms which increasingly provide (often non-standard forms of) employment, she underlined the importance of drawing distinctions between different kinds of platforms which will bring different regulatory issues and ruled out a one-size-fits-all solution. For instance, some platforms offer a complete business model (e.g. Uber) while others act rather as a place of contact to bring people together (e.g. linking small scale vendors to customers, such as Etsy).

As a way forward, the Commission is implementing a strategy that blends building competitive markets with investment in digital and education (e.g. encouraging the teaching of coding as part of the school curriculum). She raised the question of whether large scale companies should be made responsible for re-skilling employees who lose their jobs to AI and automation.

In the discussion that followed the presentations, the following questions/points were raised:

- How to make platforms more accountable, particularly in view of the legal uncertainty regarding these entities and the fact that platforms often benefit from an exemption to liability under EU law? How to prevent large market players from exploiting platforms and encourage their management to take greater account of the public interest (public investment and ownership of platform infrastructure?)
- The regulatory framework covering platforms and non-standard work and the variance between member states (e.g. Uber more regulated in Belgium than UK).



- The rise of poorly paid, under-protected employment linked to digital platforms versus the new employment opportunities being opened up for certain groups excluded from the labour market (e.g. the disabled, women with caring responsibilities).
- Access to training for the self-employed and the potential role for greater state involvement (e.g. the European Social Fund makes no distinction based on employment status).
- Evidence gaps: the need for deeper understanding, and more granularity concerning the macro-impacts on employment (i.e. beyond high, middle, low skilled jobs). The need to examine evidence provided by social science research to fill knowledge gaps.
- The role of unpaid work and its significant economic impact.
- How do new modalities of work create new inequalities?

Planning of work

Rapporteurs were appointed to steer the drafting of the first four chapters of the Opinion, supported by small working groups:

Chapter 1. Concepts and definitions

Rapporteur: Barbara Prainsack

Working Group: Eugenijus Gefenas, Jeroen van den Hoven, Nils-Eric Sahlin, Christiane Woopen

Chapter 2. Trends

Rapporteur: Siobhan O'Sullivan

Working Group: Nils-Eric Sahlin, Christiane Woopen

Chapter 3. Ethics

Rapporteur: Laura Palazzani

Working Group: Emmanuel Agius, Ana-Sofia Carvalho, Carlos Maria Romeo Casabona, Nils-Eric Sahlin, Christiane Woopen

Chapter 4. Governance

Rapporteur: Jonathan Montgomery (appointed on 5th July)

Working Group: Carlos Maria Romeo Casabona, Herman Nys, Christiane Woopen

N.B. Membership of the working groups is not limited to the members indicated above.

It was agreed that work should begin on the draft chapters (10-15 pages) during the summer. Rapporteurs should circulate and integrate comments from working groups in their drafts. The first round of drafts would be discussed at the next EGE plenary meeting in September.

The remainder of the session was devoted to planning the expert hearings for the forthcoming months. The preliminary chapter outline as well as identified knowledge gaps were used to guide the choice of experts to invite to future hearings. A number of prominent experts were suggested to cover areas including the history of work, labour economics, political philosophy, ethics, the sociology of work, as well as ensure representation from the courts, civil society, NGOs, trade unions and industry.

Wednesday 5 July 2017

Morning session: (BERLAYMONT building, room Jean Rey)

The session began with a discussion concerning confidentiality. It was underscored that the draft Opinion must be confidential. Written inputs of experts could be taken into consideration and short paragraphs of the Opinion (e.g. definitions, historical overviews and elements of a descriptive/factual nature) might be shared with experts for verification purposes.



Statement on Artificial Intelligence and Robotics

Jeroen van den Hoeven suggested to focus the statement on notions of control (in particular 'meaningful human control') as applied to systems such as lethal autonomous weapons or autonomous vehicles. The statement would broach the question of where does human control - and by extension responsibility and accountability - reside. The statement should aim to bring coherence to this question as it relates to disparate systems by applying a coherent ethical and legal framework.

During the discussion that followed, the following points were highlighted:

- Terminology questions, i.e. definitions of 'autonomy', 'learning' and 'knowing' and their questionable attribution to machines
- Decision-making and machines: who provides the information and values at stake and what are the rules by which a decision is taken?
- 'Causation': the complexity of understanding a causal link in this context when ascertaining liability/responsibility
- Notions of shared responsibility and complementarity as a means of disentangling accountability in human-machine interaction
- Healthcare as a domain where AI and questions of control and responsibility present similar dilemmas
- The need to make reference to key reference material on drones (e.g. EGE Opinion on Surveillance and Security, European Parliament report on the introduction of a regulatory framework on the operation of drones)
- Whether human rights require re-consideration/supplementing in the age of robotics

It was agreed that this document should take the form of a statement (i.e. between 2-10 pages) and that it should feed and complement the Opinion. Jeroen van den Hoeven volunteered to prepare a new draft statement on the basis of the discussions and to share it with the EGE members in advance of the September EGE plenary meeting.

Exchange with Robert-Jan Smits, Director General of DG Research and Innovation

The Chair welcomed Robert-Jan Smits and provided a brief update on the progress of the meeting. Robert-Jan Smits reported on current reflections surrounding the future of EU science and innovation policy, namely the recently launched Lamy report and in particular its central message of bringing science closer to citizens. He emphasised that the EGE's work was key to this endeavour. He noted that the request for an Opinion on the topic of the future of work is a reflection of the fact that science and technology questions now penetrate every aspect of society.

The subsequent discussion with the EGE focused on issues of trust in science, academic freedom, citizen participation (and its roles, values and misuses), and the channelling of discontent stemming from social injustices towards technologies of the future.

Afternoon session: (BERLAYMONT building, room Jean Rey)

Scoping of the Opinion on the future of work

Discussions continued on the preliminary outline of the Opinion and the key issues to be addressed, including:

- Justice as a core ethical problem within the Opinion (and its different dimensions, including intergenerational, international, etc.)
- Unpaid work: how it affects people's (non) participation in the labour market. The need to track where the boundaries of paid and unpaid work are changing; is there a displacement problem? i.e. are once-paid jobs being filled by voluntary workers (also links to the issue of unpaid internships). Should this be seen as part of a wider trend of decoupling work and income?
- Decoupling as a notion underpinning several trends: decoupling work from time, space, income, employer etc.
- The notion of active citizenship as a potential alternative to the concept of work.



- Quality of life and work life balance: are millennials more willing to trade job security for quality of life and how should social protection systems adapt to this new flexibility?
- Whose flexibility, for whose benefit? E.g. flexibility in the way we work gives access for groups that did not have it before, but is this traded with a general lowering of protections?

EGE and SAM collaboration

The meeting concluded with a brief discussion on collaboration between the Scientific Advice Mechanism and the EGE (e.g. structured or more informal forms of collaboration, how to enhance complementarities while safeguarding integrity of the two groups, synchronising of topic choices etc.)

15H30 End of the meeting

Action Points

- EGE Secretariat to circulate the calendar of meetings for 2018. (*circulated 6 July*)
 - EGE Secretariat to request password protected online access to working papers and documents.
 - All members to send all of their media contributions referring to EGE to the Secretariat for circulation.
 - EGE Chair to follow-up with SAPEA and SAM HLG on matters of EGE-SAM collaboration.
 - Opinion Rapporteurs to produce preliminary draft chapters (10-15 pages) during the summer and to circulate and integrate comments from the working groups. The first round of drafts to be shared with all EGE members in advance of the plenary meeting on 20 - 21 September.
 - Jeroen van den Hoeven to prepare a new draft statement on AI and robotics; draft to be shared with the EGE members in advance of the plenary meeting on 20 - 21 September.
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