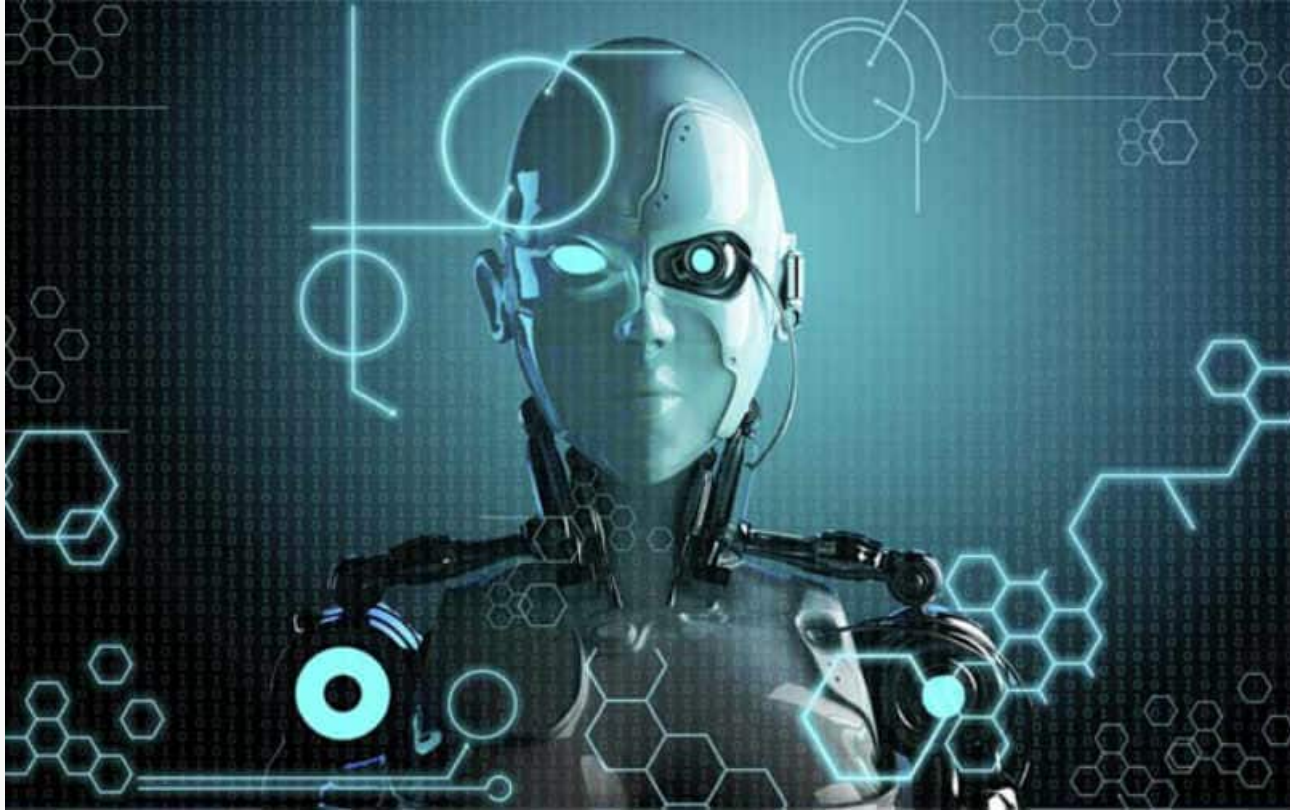# "Between Dystopia to Euphoria"

The representation and implementation of AI in journalism

Signal AI, London, 20th August, 2019

Colin Porlezza, PhD
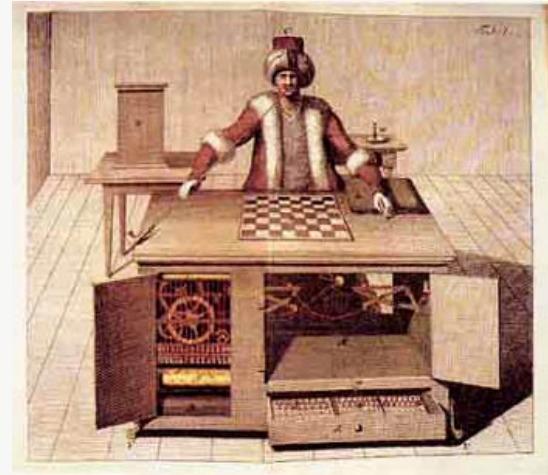Twitter: @herdingbehavior

The myth of AI

Introduction – A long history of Automation

- Automata are puppets that are not controlled by people. They are mechanically driven.
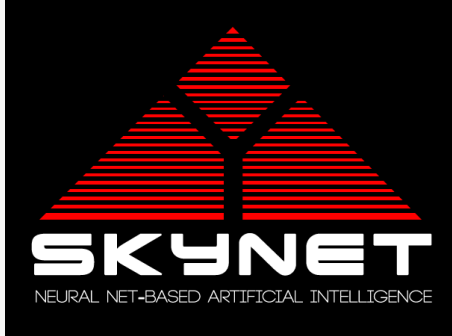

Argonautica - Talos

1770 - The Turk

Introduction: A long history of AI in the media

- Since their early history, **computers** have been presented as mechanical or electronic brains whose operations might be able to replicate and surpass human reason (Spufford & Uglow, 1996).
- Particularly in **entertainment formats**, above all in the science-fiction genre, AI has played an important role with regard to the future potentials of computing and its (dystopic) outcomes.
- **The imaginary** of AI has changed **from thinking the unthinkable** to a phenomenon that tries to **take its own place in the human social environment** (Bory & Bory, 2015).

Introduction: A brief history of AI in news media

- Journalistic reports often depict computers as "intelligent brains, smarter than people, unlimited, fast, mysterious, and **frightening**" (Martin, 1993: 122).

- The reporting is often related to **salient events**: e.g. Facebook's experiment with conversational chatbots, which was stopped albeit not entirely unexpected, was presented as a unique, troublesome discovery, depicting a dystopian future in which machines come together to take over humans, fueling a moral panic about a singularity (Natale, 2018, p. 2).

- The news focuses increasingly on AI, particularly in terms of **technological advancements** and new industry products (Scott Brennan, 2018)

Two salient moments in AI history

Deep Blue vs Gary Kasparov

AlphaGo vs Lee Sedol

New York, May 3 – 11, 1997

Seoul, March 9 – 15, 2016

Overall Goal & Research Questions

This research project explored the wider **social and cultural impact** of AI, not in terms of its material impact, but in the way it is **constructed and narrated in journalism** over time.

- RQ1: How were the two milestone events in the history of AI **framed** by selected newspapers?
- RQ2: What kind of **sources** are quoted in the coverage of the two milestone events?

Methodology – Framing Analysis

- The study operationalized the media frames by **coding individual frame elements** (Kohring & Matthes, 2002; Matthes & Kohring, 2008), not entire frames.

- **Entman's (1993) four fundamental elements** of a frame – (a) problem definition, (b) causal attribution of responsibility, (c) moral judgment of the protagonists and their actions, (d) treatment recommendations – are further operationalized through specific content analysis variables.

- The frames are subsequently identified through a **cluster analysis** of the elements

- Sample: New York Times, Washington Post, The Guardian, Neue Zürcher Zeitung, Süddeutsche Zeitung, Wired

- Two periods: 11.05.1997 – 31.12.2000 (Deep Blue) and 09.03.2016 – 30.11.2018 (AlphaGo)

- The dataset consists of 34 articles for the first case, and 71 for the second.

Operationalization

FRAME ELEMENT	CATEGORIES	SELECTED VARIABLES (FREQUENCY ≥ 5%)
PROBLEM DEFINITION	Main topic	Scientific research, human vs machine, economy, AI overview
	Main actor	Deep Blue, AlphaGo, researcher, nation, AI
CAUSAL ATTRIBUTION OF RESPONSIBILITY	Evaluation of benefits	Scientific benefit, technological benefit, economical benefit, social benefit
	Evaluation of risk	Scientific risk, social risk, risk for humanity
	Protagonist of benefit	Scientist, Organization, AI
	Protagonist of risk	AI
MORAL JUDGMENT	Evaluation of AI	Positive, neutral, negative
	Evaluation of consequences	Benefit, neutral, negative, dystopia
TREATMENT REOMMENDATION	Call for ethics	Ethical guidelines

The 4 Frames

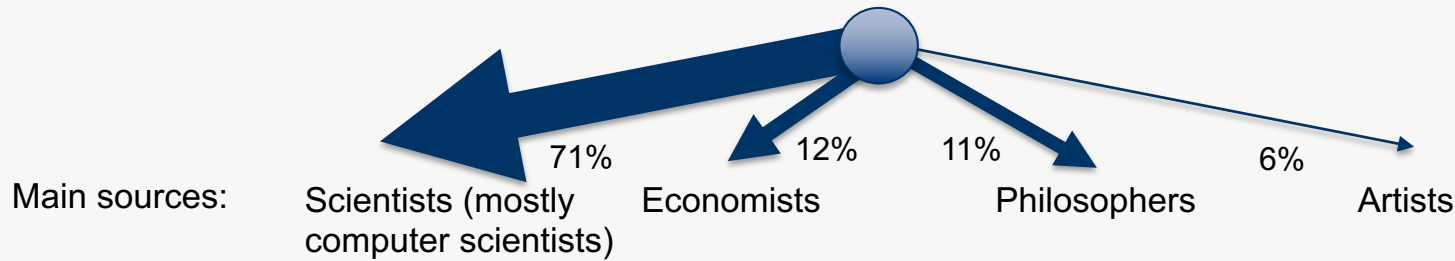| AI & Dystopia	Human vs Computer	Economic benefits	Research into AI
Overview of AI	Human vs PC	**Economy**	**Scientific research**
Deep Blue	**AlphaGo**	Nation	Researchers
Negative	**Neutral**	**Positive**	Research risk
Dystopic cons.	Neutral cons.	Economic benefit	Research benefit
AI prot risk	AI prot benefit	Consequence: benefit	**Ethical guidelines**

Distribution of AI frames in relation to the cases

	AI & Dystopia	Human vs Computer	Economy	Research into AI	Total
Deep Blue	22	1	4	7	34
	64.70%	2.90%	11.80%	20.60%	100.00%
AlphaGo	20	24	16	11	71
	28.20%	33.80%	22.50%	15.50%	100.00%
Total	42	25	20	18	105
	40.00%	23.80%	19.00%	17.10%	100.00%

Main sources: 71% Scientists (mostly computer scientists)   12% Economists   11% Philosophers   6% Artists
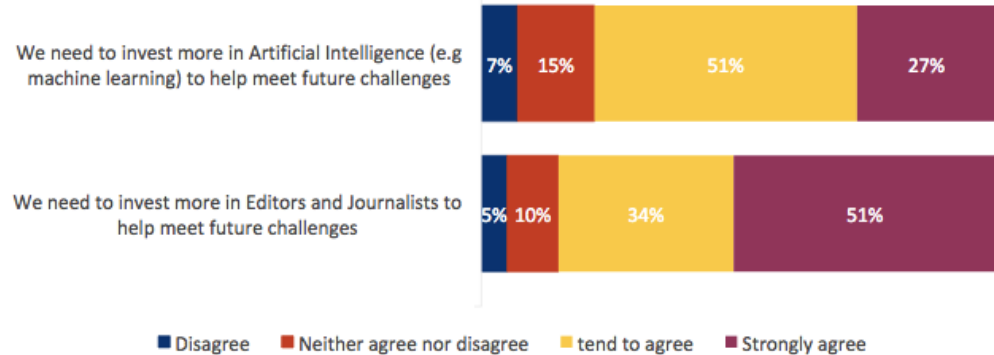
The Automation of News

Main uses of AI in newsrooms

- Data mining
- Automated content creation
- News- & Chatbots
- Story discovery and distribution
- Verification

(see Beckett 2019, Diakopoulos 2019)

Editors still matter more than machines, say editors

We need to invest more in Artificial Intelligence (e.g machine learning) to help meet future challenges: Disagree 7%, Neither agree nor disagree 15%, tend to agree 51%, Strongly agree 27%

We need to invest more in Editors and Journalists to help meet future challenges: Disagree 5%, Neither agree nor disagree 10%, tend to agree 34%, Strongly agree 51%

■ Disagree ■ Neither agree nor disagree ■ tend to agree ■ Strongly agree

Q6. To what degree do you agree with the following statements? *Digital Leaders Survey 2019, N=195*

Source: RISJ: Journalism, Media, and Technology Trends and Predictions 2019

A question of hybridity

"THE FUTURE OF COMPUTATIONAL JOURNALISM AND AUTOMATION WILL—AND SHOULD—BE A COLLABORATIVE ONE." —ALEXIS LLOYD, CREATIVE DIRECTOR OF THE NEW YORK TIMES R&D LAB

Not to forget: Algorithmic Accountability

ACING THE ALGORITHMIC BEAT, JOURNALISM'S NEXT FRONTIER

--> IN A WORLD WHERE KEY DECISIONS ARE INCREASINGLY DRIVEN BY ALGORITHMS, JOURNALISTS NEED TO TAKE A CLOSER LOOK AT HOW THEY WORK AND HOW THEY IMPACT INDIVIDUALS AND SOCIETY. HERE'S HOW THE WALL STREET JOURNAL IS APPROACHING IT.

Algorithmic accountability beat

European Parliament

A governance framework for algorithmic accountability and transparency

Policy options

I, Robot. You, Journalist. Who is the Author?

Authorship, bylines and full disclosure in automated journalism

Media accountability and transparency about the use of algorithms and AI in newswork

The DMINR Project

Journalists face many challenges in the current news ecosystem:

- Limited time and resources
- Overabundance of online information
- Lack of trusted data sources
- Potentially misleading information
- …

AI for journalism

- *Verification* is a complex process and needs lots of different sources and resources

- *Personalisation* – how do we use AI to provide diversity in the usability that goes beyond "favourites"

- *Discovery* – data sets are often very badly organized – e.g. court records in the UK – or their organization differs between databases, which makes combination and comparison difficult
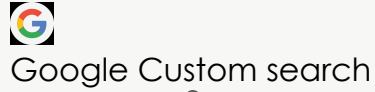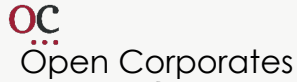
Professor Charlie Beckett, March 2nd, 2018

What is DMINR?

- DMINR is a digital tool that blends journalistic expertise with AI to help with researching and verifying stories.
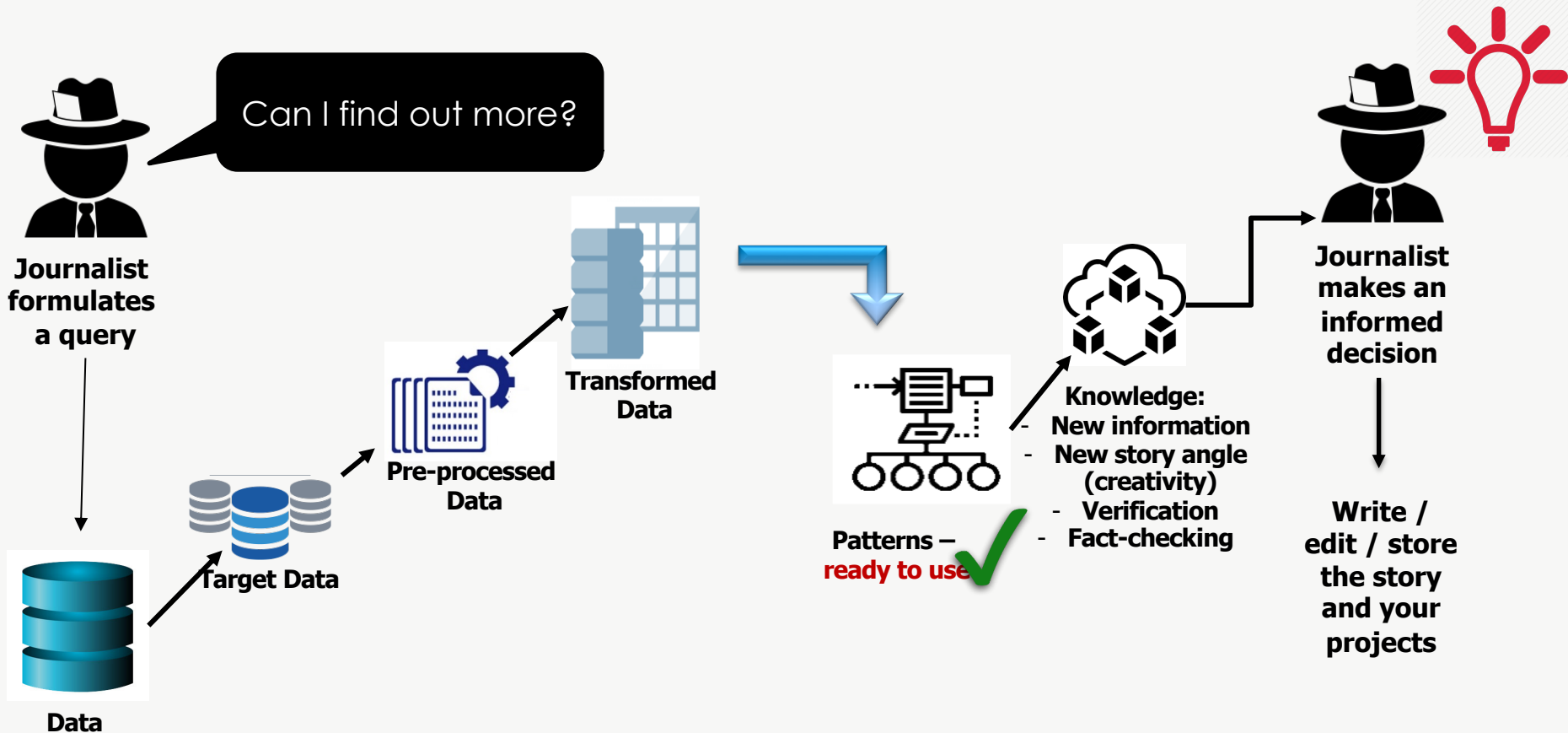
How is DMINR going to help journalists?

- It allows journalists to process and access a large amount of information faster by combining multiple data sources.

→ Journalists can access a novel blend of public and private data sources

- It creates opportunities for creativity and new insights by leveraging the data patterns suggested by AI.

→ Journalists can explore data interactively using their professional expertise.

Data Sources

Companies House

OC
Open Corporates

G
Google Custom search

D/ DNA

INJECT | FUTURE JOURNALISM, NOW.

And many others to follow…

Knowledge mining process in DMINR

"How can DMINR help journalists?"

- EXTRACT, CLEAN, AND MERGE DATA FROM HETEROGENEOUS SOURCES
- REFINE SEARCH PARAMETERS AND EXPLORE YOUR RESULTS IN AN INTERACTIVE INTERFACE
- GIVE THEM THE SPACE TO BUILD THE STORY AND KEEP TRACK OF THE INTERESTING RESULTS.
- SAVE YOUR FINDINGS FOR LATER

Our approach: tailored to the needs of journalists

Working in synergy:

→ **Multidisciplinary team**: find tech solutions for journalistic problems

→ **User studies at newsrooms**: better understanding of news research and verification

→ **Co-design workshops**: journalists as design partners

Exploring possible roles of AI tools in newsrooms:

→ Journalists to remain in control of their investigations

→ Provenance, control and instruction for transparency

Conclusion

- In the past, AI-based technology was largely framed as the first step towards the **singularity**.

- The victory of AlphaGo was framed with more nuances such as the the increasing conflict between human actors and nonhuman actants (also in relation to the social consequences). The **focus on the (social) risks diminished**.

- Sources are dominated by people working on new applications of AI, which entails the risk that AI companies mix narrative tropes, gaming and spectacle in order to promote the features and the economic success of their products – a fact already noted by Scott Brennan (2018) → in the news narrative, dystopia is no longer the biggest threat, it is rather the **uncritical look into the benefits of AI**

- AI in the newsroom: **questions of design**, **hybridity** and **accountability** - how canand will humans and non-humans co-evolve?

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