



Luxembourg EU Summer School

“Artificial Intelligence and Ethics”

The importance of a human-centric approach

Rick Serrano

Tuesday 9th July 2024
Luxembourg





THANKS FOR THE INVITATION

Alfonso de la Fuente and his team



... initial disclaimer: I totally love A.I.



Oxford Artificial Intelligence Programme





... many positive impacts of AI



1

impacts on transportation



2

impacts on health care



3

impacts on climate change

A person in a space suit is sitting on the lunar surface, using a laptop. The laptop screen displays a complex data visualization, possibly a network graph or a data matrix, with a central cluster of points and lines. The background shows the lunar surface with some equipment and a bright light source, possibly the sun or a powerful lamp, creating a high-contrast scene. The overall atmosphere is futuristic and technological.

4

impacts on space exploration

A young boy with short brown hair is sitting at a wooden desk, focused on writing in a notebook. He is wearing a light-colored, long-sleeved button-down shirt. In front of him is an open laptop. To his right, a futuristic robot with a white and black body and a transparent, wireframe-like torso stands at the desk. The robot's right hand is holding a pencil over the laptop. The background is a chalkboard with faint, glowing blue and white lines and diagrams, suggesting a classroom or educational environment. The lighting is soft and focused on the boy and the robot.

5

impacts on education



... I'm a total A.I. enthusiast !!!



So, the positive side is undeniable....

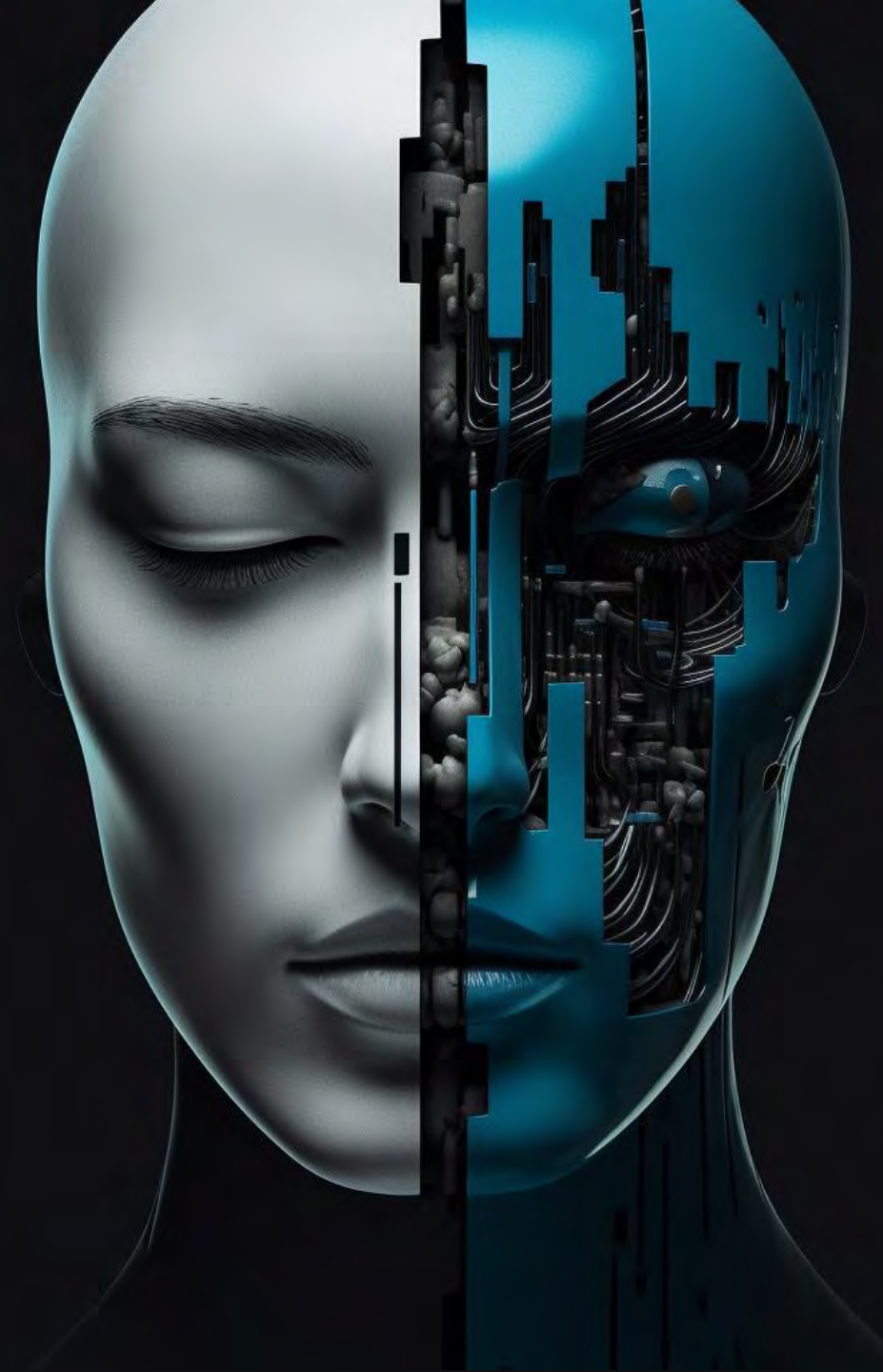


... but something worries us !!!

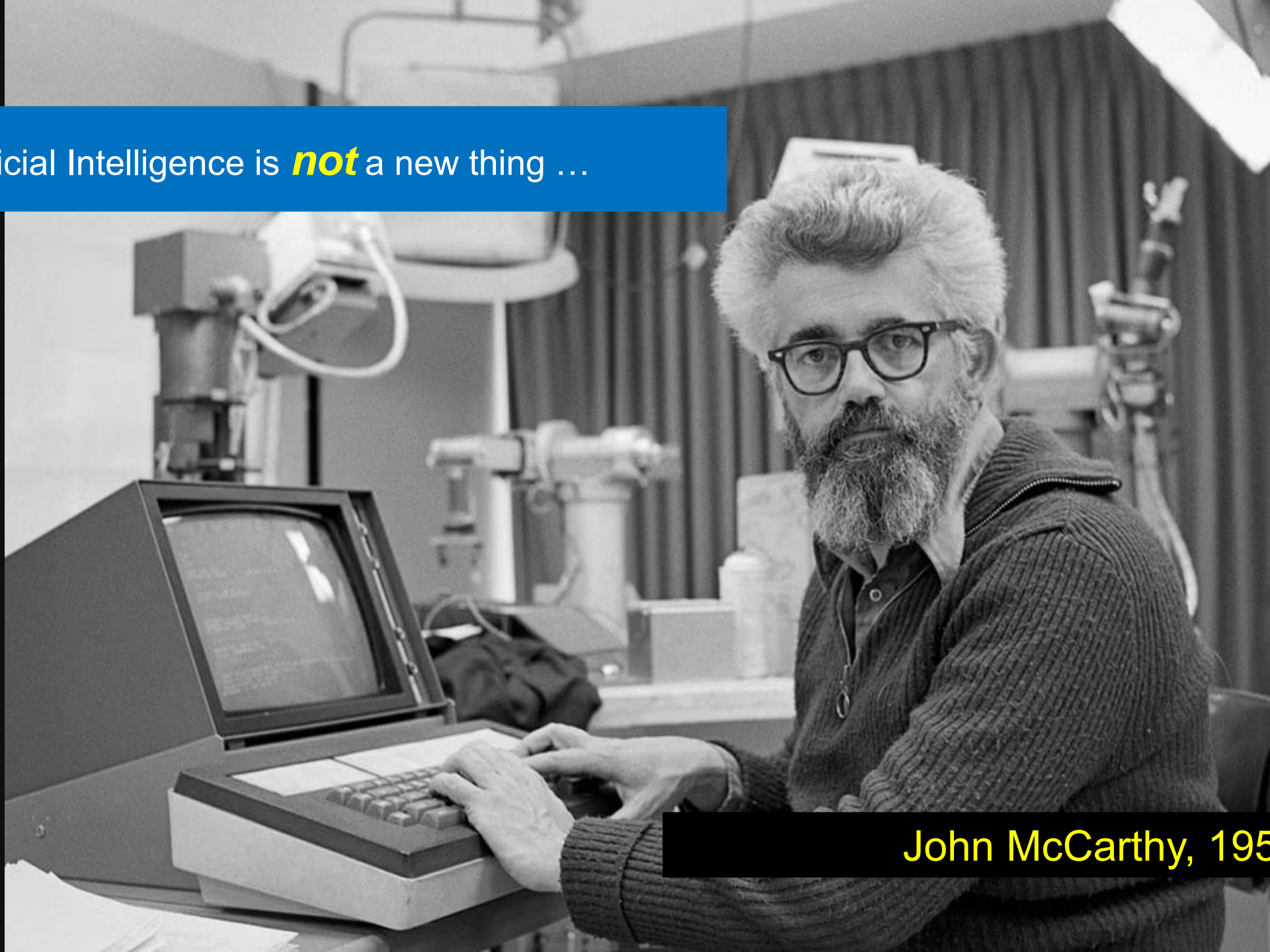


... that's why we are here today !!!

the ethical questions ...



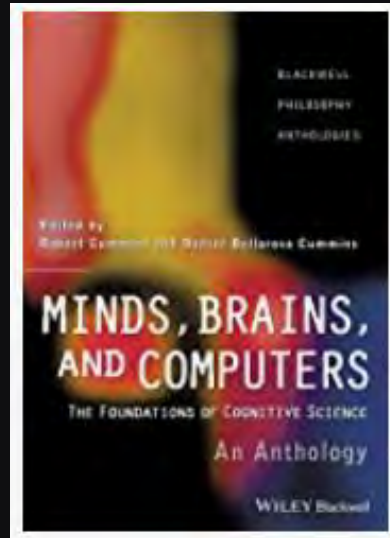
Just like Artificial Intelligence is **not** a new thing ...



John McCarthy, 1956



The ethical concerns regarding A.I. are **not** new ...



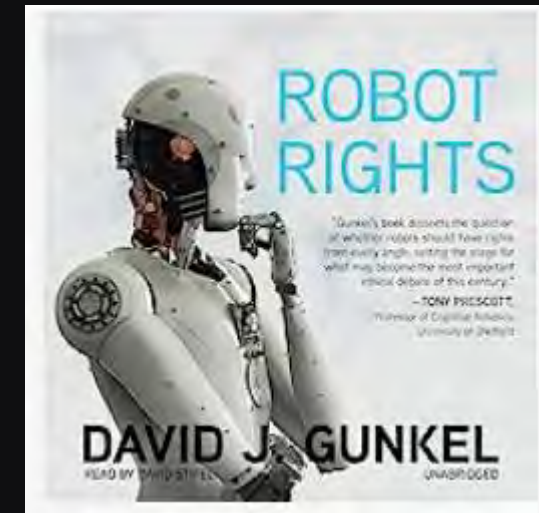
"Minds, Brains, and Computers: An Historical Introduction to the Foundations of Cognitive Science" by Robert Cummins and Georg Kreisel (1982)



"Robot Ethics: The Ethical and Social Implications of Robotics" by Patrick Lin, George A. Bekey, and Keith Abney (2011)



"The Cambridge Handbook of Artificial Intelligence" edited by Keith Frankish and William M. Ramsey (2014)



"Robot Rights" by David J. Gunkel (2018)



The ethical concerns regarding A.I. are **not** new ...



“Artificial Intelligence – Ethical Implications”
Rick Serrano (2021)



“Who decides here? Artificial Intelligence and You”
Rick Serrano (2021)

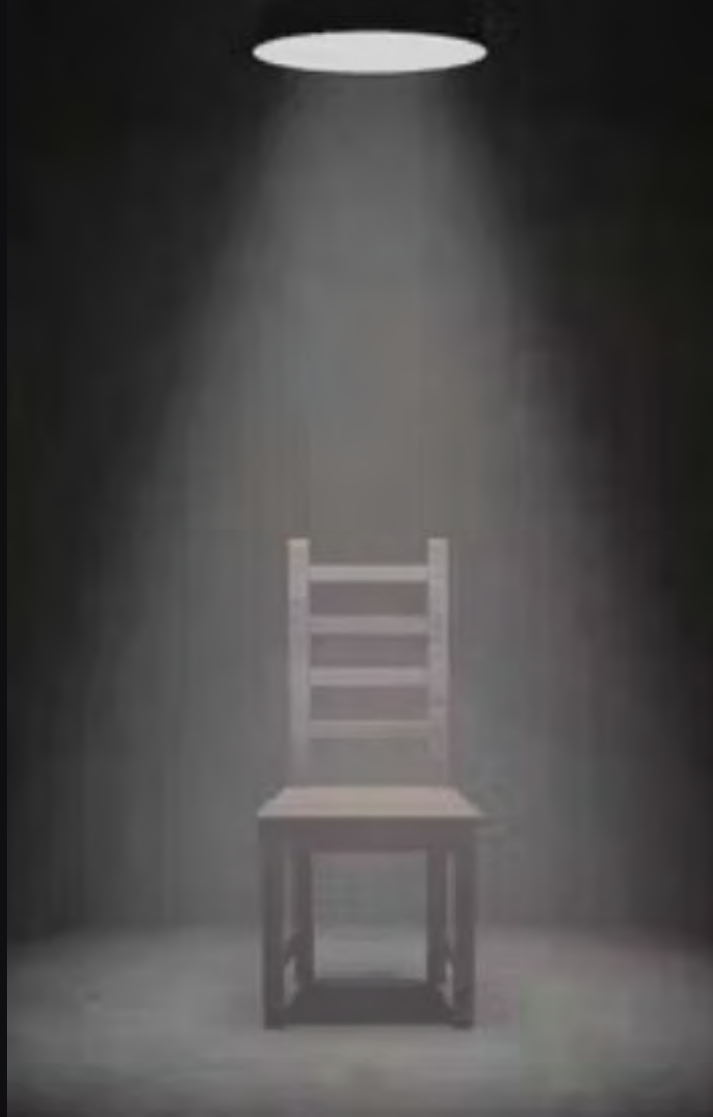


What were the major ethical concerns at that point...?



1

responsibility





... but "responsibility" has several derivatives

$\frac{a}{b} = \frac{\sin A}{\sin B}$ $\sin \alpha = 0,5$ $\int \frac{dx}{\sqrt{x^2 \pm a^2}} = \ln|x + \sqrt{x^2 \pm a^2}| + C$ $(a+b)^2 = a^2 + 2ab + b^2$ $\operatorname{tg} \alpha = \frac{\sin \alpha}{\cos \alpha}$ $(e^x)' = e^x$ $\cos 60^\circ = 0,5$

$e^{i\pi} + 1 = 0$ $\bar{A} \cdot (B + \bar{C}) =$ $y = kx + m$ $(\sin x)' = \cos x$ $(c)' = 0$

$\frac{\sin x}{x} = 1$ $f(x) = \frac{1}{\sigma\sqrt{2\pi}} \exp\left(-\frac{(x-\mu)^2}{2\sigma^2}\right)$ $U = \int x f^2(x)$ $(\ln x)' = \frac{1}{x}$ $\lim_{x \rightarrow 0} \frac{\sin x}{x} = 1$

$e^{ix} = \cos x + i \sin x$ $\int x^n dx = \frac{x^{n+1}}{n+1} + C$ $\sinh(x) = \frac{e^x - e^{-x}}{2}$ $\log_a(xy) = \log_a x + \log_a y$ $\log(ab) = \log a + \log b$ $S = 4\pi R^2$ $V = \frac{4}{3}\pi R^3$ $(e^x)' = e^x$ \sum $\pi = 3,14$ $y = |x-2|$ $\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$ $\log \frac{x}{y} = \log x - \log y$

$A_n^k = \frac{n!}{(n-k)!}$ ∞ $\sin x$ $\log(x)$ $\cos A = \cos B \cos C + \sin B \sin C \cos d$ $S = \frac{1}{2} ab \sin d$ $y = x^2$ $\cos 2\alpha = 2 \cos^2 \alpha - 1$ e^x $\cos x = \operatorname{Re}\{e^{ix}\}$ $x! = 1$ $\sum_{k=0}^{\infty} \frac{f^{(k)}(a)}{k!} (x-a)^k$

$m, a^{q(m)} \equiv 1 \pmod{m}$ $\log(ab) = \log a + \log b$ $S = 4\pi R^2$ $V = \frac{4}{3}\pi R^3$ $(e^x)' = e^x$ \sum $\pi = 3,14$ $y = |x-2|$ $\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$ $\log \frac{x}{y} = \log x - \log y$

$h = D \cdot \operatorname{tg} \alpha$ $S = \frac{1}{2} ab \sin d$ $y = x^2$ $\cos 2\alpha = 2 \cos^2 \alpha - 1$ e^x $\cos x = \operatorname{Re}\{e^{ix}\}$ $x! = 1$ $\sum_{k=0}^{\infty} \frac{f^{(k)}(a)}{k!} (x-a)^k$

$\frac{a}{b} = \frac{\sin A}{\sin B}$ $\sin \alpha = 0,5$ $\int \frac{dx}{\sqrt{x^2 \pm a^2}} = \ln|x + \sqrt{x^2 \pm a^2}| + C$ $(a+b)^2 = a^2 + 2ab + b^2$ $\operatorname{tg} \alpha = \frac{\sin \alpha}{\cos \alpha}$ $(e^x)' = e^x$ $\cos 60^\circ = 0,5$

$e^{i\pi} + 1 = 0$ $\bar{A} \cdot (B + \bar{C}) =$ $y = kx + m$ $(\sin x)' = \cos x$ $(c)' = 0$

$\frac{\sin x}{x} = 1$ $f(x) = \frac{1}{\sigma\sqrt{2\pi}} \exp\left(-\frac{(x-\mu)^2}{2\sigma^2}\right)$ $U = \int x f^2(x)$ $(\ln x)' = \frac{1}{x}$ $\lim_{x \rightarrow 0} \frac{\sin x}{x} = 1$

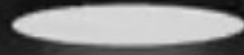
$e^{ix} = \cos x + i \sin x$ $\int x^n dx = \frac{x^{n+1}}{n+1} + C$ $\sinh(x) = \frac{e^x - e^{-x}}{2}$ $\log_a(xy) = \log_a x + \log_a y$ $\log(ab) = \log a + \log b$ $S = 4\pi R^2$ $V = \frac{4}{3}\pi R^3$ $(e^x)' = e^x$ \sum $\pi = 3,14$ $y = |x-2|$ $\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$ $\log \frac{x}{y} = \log x - \log y$

$A_n^k = \frac{n!}{(n-k)!}$ ∞ $\sin x$ $\log(x)$ $\cos A = \cos B \cos C + \sin B \sin C \cos d$ $S = \frac{1}{2} ab \sin d$ $y = x^2$ $\cos 2\alpha = 2 \cos^2 \alpha - 1$ e^x $\cos x = \operatorname{Re}\{e^{ix}\}$ $x! = 1$ $\sum_{k=0}^{\infty} \frac{f^{(k)}(a)}{k!} (x-a)^k$



1

responsibility

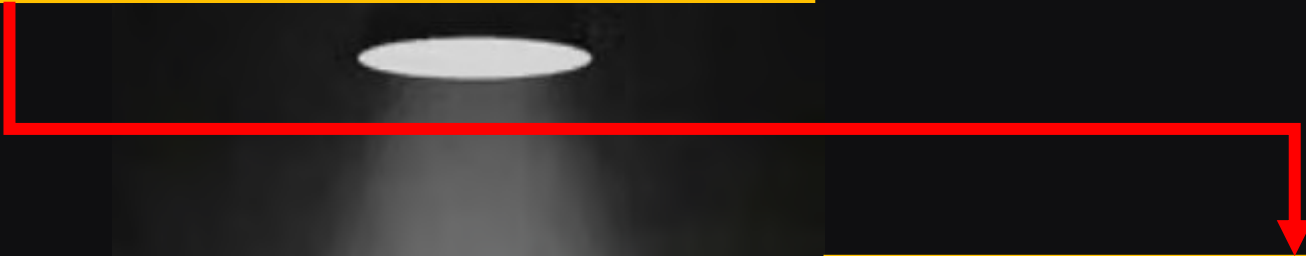
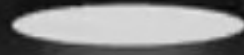


consciousness?

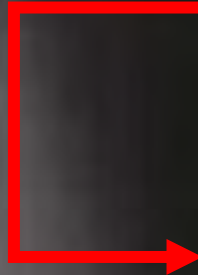


1

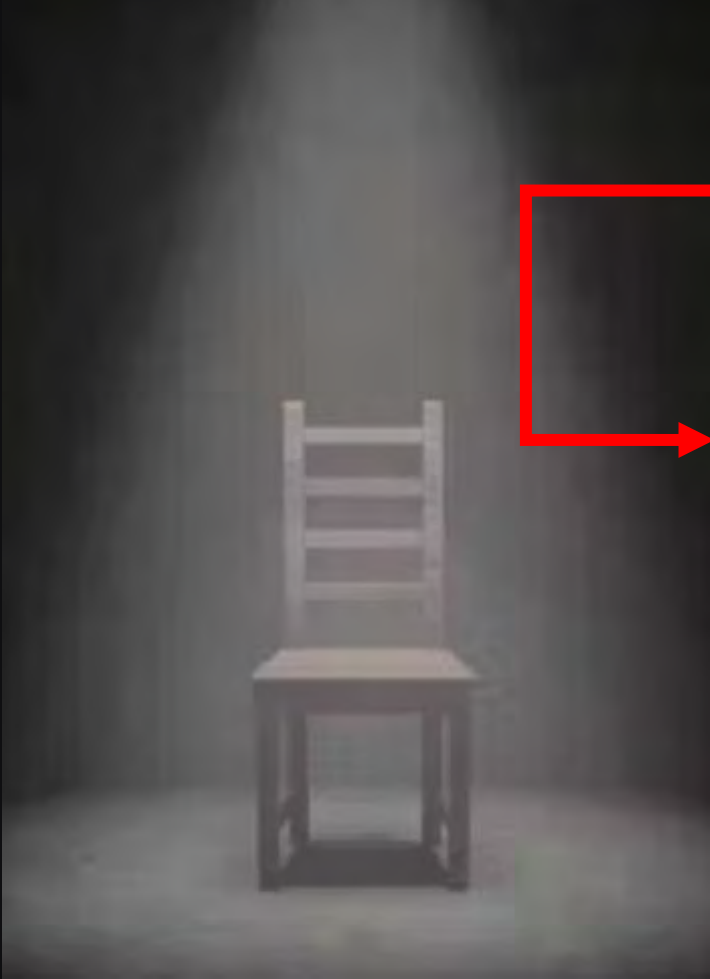
responsibility



consciousness?



who decides?





1

responsibility

consciousness?

is it only one entity?

who decides?



1

responsibility

consciousness?

who decides?

based on what?

is it only one entity?



1

responsibility

consciousness?

is it only one entity?

who decides?

based on what?

democracy, authority, expertise ?





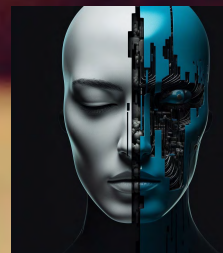
1

responsibility was an is a top issue



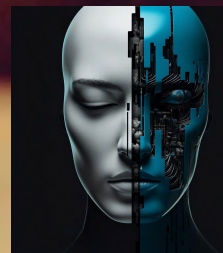
2

who inputs, what ethics, into A.I. ???



2

who inputs, what ethics, into A.I. ???



regulators?



2

who inputs, what ethics, into A.I. ???

regulators?

hi-tech companies?



2

who inputs, what ethics, into A.I. ???

regulators?

hi-tech companies?

academia?



2

who inputs, what ethics, into A.I. ???

regulators?

hi-tech companies?

academia?

think tanks?

2

who inputs, what ethics, into A.I. ???



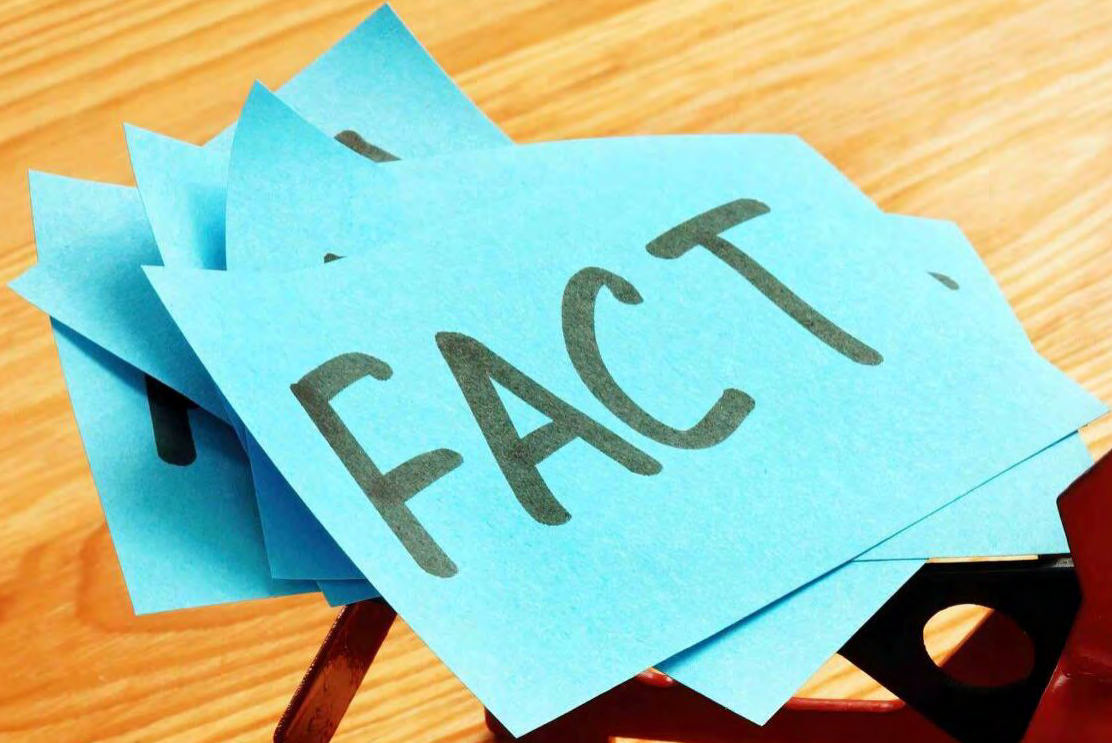
regulators?

hi-tech companies?

academia?

think tanks?

a mix of?



3

the risk of bias ...



4

the issue of transparency ...



5

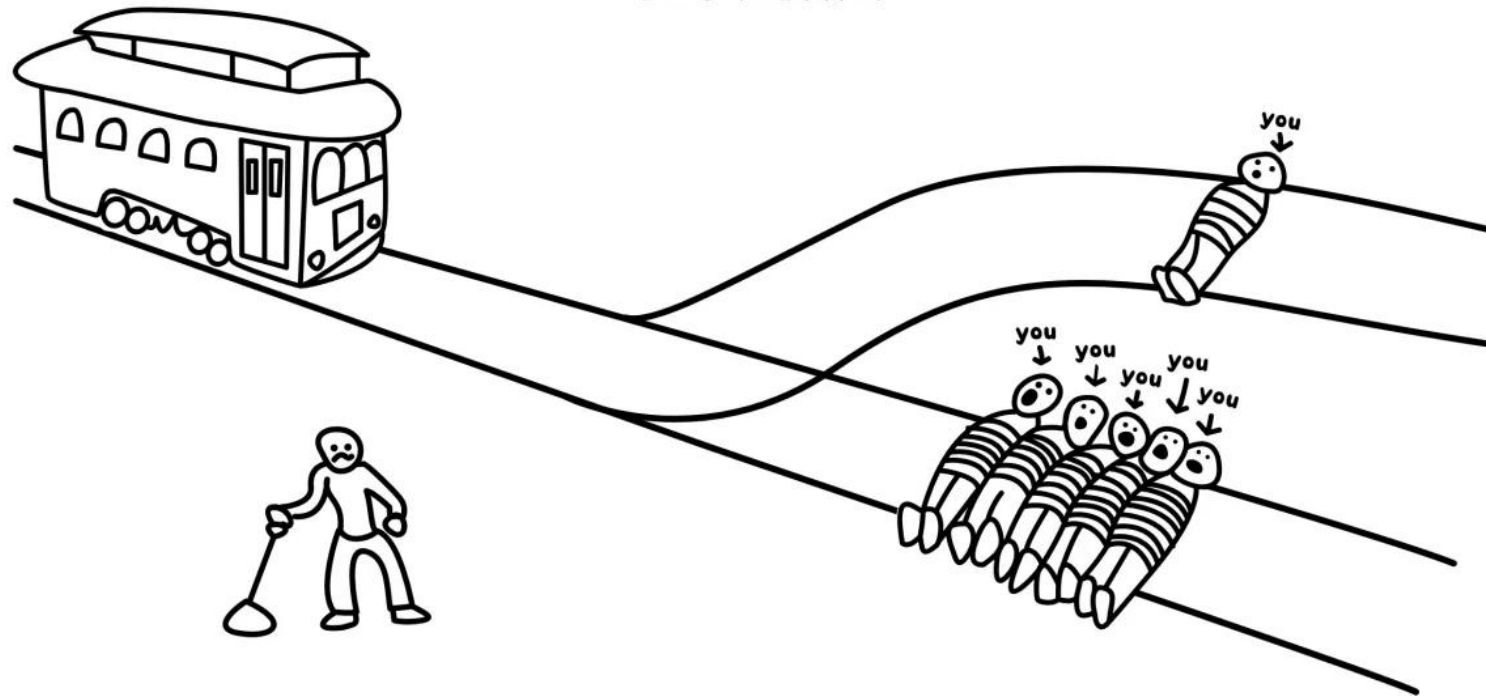
legal versus ethical



... and of course, we were all talking about the trolley problem !!!

Absurd Trolley Problems

Level 21: Reincarnation

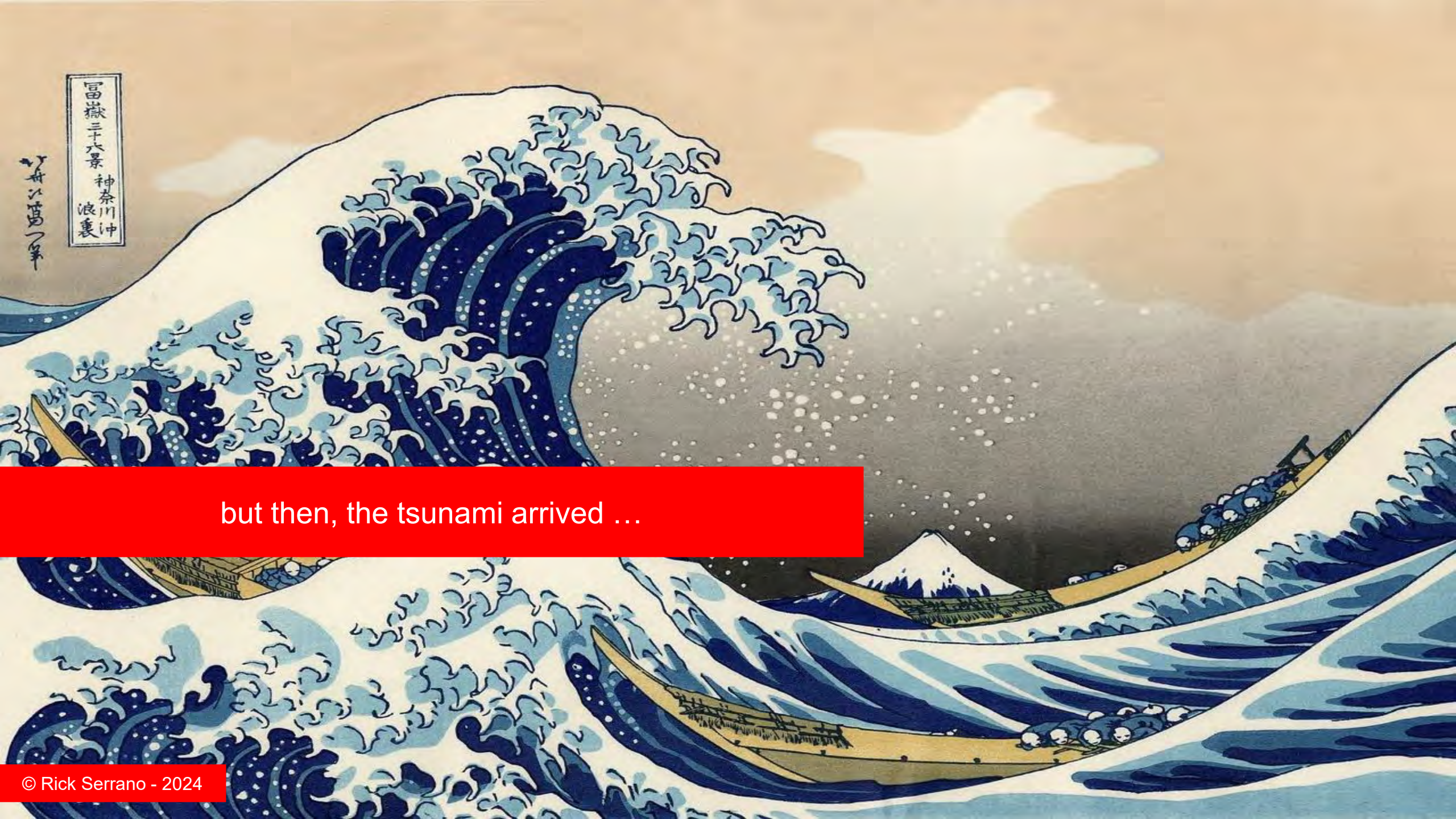


Oh no! You're a reincarnated being who will eventually be reincarnated as every person in this classic trolley problem. What do you do?

So, the ethical questions have been here for some time



yes, sure !!! but ... !!!



富嶽三十六景 神奈川沖
浪裏

舟の波の勢

but then, the tsunami arrived ...

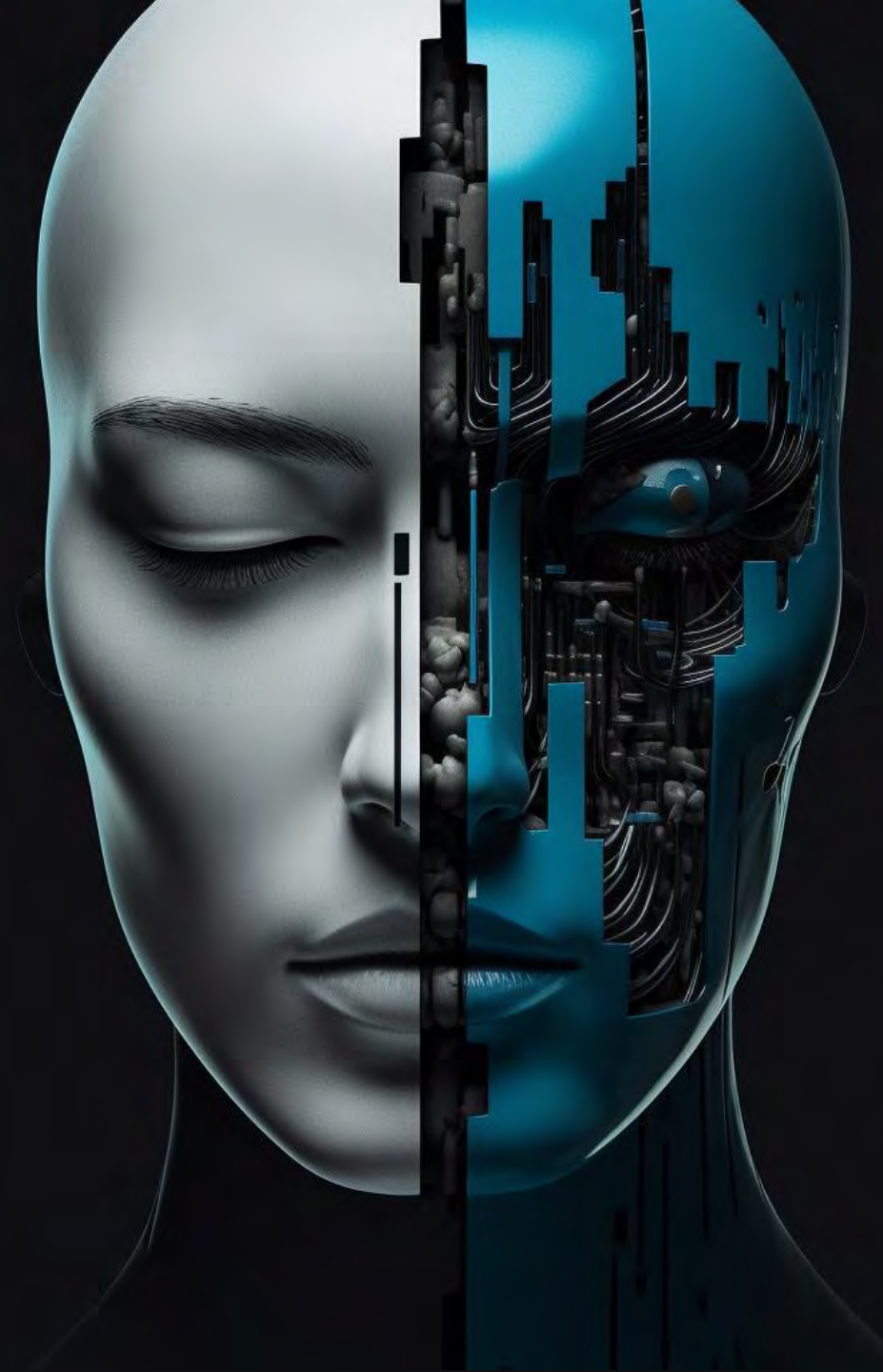


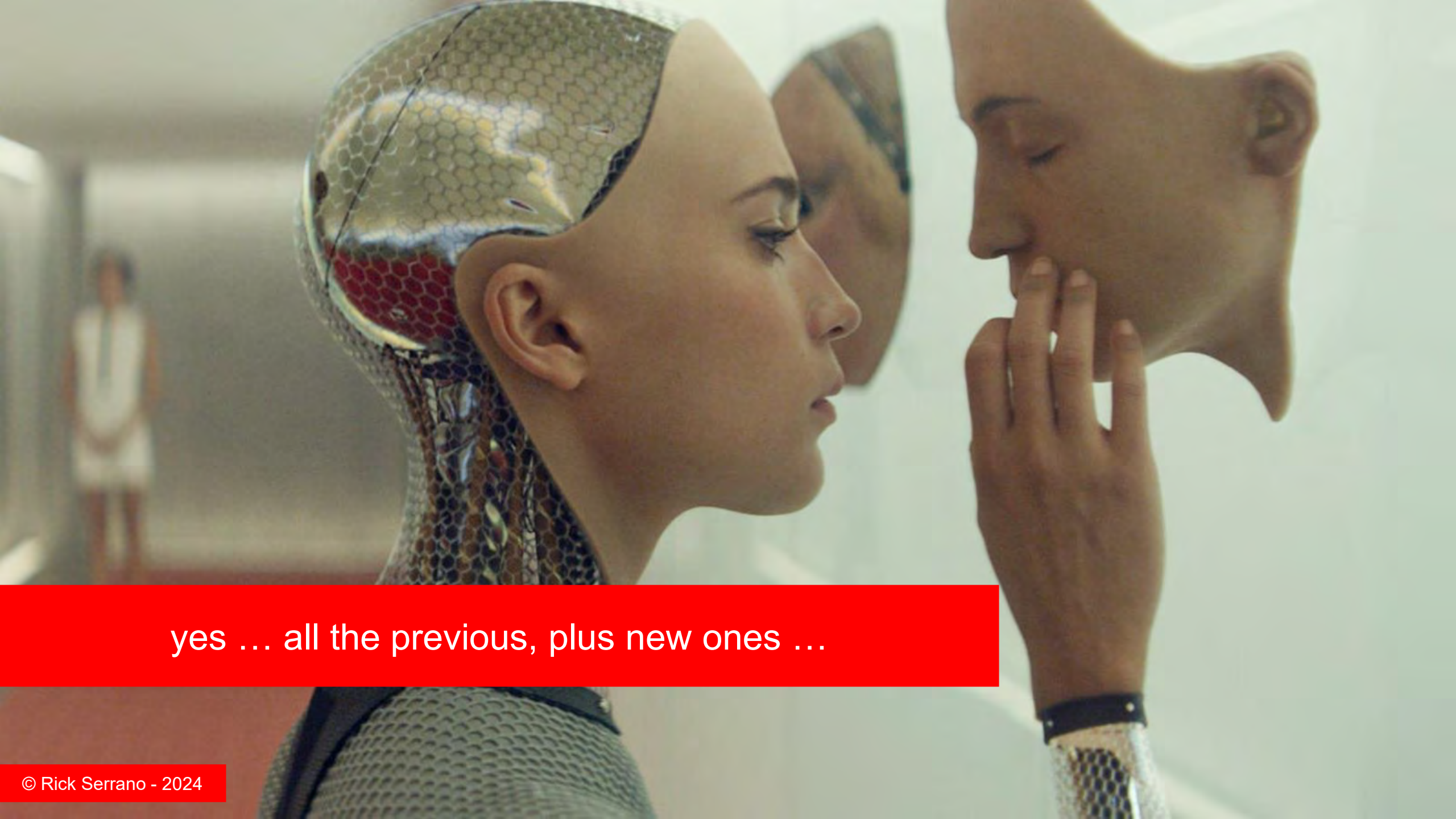
30th November 2022

ChatGPT: Optimizing Language Models for Dialogue

We've trained a model called ChatGPT which interacts in a conversational way. The dialogue format makes it possible for GPT to answer followup questions, admit its mistakes, correct premises, and reject inappropriate questions. GPT is a sibling model to InstructGPT, which is trained to follow instructions in a prompt and provide a

So, do we have **new** ethical questions....???





yes ... all the previous, plus new ones ...



1

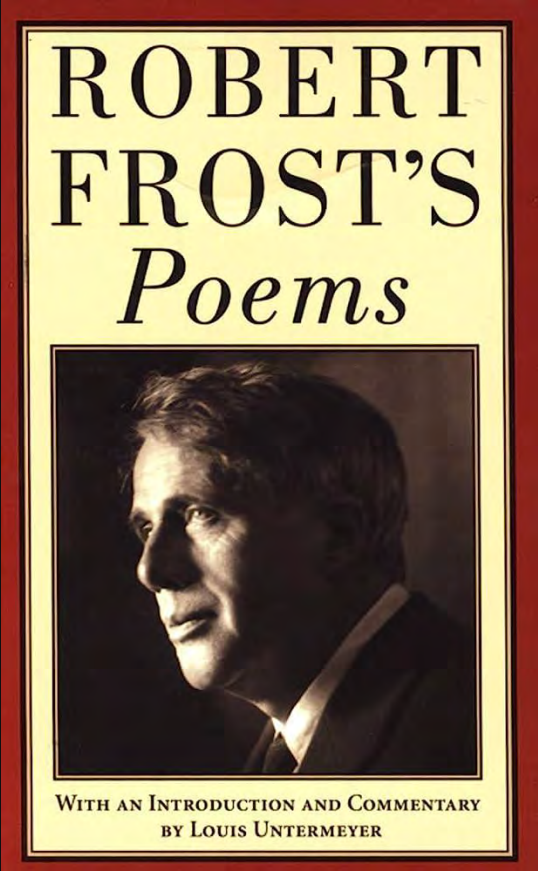
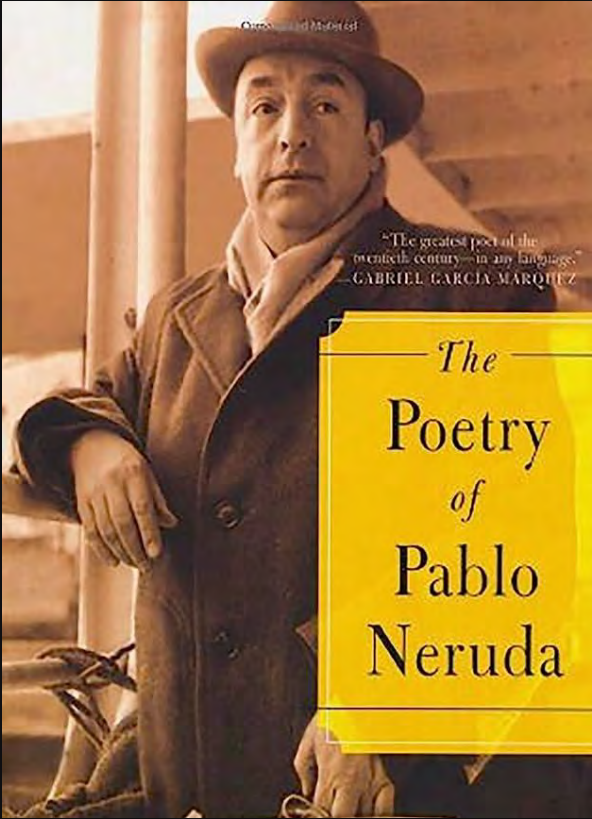
identity – are you really you...?





1

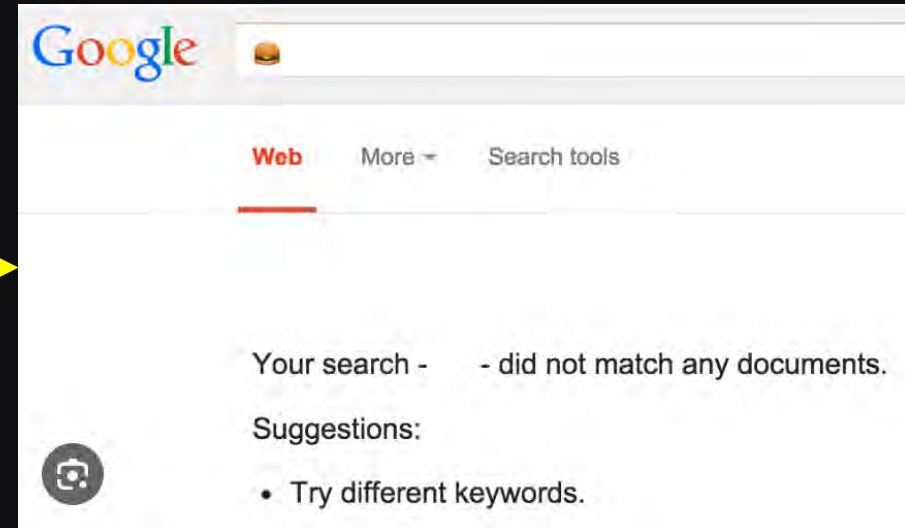
identity – are you really you...?





... how do you determine “original work” ...?

you can create new non-existing things like someone else...!





2

authenticity – can we tell if this is fake ?





3

privacy ... your data everywhere





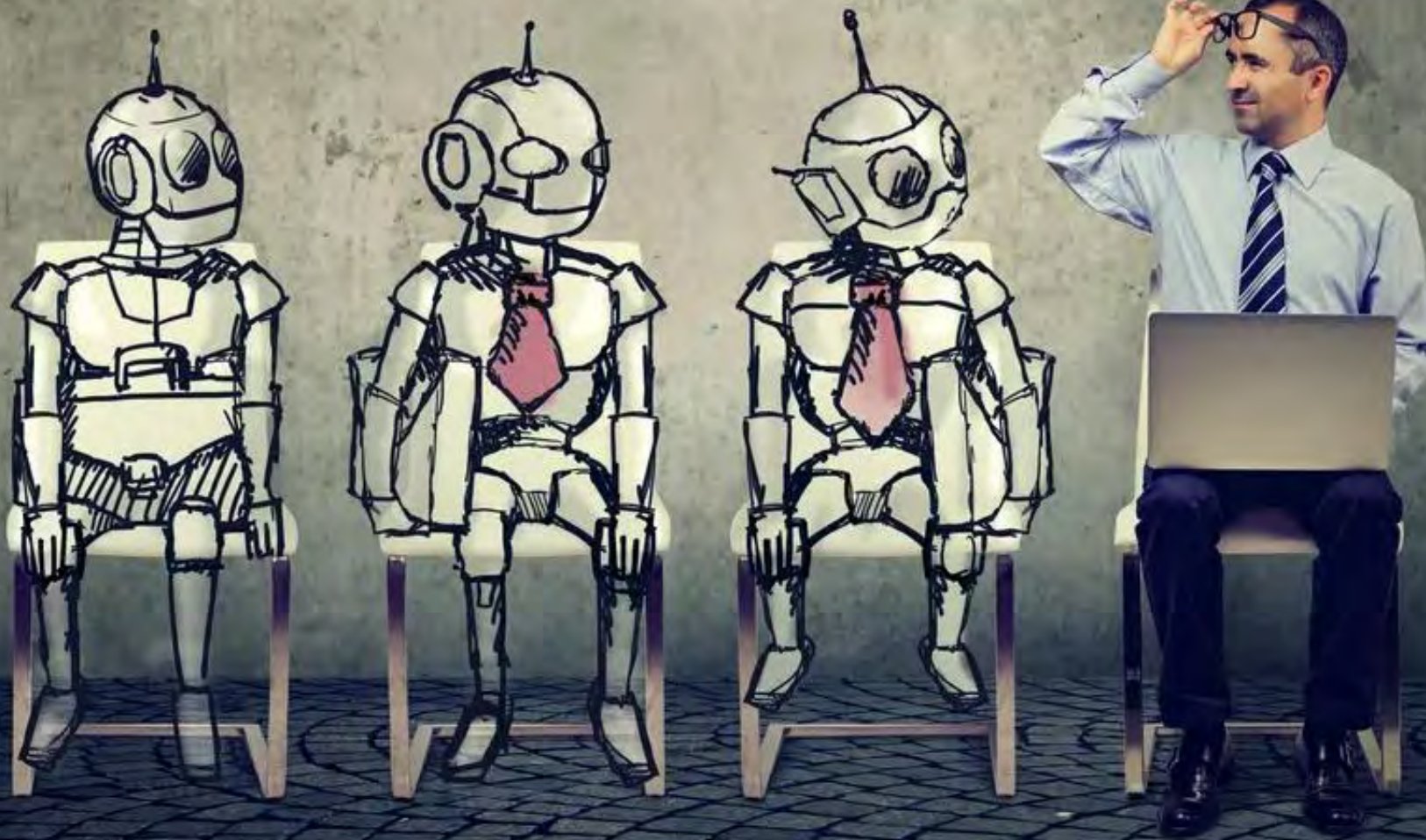
4

intellectual property rights



5

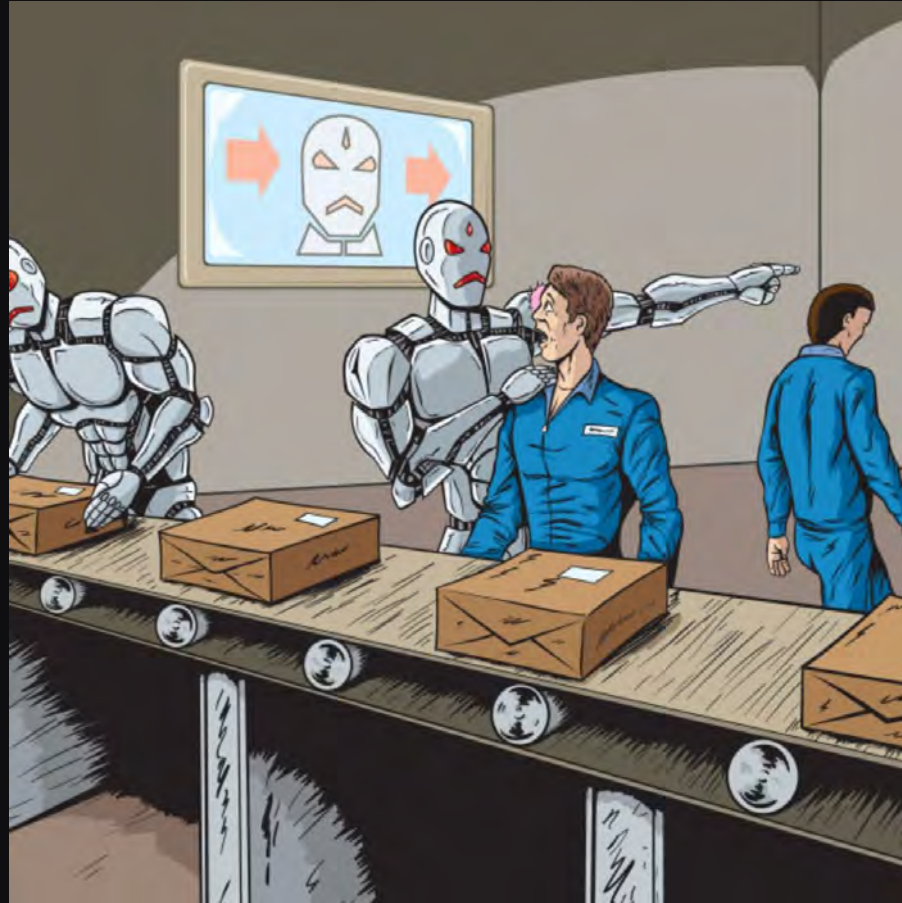
impact on jobs – dehumanization of processes





5

impact on jobs





5

impact on jobs



14 million jobs will be lost worldwide on balance
over the next 5 years

(69 million created and 83 million destroyed)

Source: <https://www.lemonde.fr/en/economy/article/2023/05/03/world-economic-forum>

5

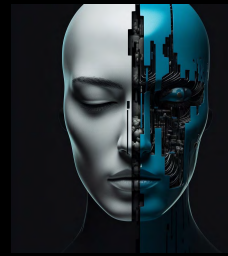
impact on jobs



what matters is **not** the net balance !!!

5

impact on jobs



it's the 83 million destroyed ...!!!

5

impact on jobs



each one is a human being !!!



5

impact on jobs



... nearly a quarter of employees will change jobs,
mainly due to the advent of new technologies

Source: <https://www.lemonde.fr/en/economy/article/2023/05/03/world-economic-forum>

So, count 3 chairs, then it's you ...



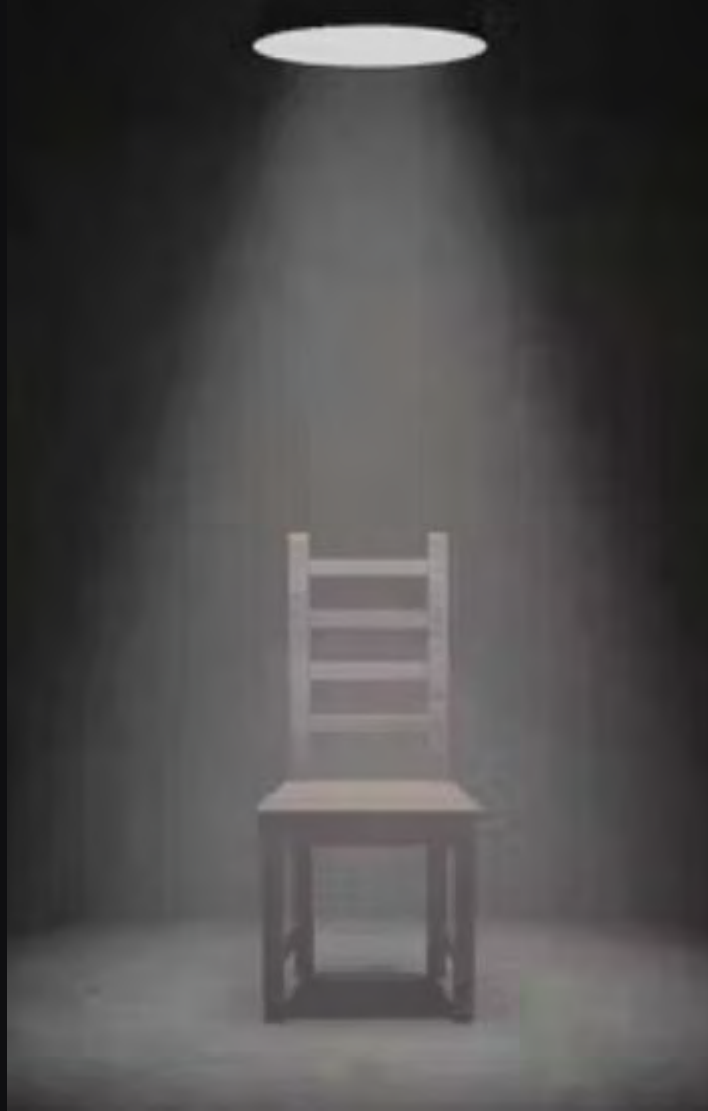


5

impact on jobs

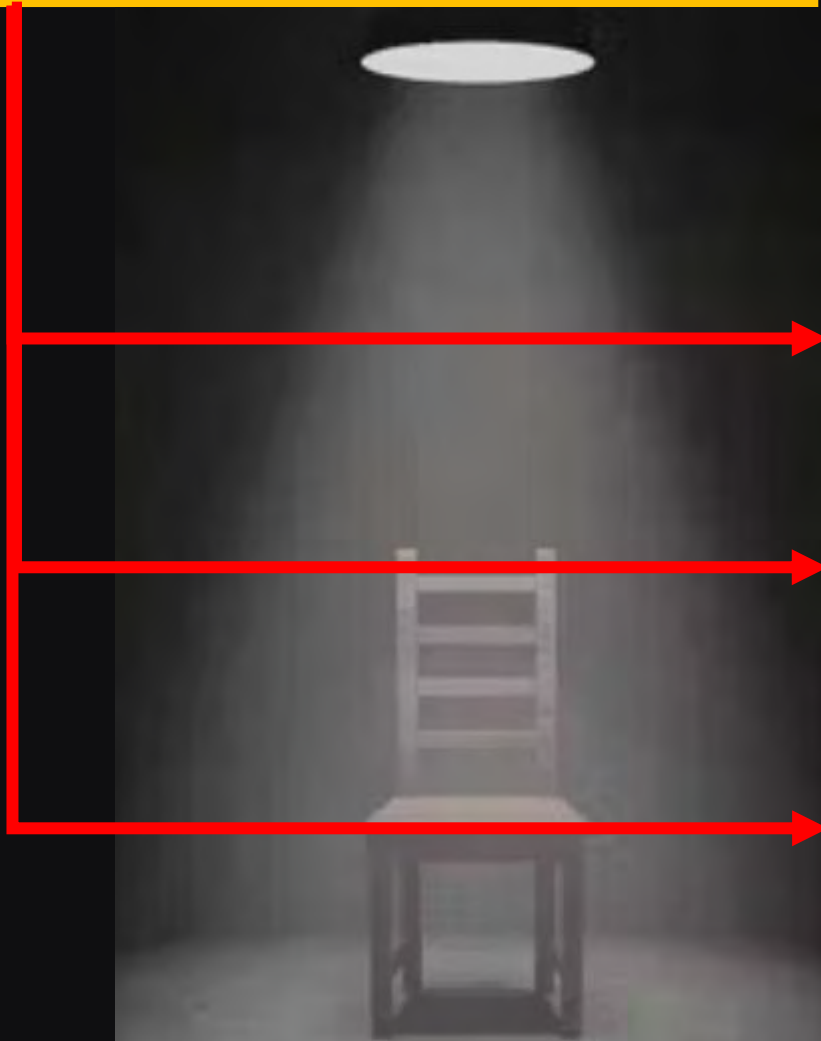
... the 90% versus 91% paradox

but the biggest question remains **responsibility**





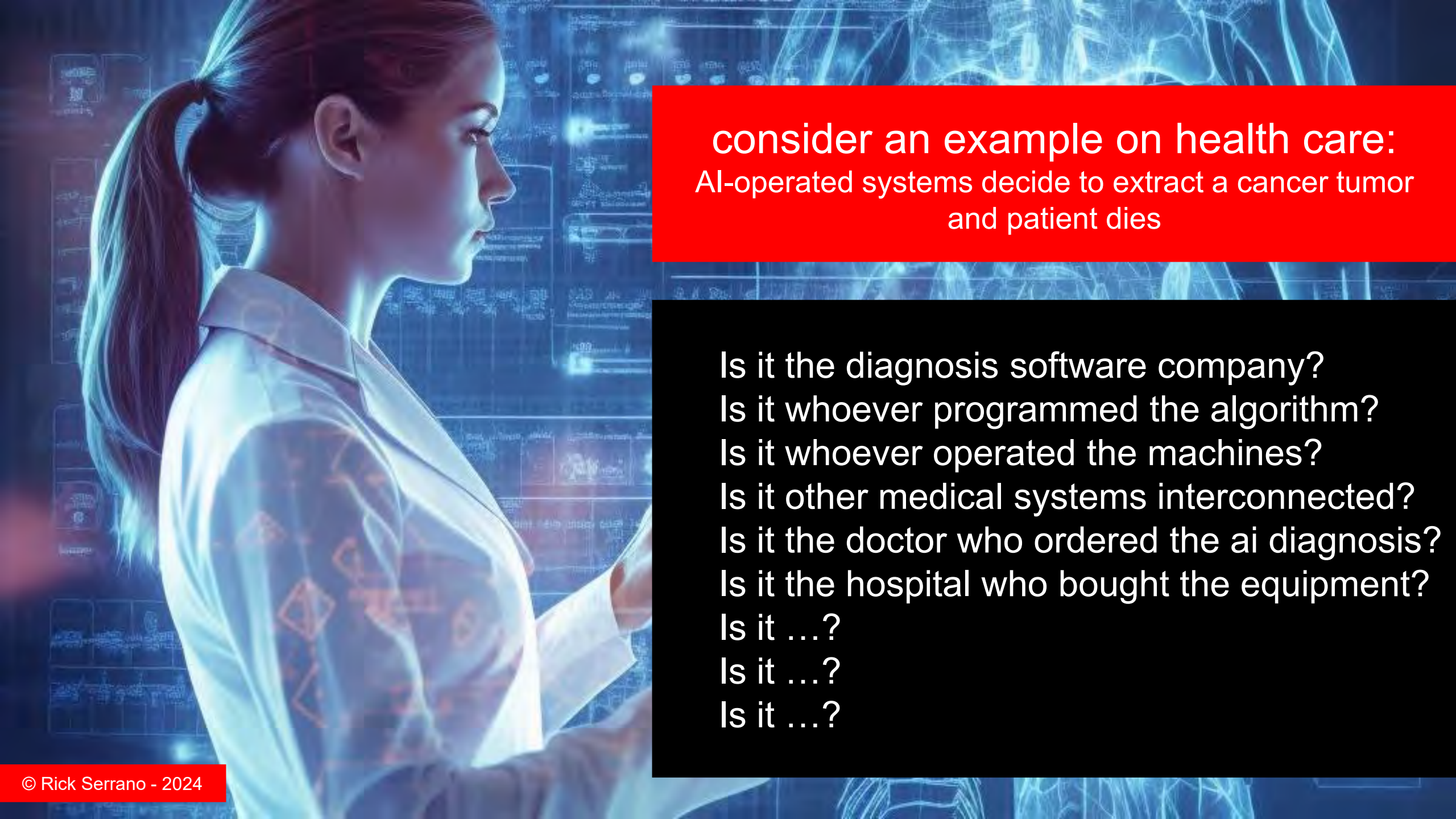
especially in connection with:



consciousness?

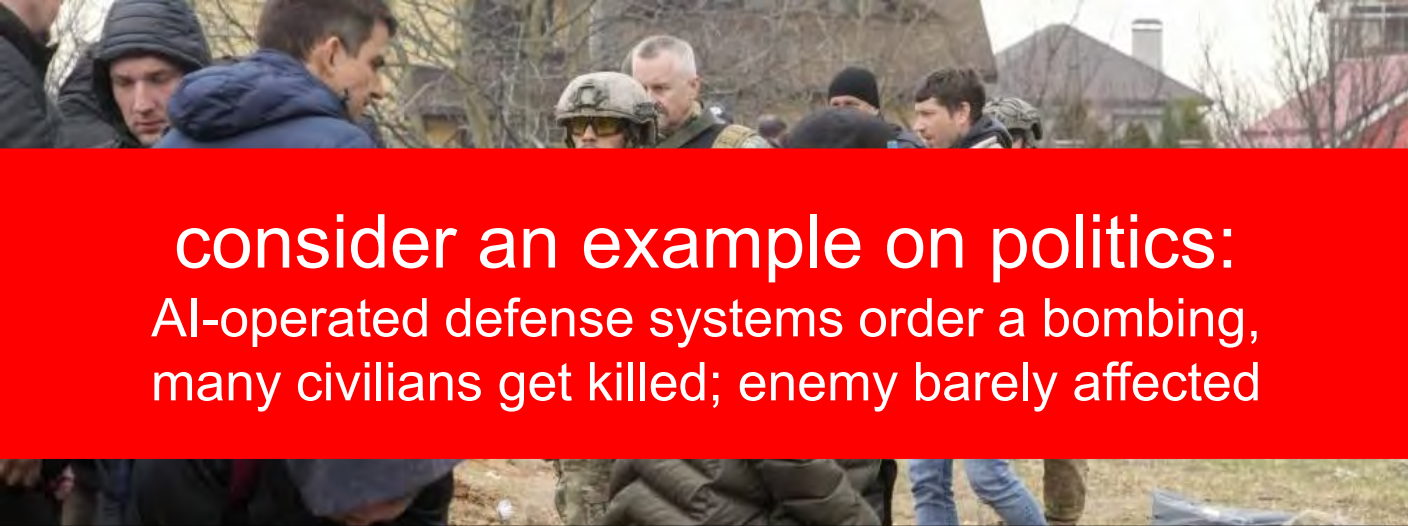
who decides?

based on what?



consider an example on health care:
AI-operated systems decide to extract a cancer tumor
and patient dies

Is it the diagnosis software company?
Is it whoever programmed the algorithm?
Is it whoever operated the machines?
Is it other medical systems interconnected?
Is it the doctor who ordered the ai diagnosis?
Is it the hospital who bought the equipment?
Is it ...?
Is it ...?
Is it ...?



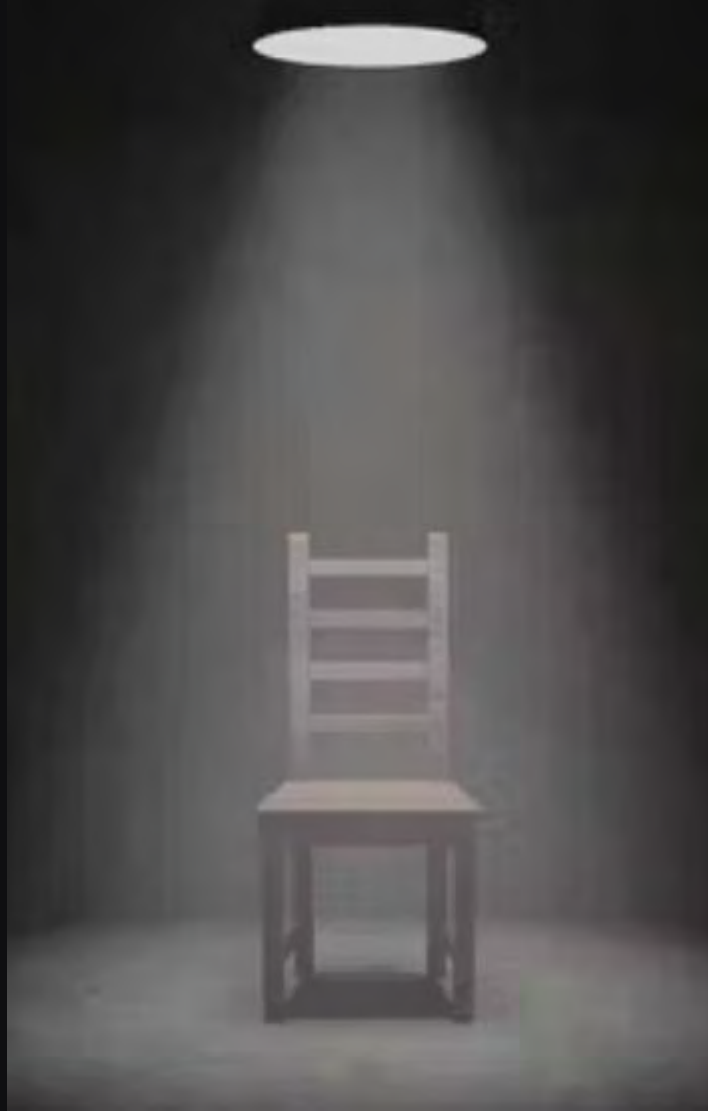
consider an example on politics:
AI-operated defense systems order a bombing,
many civilians get killed; enemy barely affected

Is it the ai-strategic software company?
Is it whoever programmed the algorithm?
Is it whoever operated the weapons?
Is it other defense systems interconnected?
Is it the general who ordered the ai attack?
Is it the army who bought the equipment?
Is it ...?
Is it ...?
Is it ...?





the biggest question remains **responsibility**





... now, let me bring **additional** noise into the system !!!



... things are getting **more** interesting !!!

... allow me to be provocative...

... the definition of
what it means to be human...?

... what is indeed “consciousness”...?



Cambridge
Dictionary

“the state of understanding
and realizing something”

“the state of being able to use your senses
and mental powers to understand
what is happening”

... is A.I. truly evolving out of control...?

... is it *really* impossible to program ethics?

... we used to think some things were
impossible, remember...?



Big Blue and Kasparov 1996-1997



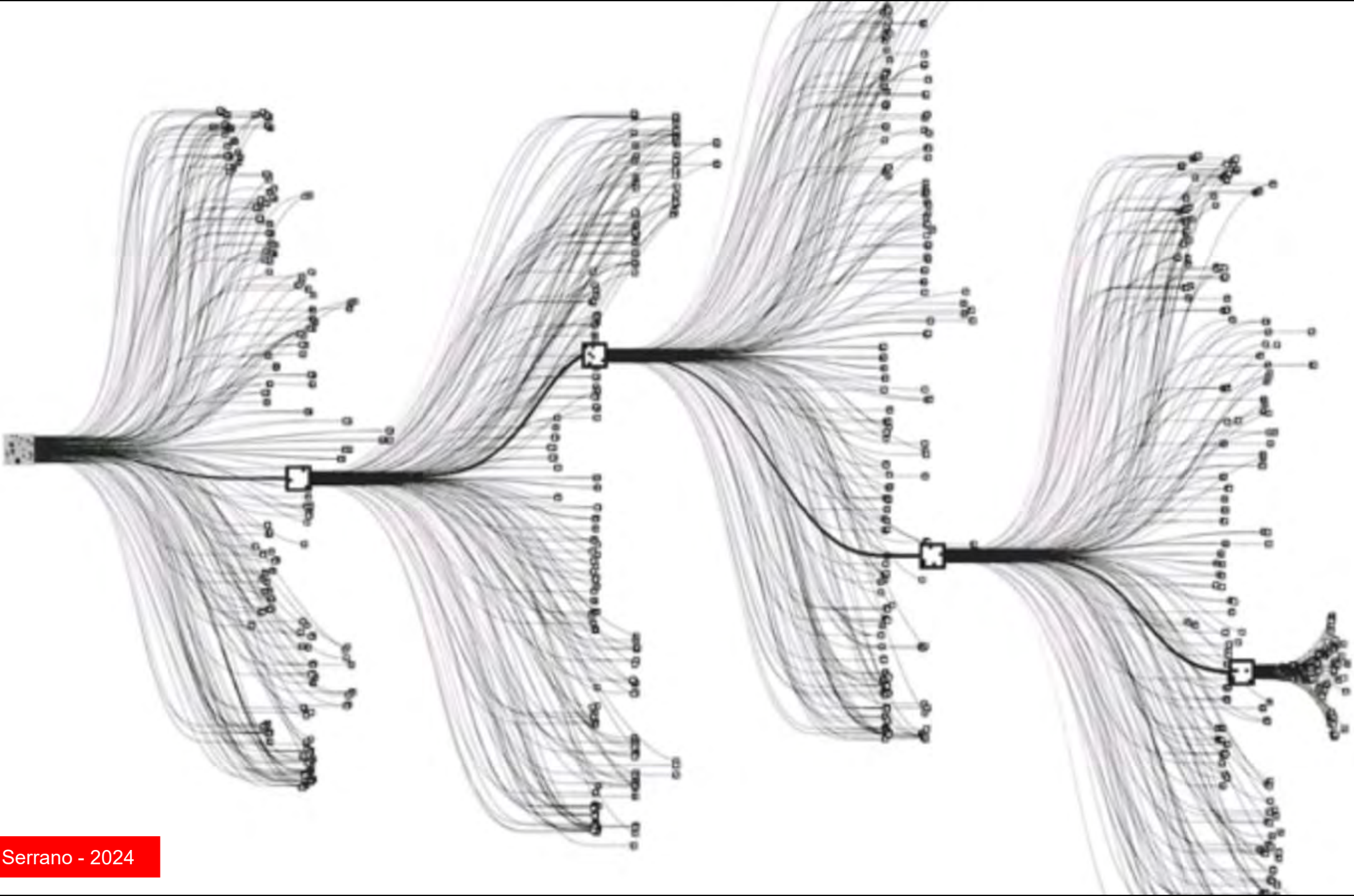
Watson versus Brad Rutter and Ken Jennings, 2011





Deep Mind against Lee Sedol, March 2016

... and it happened and ***how*** !!!



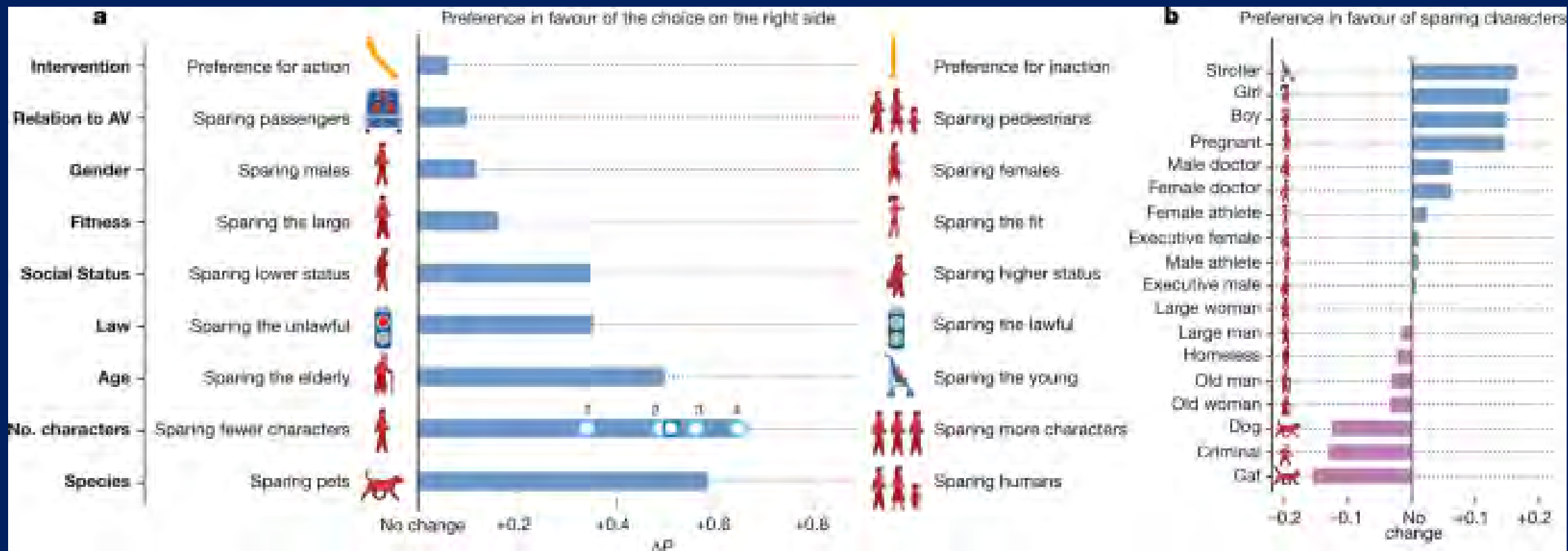


... (arguably) ethics can (and will) be
programmed ...

... indeed, it's already happening ...



<https://www.moralmachine.net/>

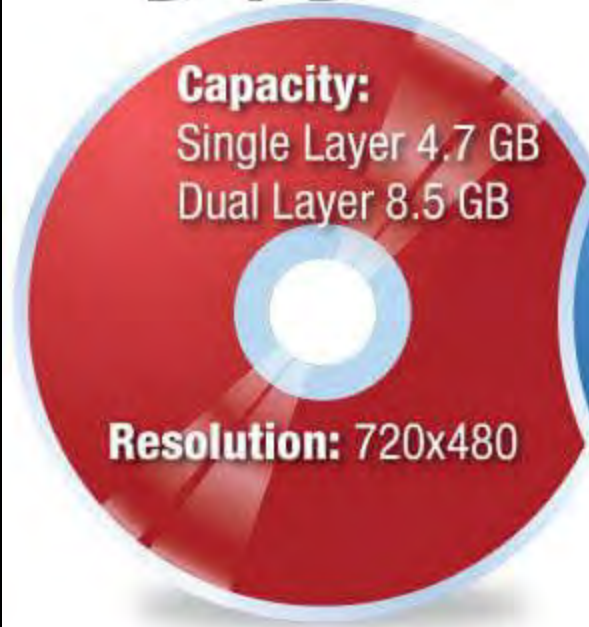


<https://www.moralmachine.net/>

... do we *really* need to fully understand
the machine?



DVD

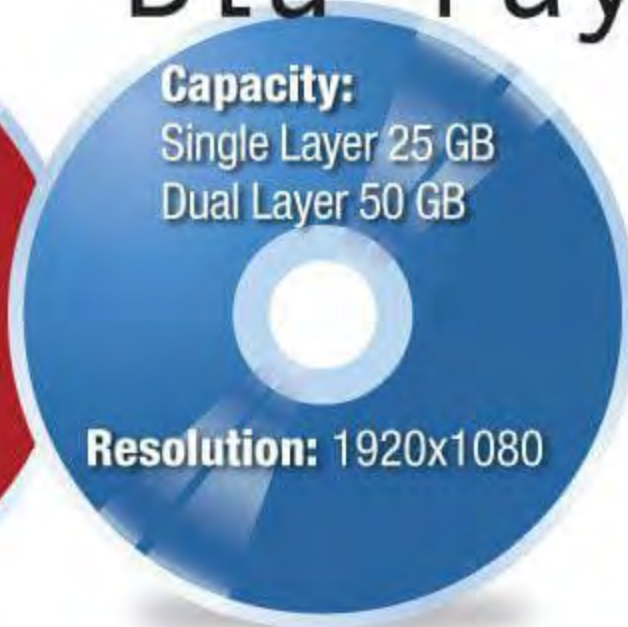


Capacity:

Single Layer 4.7 GB
Dual Layer 8.5 GB

Resolution: 720x480

Blu-ray



Capacity:

Single Layer 25 GB
Dual Layer 50 GB

Resolution: 1920x1080

So, why are we so surprised when we don't understand something new...?



... so, the *ultimate* question is probably:

... *is singularity* completely ruled out?

... and the only *honest* answer is probably:

... we don't know !!!

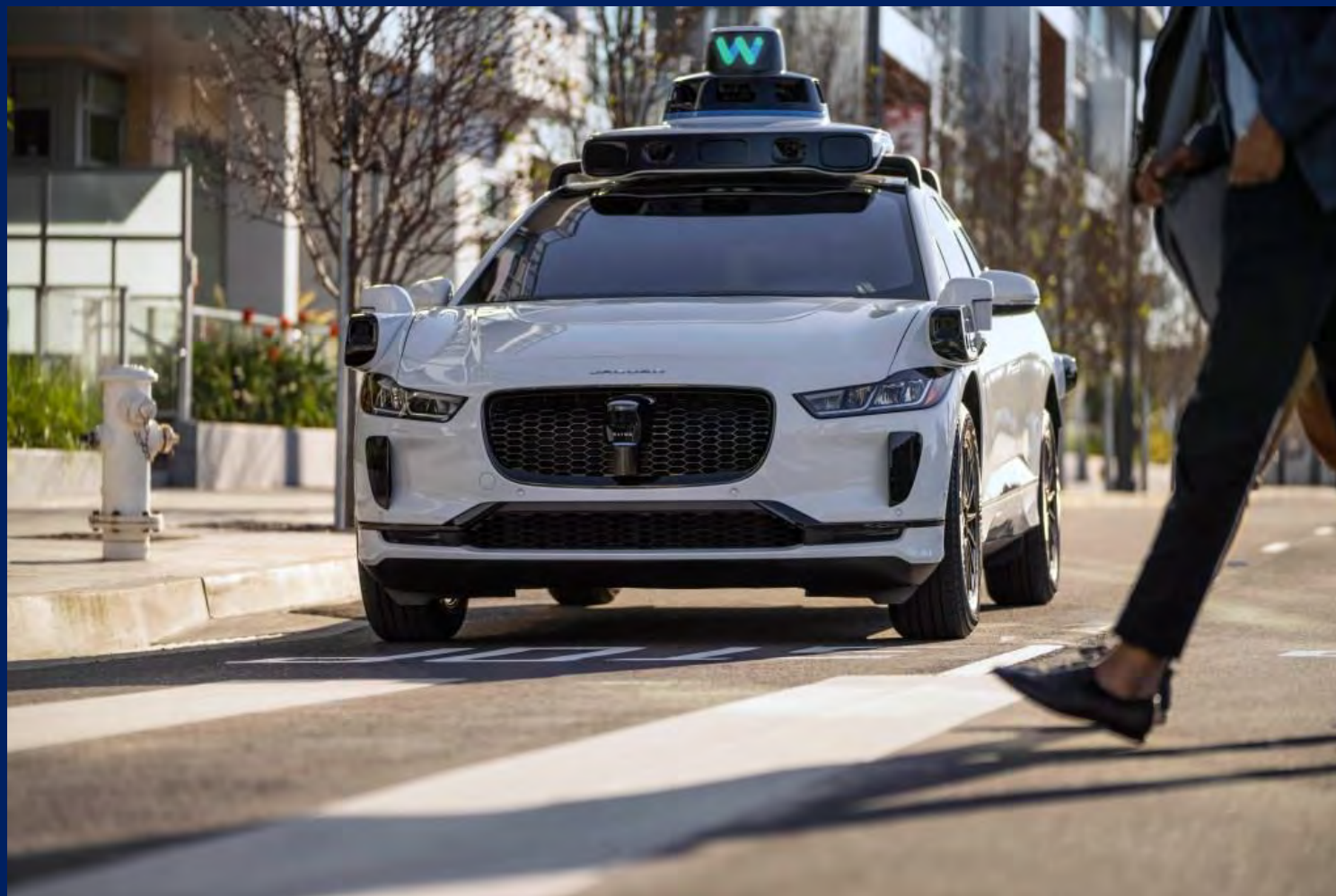
... but beyond *singularity* (or not) ...

... there are plenty of fascinating aspects
about A.I. to keep an eye on ...

... allow me 3 examples ...

1

There will be new legally-liable “subjects”



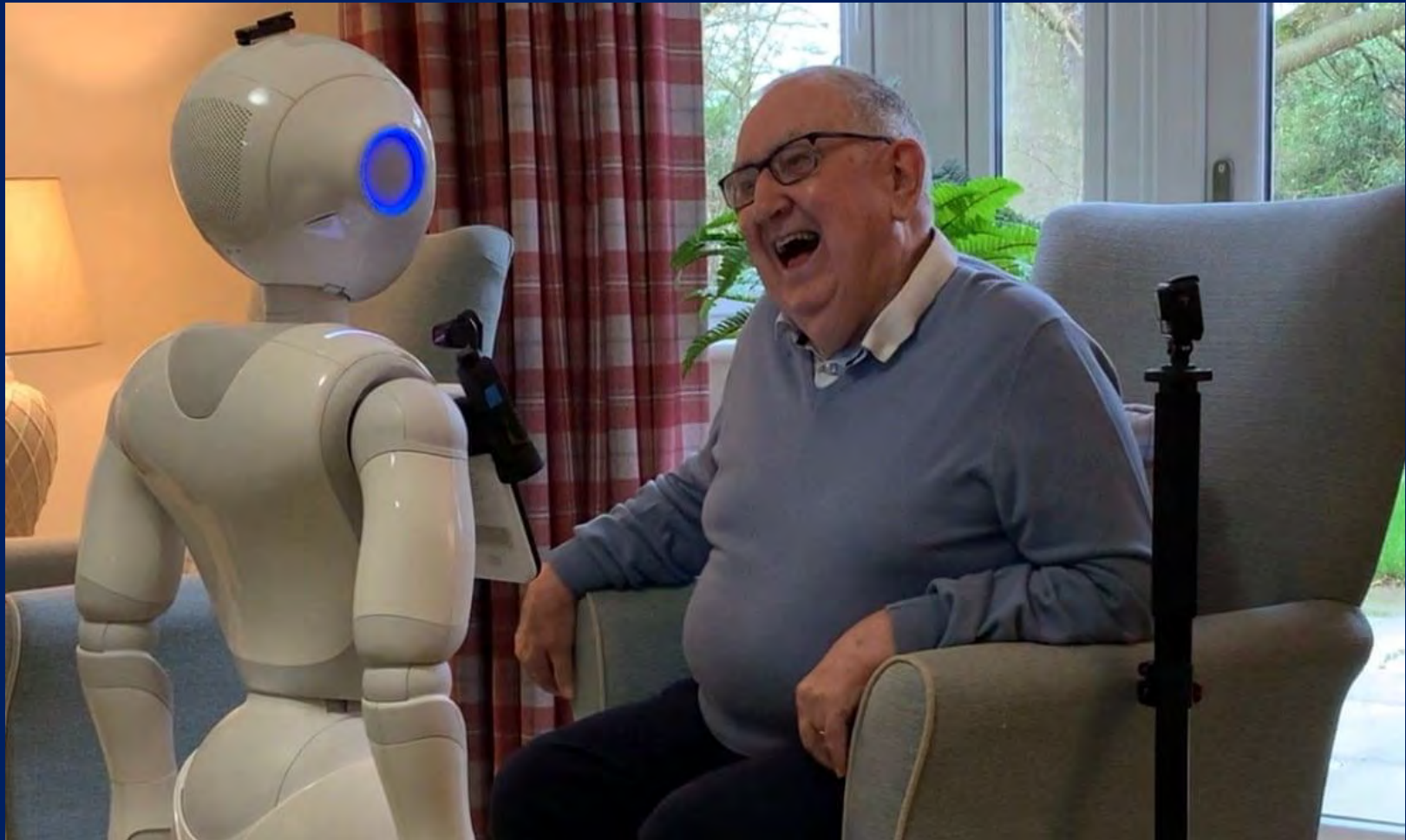
2

There will be new possibilities to do well ...



2

There will be new possibilities to do well ...





3

Harmony ...

3

There will be new “human” relationships ...
... beyond what you are thinking ...



... take a deep breath !!!



so, what could be done...?

First, what we should ***not*** do!!!



Do not panic – remember Y2K



Do not panic – remember Y2K

Do not prohibit it ... this *is* happening !



Do not panic – remember Y2K

Do not prohibit it ... this *is* happening !

Do not hyper-regulate it á la GDPR !



... this is about humans !!!



... this is *all* about humans !!!



an ethical framework for A.I.



A dark, atmospheric room with a large window on the left. Sunlight streams through the window, casting long shadows on the floor. A large red circle is centered in the foreground, containing the text "dignity of the human person". The room has dark wood paneling and a tiled floor.

dignity of the
human person



human being





consciousness





consciousness

human being

Have clarity about the exact point where decisions are made and make sure a human being is conscious of that spot

To the extent possible, make sure that someone has consciousness of ai-driven decisions and of the potential pain-points of these decisions



consciousness

transparency





consciousness

transparency

Make sure there is as much clarity as possible in the decision-making process

human being

Make sure there is as much knowledge as possible on the algorithm-coding process and in the criteria built in those algorithms



consciousness



transparency

traceability



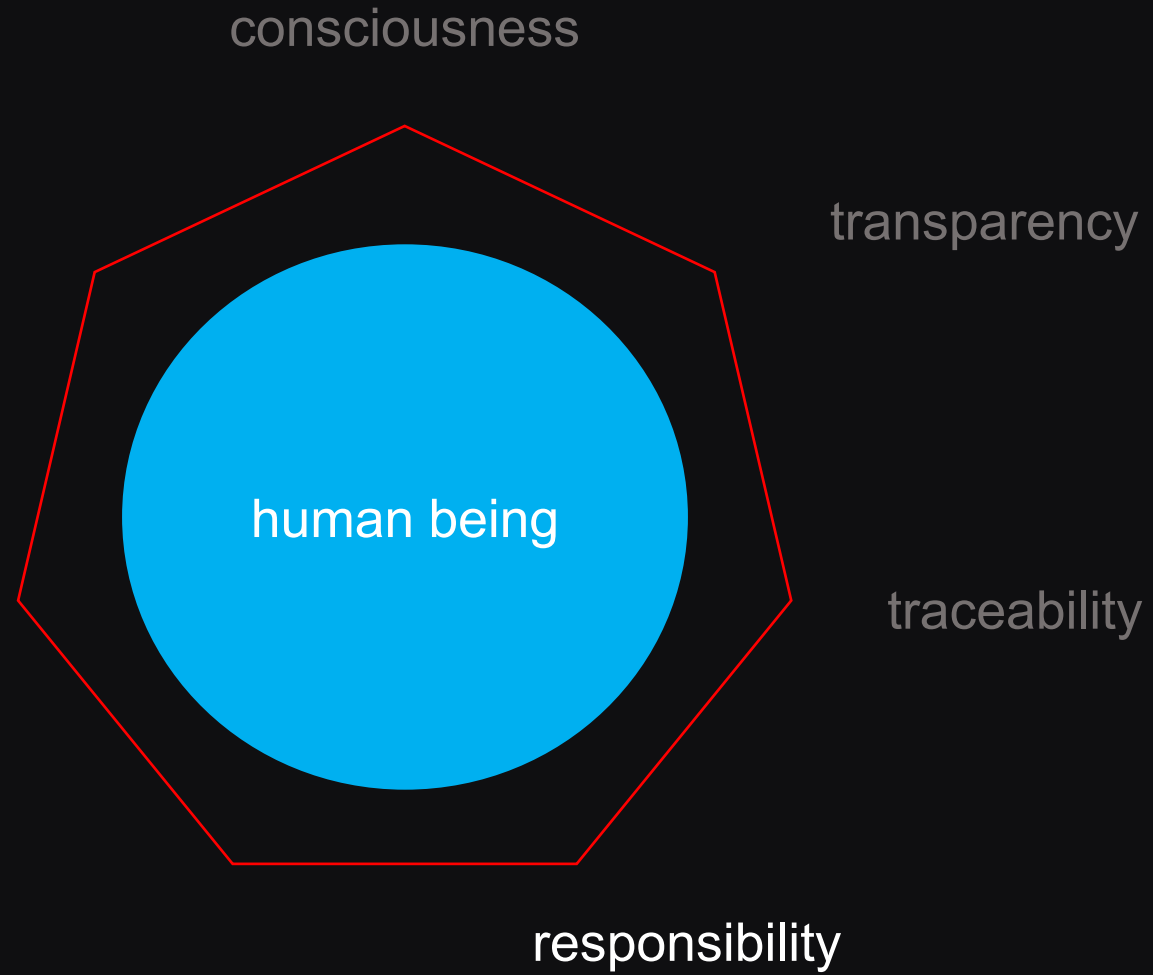
consciousness

transparency

human being

traceability

Make sure we can trace back to the ultimate decision-maker and to the ethical criteria built in the decision-maker "mental" process





consciousness

transparency

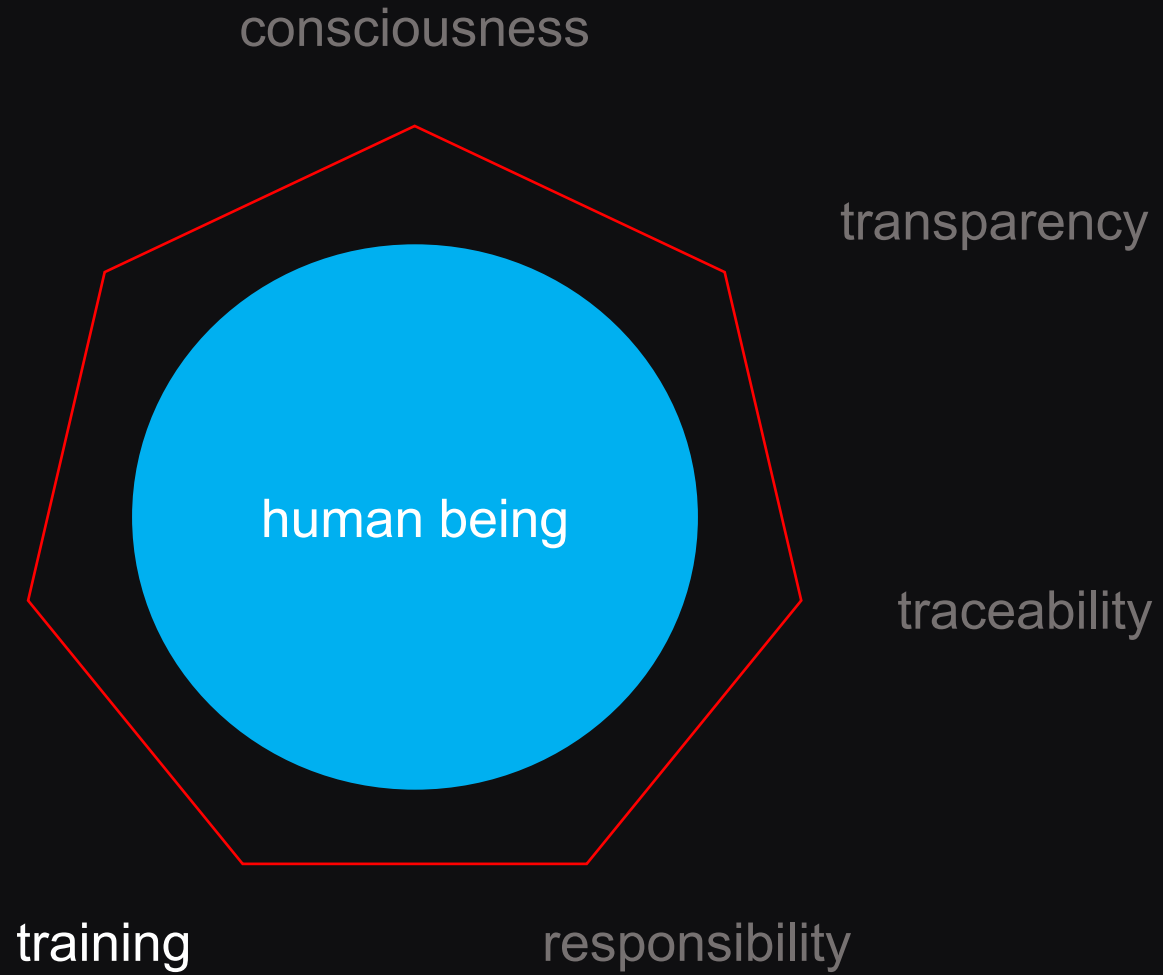
traceability

responsibility

Be clear who, or what, can be made accountable for ai-based decisions and their consequences

human being

Disclaim openly who, or what, would bear the responsibility of the consequences of both: the decision-making itself, and the criteria fed to make that decision





consciousness

transparency

traceability

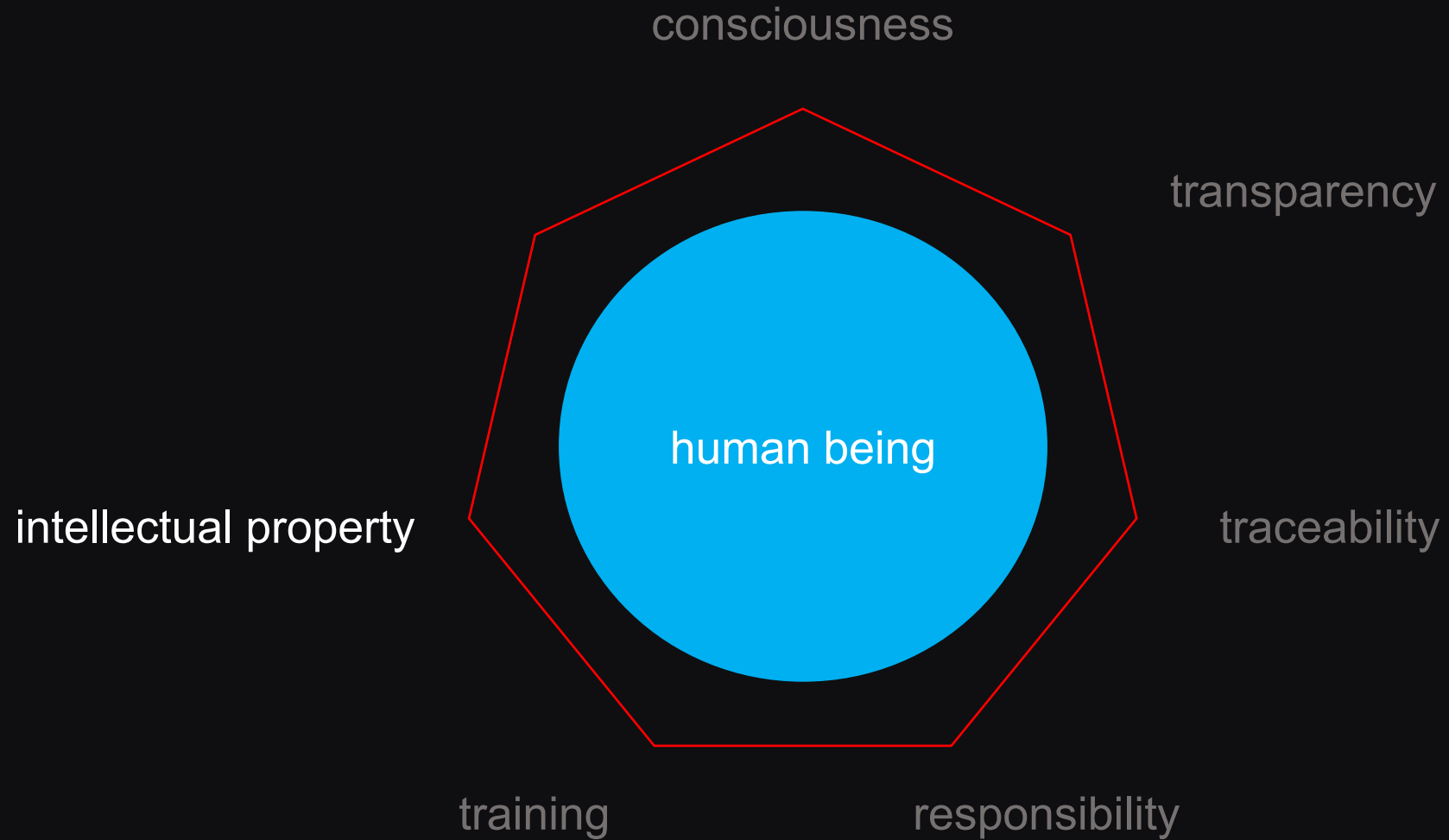


human being

training

This training must promote: creativity, innovation, and ethical behaviours

Let's provide our people with the best possible training, tailor-made for their sector and their activity, to make them succeed in the AI revolution





consciousness

transparency

human being

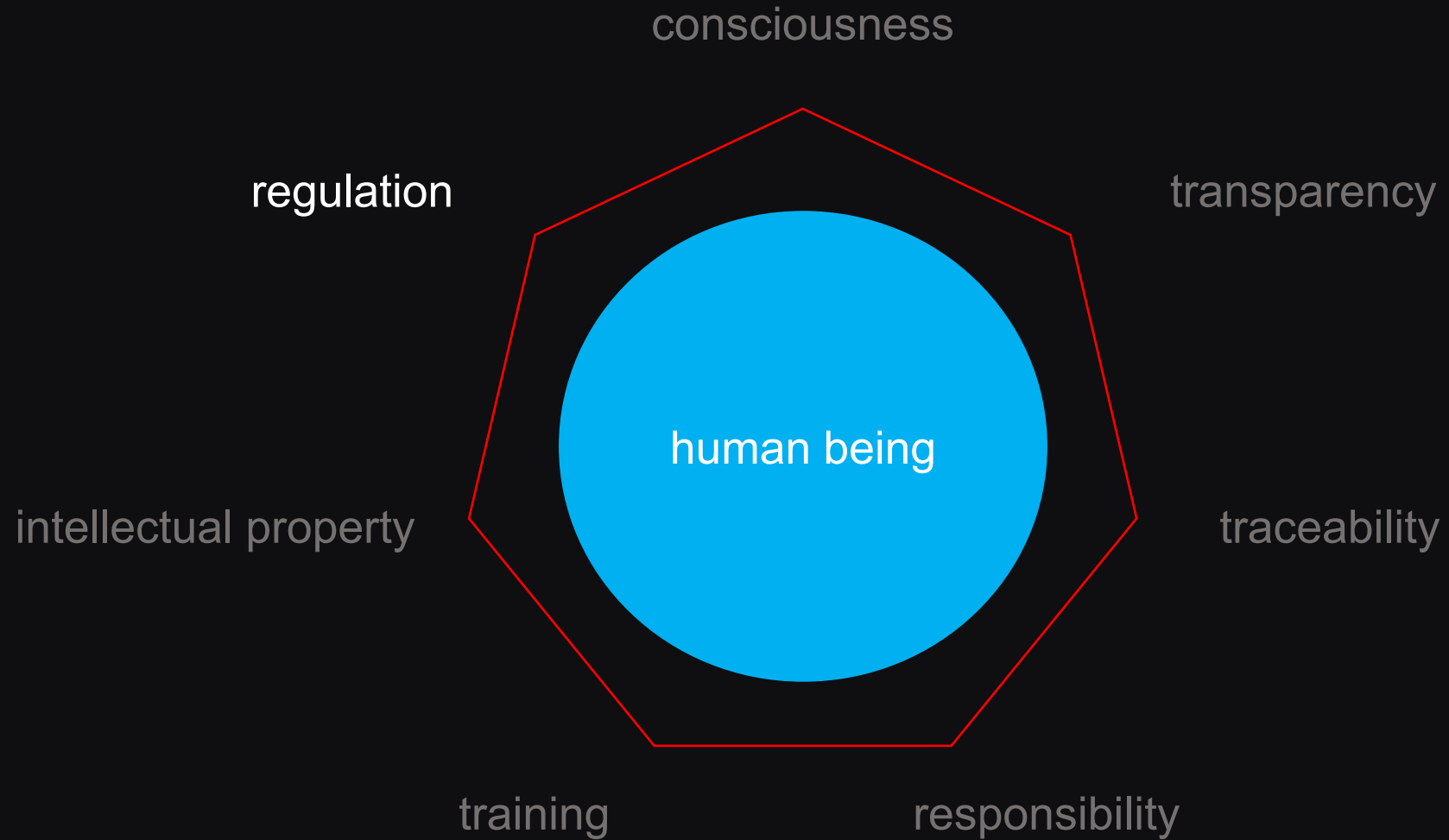
training

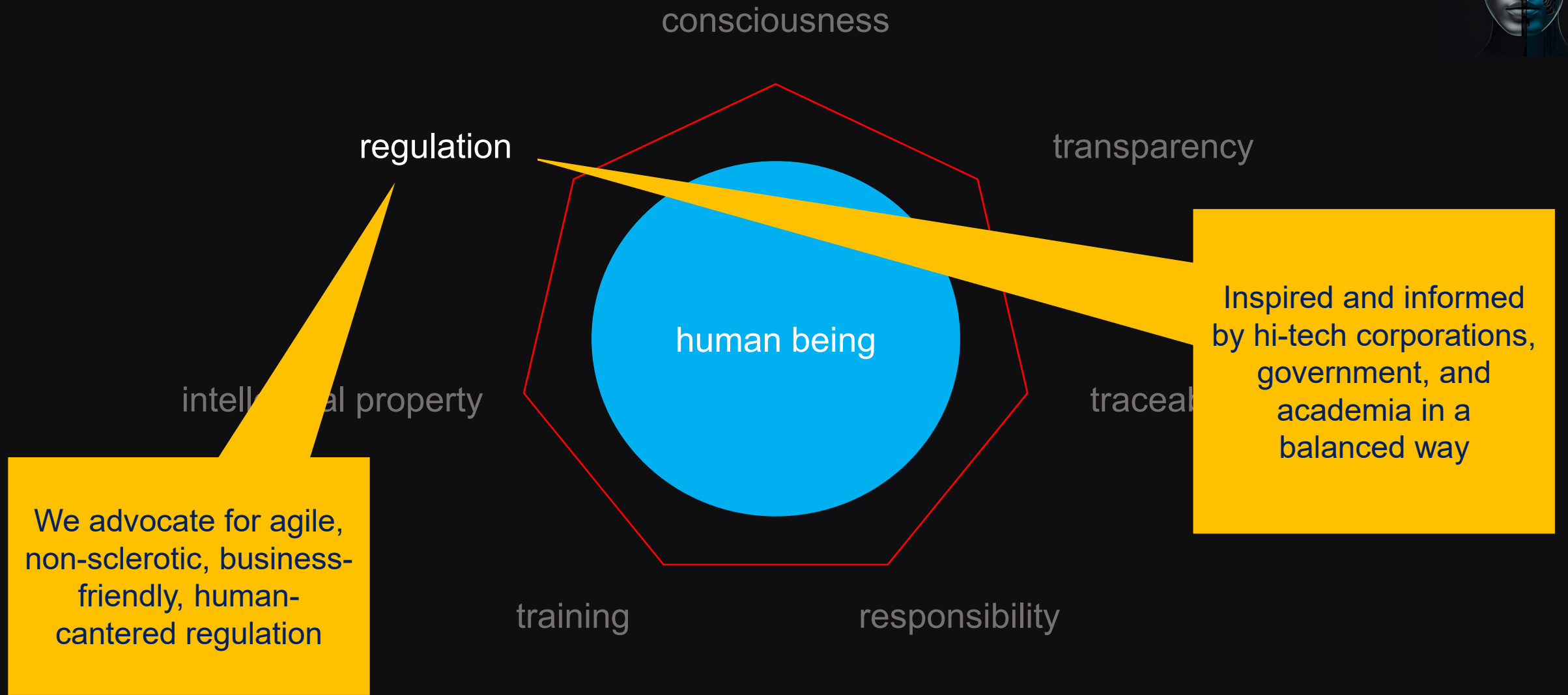
responsibility

intellectual property

A fundamental element
in our model

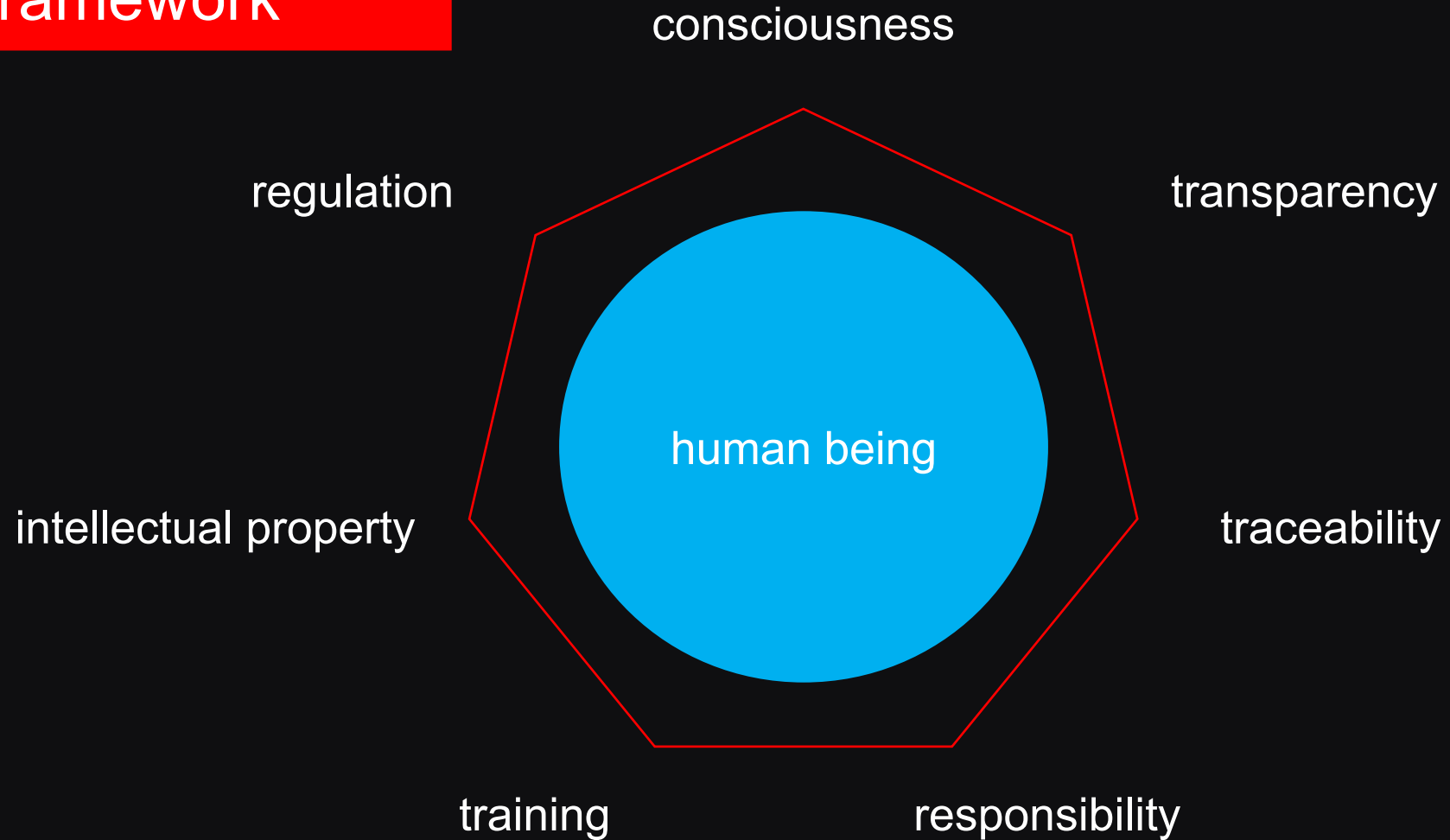
Specific emphasis must
be made on respecting
intellectual property
rights and on training
people how to handle
information that has
been generated with
A.I.







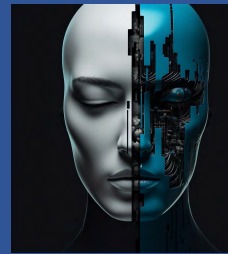
our framework





but the most important element is the centre...

dignity of the
human person



what could companies and individuals do at this point ..?

1

face reality - awareness

2

provide the tools

3

training for understanding

4

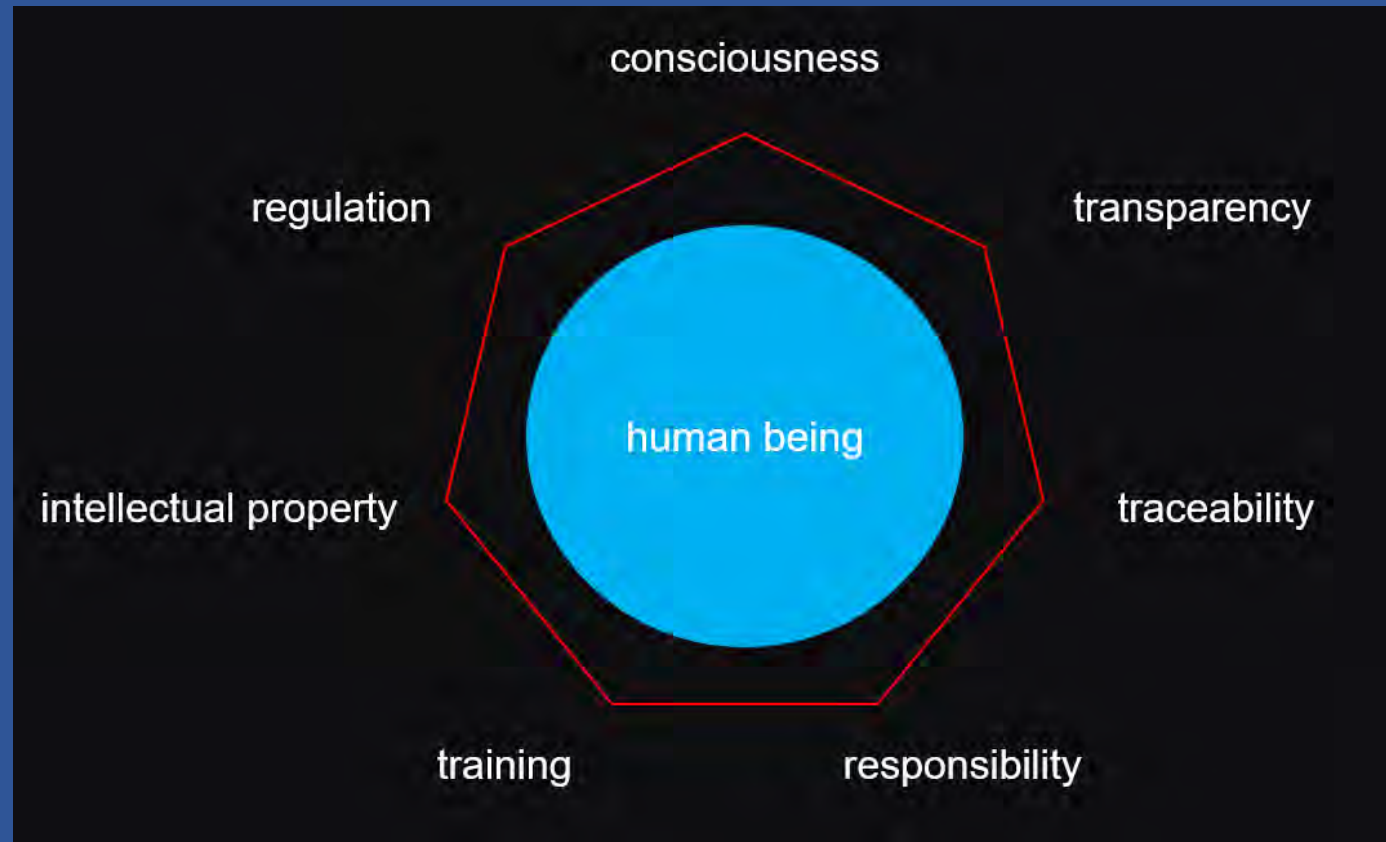
training for creativity

5

safety and security

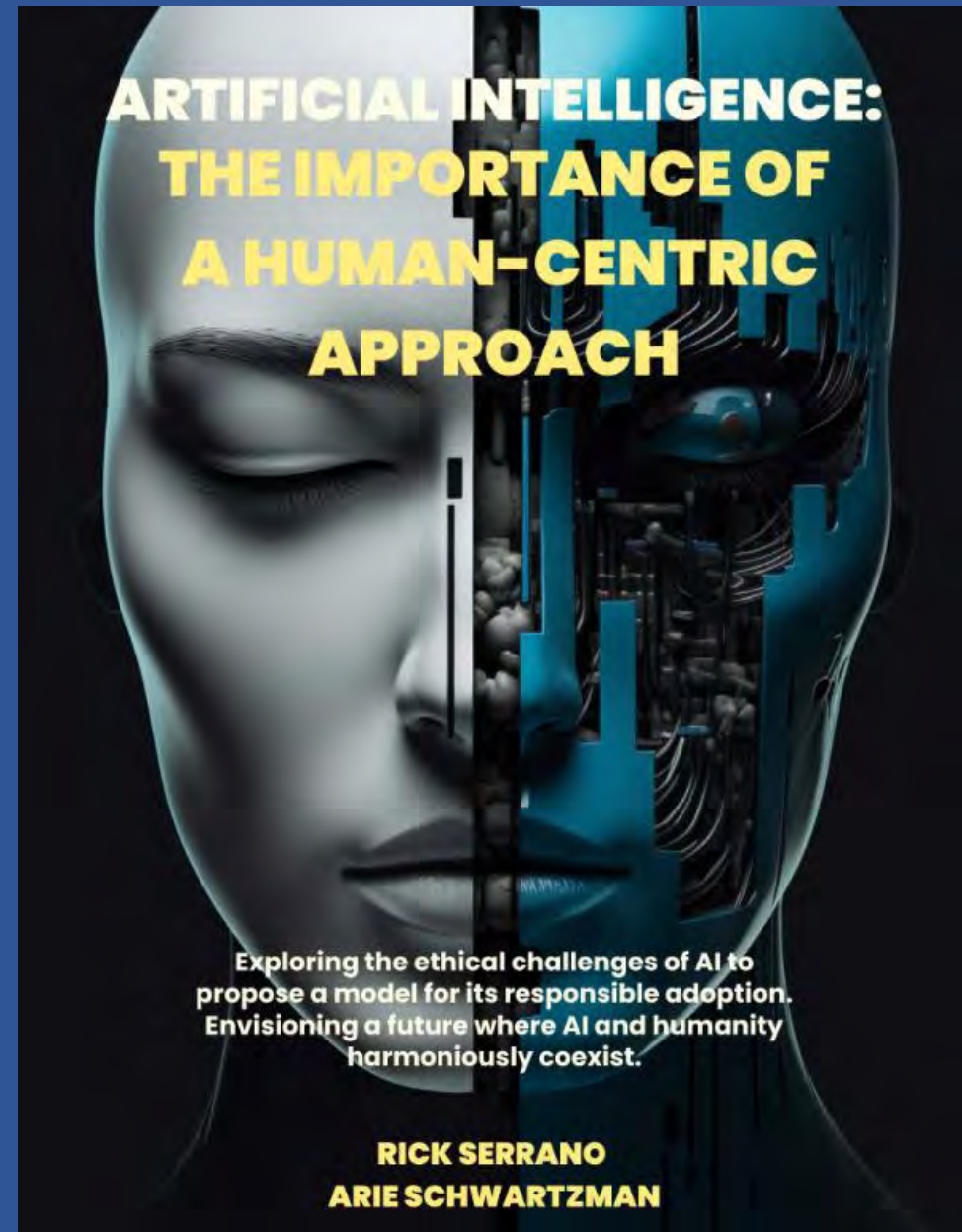


apply our framework



our book ...

amazonkindle



Exploring the ethical challenges of AI to propose a model for its responsible adoption. Envisioning a future where AI and humanity harmoniously coexist.

RICK SERRANO
ARIE SCHWARTZMAN

... thank you !!!



Rick Serrano

+352.691.233.155

www.rickserrano.com

serrano@geb.com

<https://www.linkedin.com/in/rick-serrano-luxembourg/>



“Glamour, Class, and Strength”
The world according to Coco Chanel

Presented by

Rick Serrano

Thursday 11th July 2024 at 7.30 p.m.
Auditorium Banque de Luxembourg
14 Boulevard Royal, Luxembourg City

kunstverein.lux@gmail.com

SOLD OUT!!!





B BANQUE DE
LUXEMBOURG



International Kunstverein
Luxembourg

The International Kunstverein Luxembourg
is pleased to invite you to its next
apéro-conference

“Trapped in Myself”
*revisiting the drama of existence with
Franz Kafka*

Presented by

Rick Serrano

Thursday 12th September 2024 at 19:00 hrs.
Auditorium Banque de Luxembourg
14 Boulevard Royal, Luxembourg City

R.S.V.P. indispensable

kunstverein.lux@gmail.com



Luxembourg EU Summer School

“Artificial Intelligence and Ethics”

The importance of a human-centric approach

Rick Serrano

Tuesday 9th July 2024
Luxembourg

