AI ROUNDTABLES

Joint meeting – *AI & regulators roundtables and EMIL*

FOCUS on ALGORITHM LITERACY

Summary

5 May 2023, 10.00-12.00 CET

Recording of the session

Exploring the interplay between Media Literacy and Artificial Intelligence

Artificial Intelligence tools - especially since the emergence of generative AI tools such as ChatGPT or DALL-E - currently take centre stage, raising questions with regards to privacy or copyright but also with regards to the skills needed to use AI-generated media content. Indeed, such tools have the potential to change information we see online in both positive and disruptive ways, allowing people to generate creative content more easily, however they also can be used to create convincing yet false texts and images.

This session focuses **on algorithm literacy**, and, more specifically, on the **explainability of algorithms**, explored from the complementary point of view of media literacy practitioners, artificial intelligence experts and from the media.

The aims of this first joint meeting between the EPRA Taskforce on Media and Information Literacy (EMIL) and the EPRA Roundtables on AI and Regulators are to:

- *raise awareness on the interplay between MIL and AI and algorithms*
- *emphasise that algorithmic literacy is crucial to ensure that the regulatory provisions on transparency of algorithms can be effective*
- *highlight the importance for media regulators to be actively involved in both spaces*.

I. Algorithm literacy from a media literacy practitioners' perspective

Presentation by *Divina Frau-Meigs*, from Savoir*Devenir:

"The new frontiers of MIL: algo-literacy through the Crossover project"
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The CrossOver project: an experimental project, first with the EUDisinfoLab association, then with the Dutch-language media outlet Apache, the French media and information literacy association Savoir Devenir and the Finnish start-up Check First.

- **Starting point**: discussion with developers, fact-checkers, journalists, practitioners, teachers and librarians.

- **Step 1**: Analysis of the current state of algo-literacy in Europe:
  - A lack of understanding and training of MIL practitioners, algorithms being seen as a "black box" (*see for instance a summary of teachers' views by Jordan Hill, OECD*[1])
  - Journalists focus more on data journalism (this is changing now)
  - Competency frameworks (e.g. DIGICOMP) mostly around data literacy & lack focus
  - No concrete tools
  - Too strong focus on "black box" (a *myth fed by the industry*) and transparency issues.

  → **There is a need to debunk the myths**

What is algo-literacy? The various definitions of algo-literacy refer to a set of capabilities (*awareness of algorithms, learning how to cope with, acting to adjust predefined settings*…) that is common with the current media literacy competencies set.

→ **There is no need to start from scratch with a new literacy, just to adjust the skills set**

- **Step 2:** Understanding the online environment from the user's perspective (methodology): For more detail: https://crossover.social/methodology/[2]

- **Step 3:** Outputs

  - The dashboard: https://dashboard.crossover.social/[3]

The use of the dashboard for online investigation by journalists and their feedback helped build the other outputs:

  - A series of podcasts: *"The keyboard fighters"; "algorithms and propaganda: Dangerous Liaisons"; "How algorithms changed my job"* and *"Algorithm watchers"*.

[1] https://www.oecd.org/publications/policy-responses-to-false-and-misleading-digital-content-1104143e-en.htm
See also: https://media-and-learning.eu/type/featured-articles/unpacking-algorithm-literacy/

[2] *In a nutshell:* the CrossOver project monitors content recommendation algorithms used on some of the largest social media and content platforms available to the population of Belgium. The monitoring is made via the official API but additionally, via a network of home computers spread out across Belgium to see what people get on their screens.

[3] The dashboard presents the results of the monitoring and measures, in real time, the influence of recommendation algorithms on social media and search engines.

- Interactive quizzes: *"The keyboard fighters"; "algorithms and propaganda: Dangerous Liaisons"; "How algorithms changed my job as a journalist" and "Algorithm watchers".*

- Workshop plans for teachers:

Modules that gather the podcasts, their transcription in French, English and Flemish, the quizzes and the related articles, and provide interpretations and questions for debate. (*NB: the challenge was to transcribe the material in several languages and cultures*).

- Pre-bunking kit: including the dashboard, articles for investigation, the podcasts, quizzes and the workshop plans for teachers.

- Synthesis of findings expressed as MIL guiding principles: 10 key points of algo-literacy.

The 10 key points were decided based on the workshop and exchanges with teachers.

- **Next steps:** wider tests of the material and produce a theory of change.

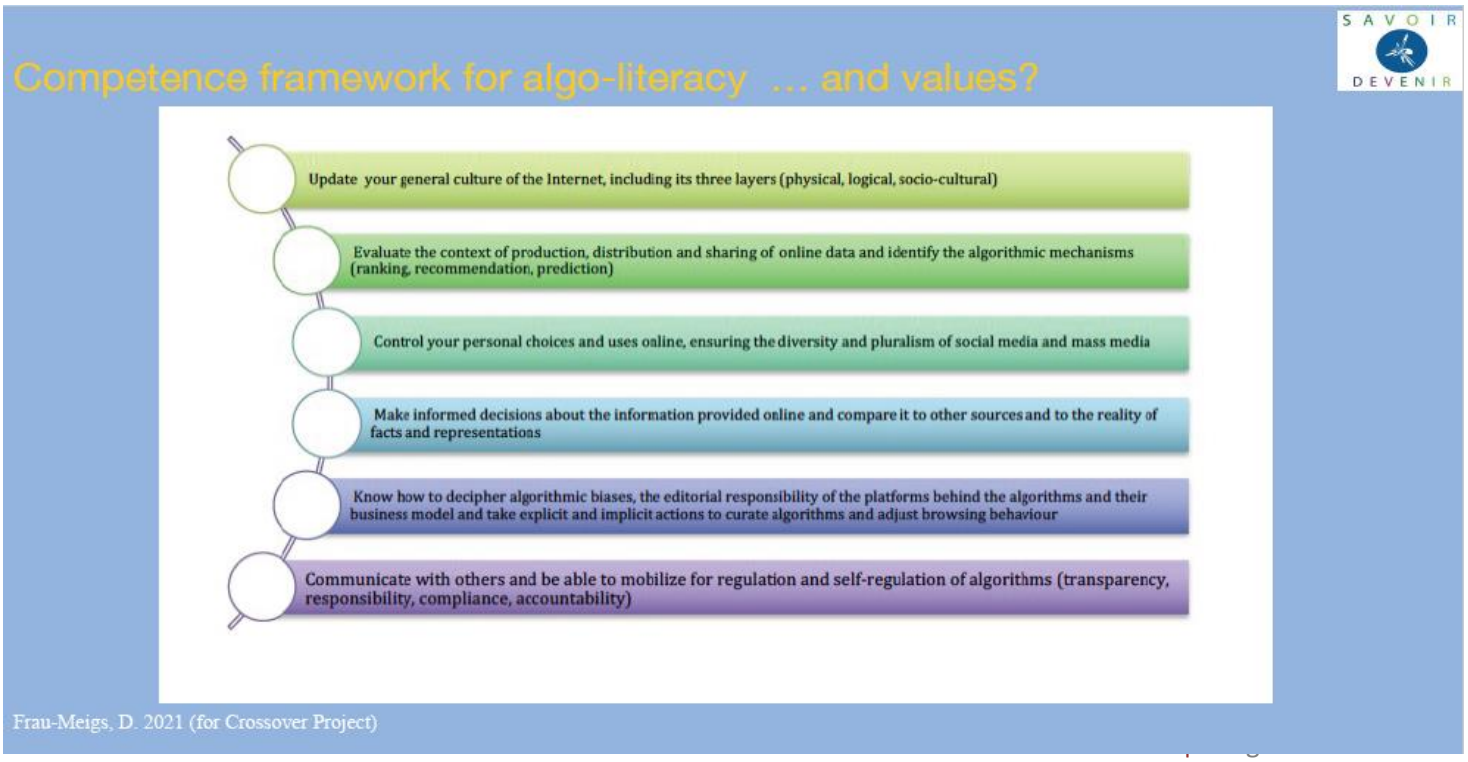
Algo-literacy can **help build resilience** (*individual protection*) but **cannot collectively build resistance** (*hence the call to policy makers*). There is a need to pull back and to think about it collectively.

Conclusions:

Algo-literacy forms **an integral part of MIL** which requires:

- a user-based approach;
- an adapted framework for competencies;
- easy-to-use examples and sensible practices.

Need to push for **more transparency on the use of algorithms** to debunk the "black box" myth.



II. Algorithm literacy from an Artificial Intelligence experts' perspective

Presentation by *Ansgar Koene*, EY Global AI Ethics and Regulatory Leader

"An AI perspective"
@: ansgar.koene1@be.ey.com

- ***What is AI?*** A blend of technologies emulating human cognitive functions.

- ***What does AI generate?*** Four types of outputs:

Prediction of numbers – categorisation – grouping – detection.

- ***Why is explainability of AI important?***

Explainability is especially important for a system where the outcomes are not processed in a way a human would do as it makes it more difficult to identify and imagine the potential vulnerabilities.

Understanding of a system is necessary in order to:

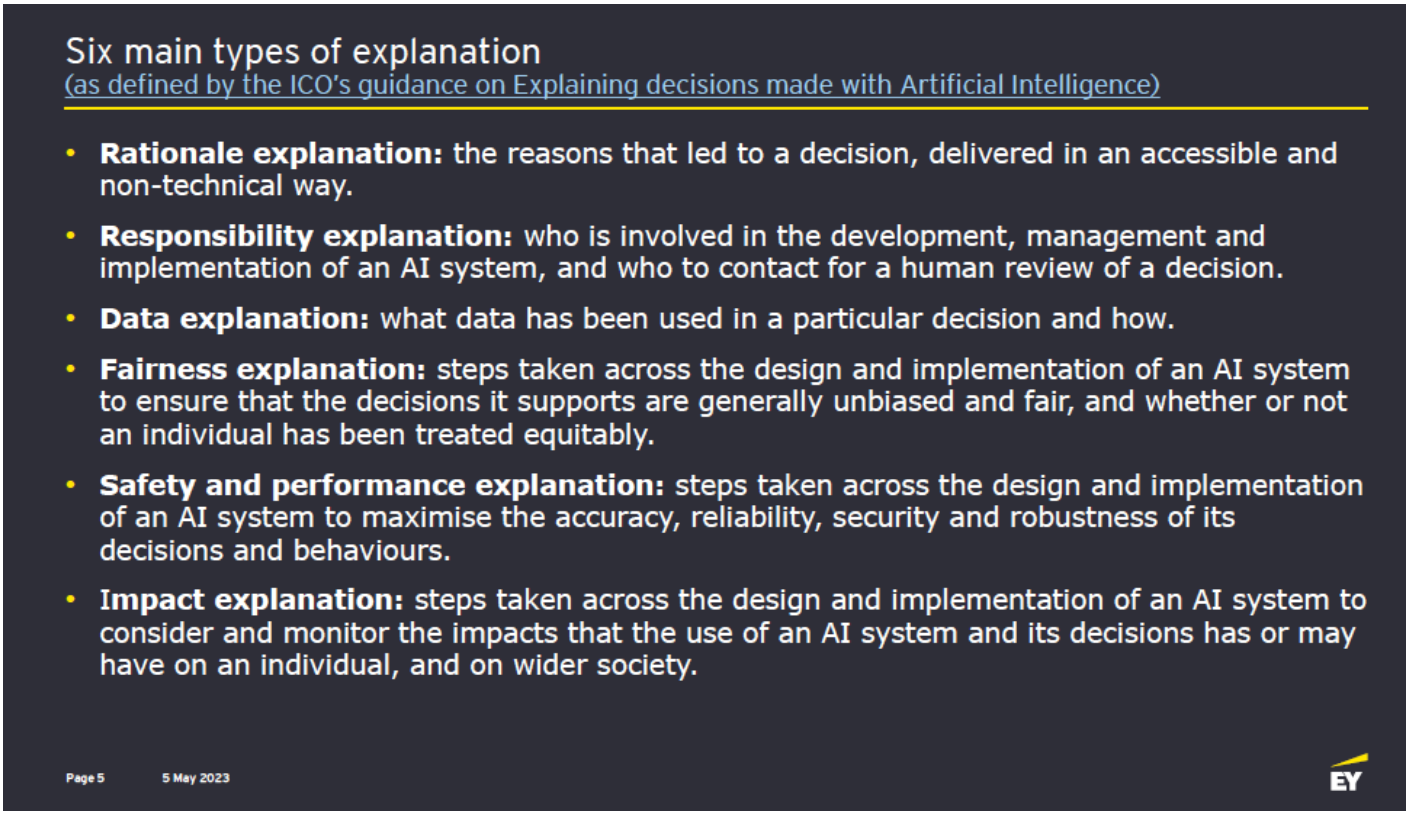
- assess the reliability of the tool;
- challenge the validity of the outcomes;
- assess the lawfulness of the processing;
- have a critical attitude towards outcomes produced by AI;
- anticipate usage limitations of the tool.

- ***Why is AI explainability challenging?***

- business model and strategy of confidentiality at the origin of the "black box" myth;
- complexity of the model size and number of parameters (e.g. Google search algorithm);
- complexity of the tasks done by AI;
- machine learning models are not programmed but inferred from a large amount of data;
- the learning process often involves stochastic steps (*outputs keep changing so it is difficult to make input/output tests, there is uncertainty or randomness involved in the outcomes*);
- a minority of AI systems are used in a continuously learning mode.

- ***What are the different types of AI explainability?***

It is important to understand that there are **different types of AI explainability** depending on the purpose and the audience/players concerned. This can be illustrated by the Information Commissioner's Office's (ICO-UK) Guidance on Explaining decisions made with AI (see next slide).



Conclusions:

- AI explainability can only be achieved by focusing on the **specific aspects** that need to and should be explained.

- There is a clear need to use and push for **better, i.e. more appropriate, language** in the way these systems are described and advertised (*it is very important to refrain from the tendency to use inaccurate anthropomorphic words to describe AI).*

- The description of AI systems should also **clarify the limitations of such systems to demystify AI** while the responsibility to explain it should rely on all actors of the chain (including the ones creating the tool).

III. Algorithm literacy from the legal and media perspective

Presentation by *Max Van Drunen*, University of Amsterdam, AI Media and Democracy Lab
"A media perspective"
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- ***How is AI used by journalists and what is the impact on editorial standards?***

- Gathering and sifting information (*ex: Panama papers*)

- Spotting interesting information (*ex: the AngleKindling tool*) // **Risk = missing relevant news**

- Debunking disinformation

- Creating content (AI generative tools such as ChatGPT) // **Risk = libel or disinformation**

- Distributing news (recommenders' systems) // **Risk = limiting diversity of news viewed**

Challenges raised by AI used for editorial tasks: editors and journalists cannot exercise editorial control over AI tools by themselves as they do not have the funds, resources and technical skills and thus must rely on engineers, business department or product managers.

- ***How do media access and keep control over AI?***

The degree of collaboration between the parties involved depends on the complexity of the technology implemented.

Within media companies the current trend is to **formalise the processes** to ensure that editorial values are incorporated in the processes, for instance by:

- involving editors at the beginning ("*by design*"),
- ensuring the participation of editors/journalists at senior level,
- integrating intermediaries to guide the interaction between the teams.

Transparency is key for the editors and journalists using AI systems to guarantee editorial control.

- ***How to explain AI systems to editors and journalists?***

- Providing specific explanations about a specific output (*limit: difficult to assess the overall impact*)

- Auditing and training the data (*see for instance metrics design developed by Vrijenhoek to test the impact of recommender systems on diversity*).

- By word of mouth between colleagues with expertise.

Challenges specific to the use of AI tools developed by third-parties:

- The safeguarding of editorial values depends on negotiation processes and power,
- The market dominance of third-party AI tools leaves few options for media organisations (only the biggest players like Bloomberg can afford NOT to use third-party tools),
- The current lack of knowledge on the impact of AI tools on editorial values is due to a lack of transparency (DSA may help with data access for researchers).

➢ ***How can media explain the AI systems they use to the audience?***

- Legal obligations: GDPR, AI Act and DSA[4]: disclosure of the existence of an AI system and its functioning/parameters and explanation of specific decisions.

Explanation is needed for accountability to the audience and trust.

→ *What kind of trust do we actually want the audience to have in the media?*

Research shows that:

- Transparency (*understood as fairness, accuracy, accountability*) does influence trust in media.

- Individuals claim that a wide range of explanations is important (*who is responsible for the system, how the system works and its impact, etc.*).

However, the effects of specific explanations/message recommendations on trust **seem quite limited**:

- The label "AI-generated news" does not seem to have an impact of the level of credibility perceived (*NB: studies done before ChatGPT popularity*).

- Explanations on the ways news recommenders function seem to have no impact on trust.

Conclusions:

- Understanding the impact of explainability on trust requires more legal and empirical perspectives

- Editors and journalists need to understand the processes of the AI systems they use to preserve editorial values

- Accountability (*and so transparency*) to the audience is crucial given the media's limited accountability to the State.

[4] The General Data Protection Regulation, the Artificial Intelligence Act, and the Digital Services Act

KEY MESSAGES FROM THE DISCUSSION

How to build collective resistance:

- AI systems need to be **understood** to be challenged, assessed and be held accountable.
- **Cooperation and multi-stakeholder approach** (*AI experts, fact-checkers, MIL practitioners, developers, journalists…*) are key as assessing and scrutinizing AI systems requires a lot of resources and expertise.
- The need for a **level playing field with regard to the level of transparency**: transparency helps people calibrate the level of trust put into an online platform to an appropriate level.
- The importance of **independent auditing** by regulators: users do not want to understand the system, but they **want to be able to rely on it**.
- The marketing narratives should mention the **limits of the AI tools and their preconditions** (need for right datasets, energy consumption etc.).
- Imaginaries and the "black box" narrative around AI **must be demystified** through palatable, specific and accurate language used by all AI actors. All players should also **move away from using anthropomorphic language** in relation to AI and algorithms. Machines do not "learn", they identify statistical patterns.

How to build individual resilience:

- Algo-literacy does not require that the overarching model of MIL is revised. With **an adapted MIL competencies framework and a user's-based approach**, it can help build individual resilience.
- In order to **get to grips with the complexity of algorithm explainability**, it is best to break it down in specific issues and develop a range of concrete outputs (game-based outputs work well).
- Journalists need **transparency and algo-literacy** to be able to safeguard editorial values in AI processes and to explain AI to the audience.
- Showing the **process and the methodology** used to develop algorithms can help build trust and a knowledge base and raise awareness about algorithms biases.
- The necessity to preserve a **cascade of knowledge**: educators and practitioners need to feel that they know more to speak with trust and a sense of competence (specific training is required).

Next EMIL and AI & Regulators roundtable meetings

- **EMIL**: July, 12th

- **AI & Regulators**: TBD

We welcome any suggestions (topics to addressed, updates to share…)

Additional resources shared by participants:

Research & reports:

- "**Disrupt your feed – Promoting Resilience in Teen Girls' Use of Social Media**" by the Female Lead & Dr Terri Apter: https://www.thefemalelead.com/disrupt-your-feed

- **United Kingdom** (Ofcom): publication of the Ofcom annual MIL research: https://www.ofcom.org.uk/research-and-data/media-literacy-research

National initiatives:

- Canada: Algorithm Literacy & Data Project: https://algorithmliteracy.org/ (with Unesco - raising awareness and educate kids about the presence of algorithms & how they influence digital experiences)

- **Finland**: Examples of initiatives on Digital Information Literacy: www.faktabaari.fi/dil (*Fact-checker as role model to approach information online*).

- **Ireland**: a National Counter Disinformation Strategy Working Group set up by the Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media and gathering civil society, regulators and MIL organisations and government representatives. A strategy is expected before the end of 2023. https://www.gov.ie/en/publication/04f9e-national-counter-disinformation-strategy-working-group/

- **United Kingdom**: White paper on Artificial Intelligence, March 2013: https://www.gov.uk/government/news/uk-unveils-world-leading-approach-to-innovation-in-first-artificial-intelligence-white-paper-to-turbocharge-growth

- **Media & Learning**: May Newsletter on MIL governmental initiatives in Australia and Sweden. See also the article on algorithm literacy: https://media-and-learning.eu/type/featured-articles/unpacking-algorithm-literacy/

- **The Nordic Think Tank for Tech and Democracy**: https://pub.norden.org/nord2023-004/index.html

Other relevant resources:

- **Video:** Micromega Talks episode on "*Explainable AI: from Black-Box to White-Box Algorithms*", livestreamed and recorded on July 5, 2022 (with Ansgar Koene): https://www.linkedin.com/events/explainableai-fromblack-boxtowh6950119648088489984/comments/

- **EU**: EC Ethical guidelines on the use of artificial intelligence (AI) and data in teaching and learning for educators (October 2022): https://education.ec.europa.eu/news/ethical-guidelines-on-the-use-of-artificial-intelligence-and-data-in-teaching-and-learning-for-educators

 To be followed:

- **Committee of Experts on Increasing Resilience of the Media (MSI-RES)** from the Council of Europe: "*Draft Guidelines on the use of digital tools including artificial intelligence (AI) for journalism/by journalists*" under preparation – Drafting rapporteurs: Natali Helberger (University of Amsterdam) and Richard Fletcher (Reuters Institute of the Study of Journalism). https://www.coe.int/en/web/freedom-expression/msi-res