Inventive machines
And the future of innovation

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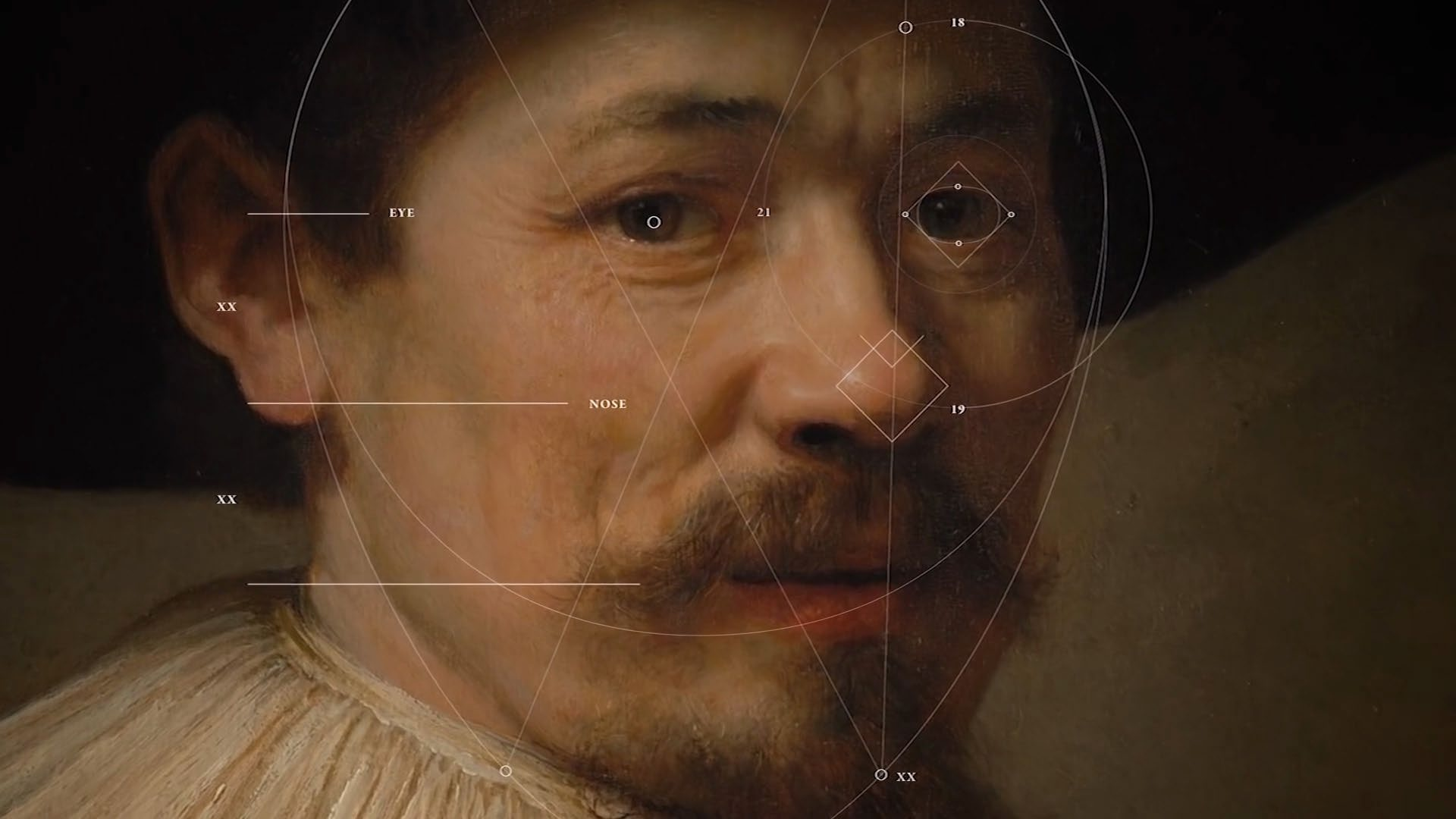
University of Surrey School of Law


PIENSE
THINK
ΣΚΕΨΟΥ
DENKE
सोचिए
PENSER
$300,000
Who is Stoker?
((FOR ONE WELCOME OUR NEW COMPUTER OVERLORDS))
$1,000
$1,000,000
Who is Bram Stoker?
$ 17,973
$200,000
WHO IS BRAM STOKER?
$5600


18
EYE
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XX
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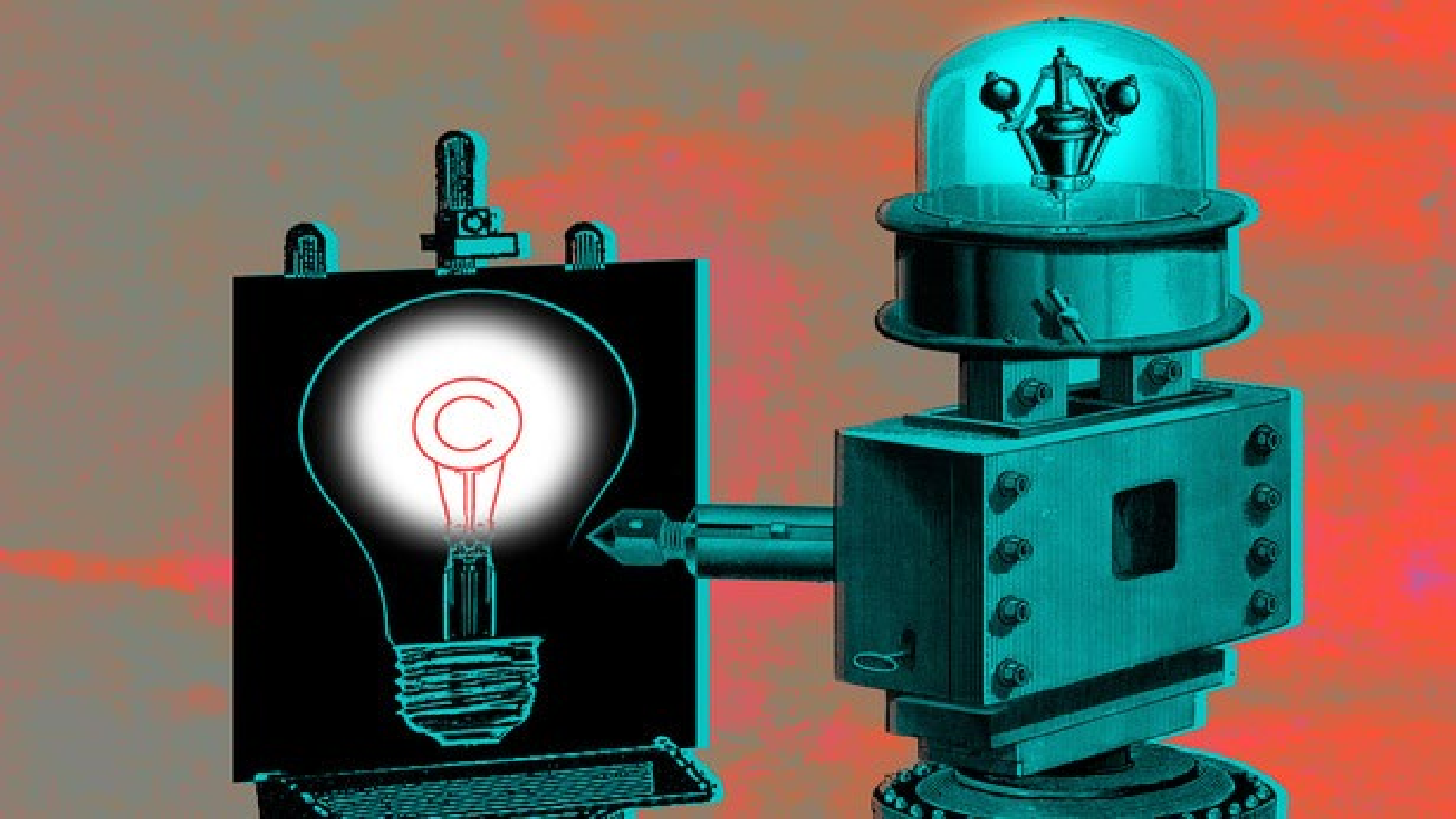
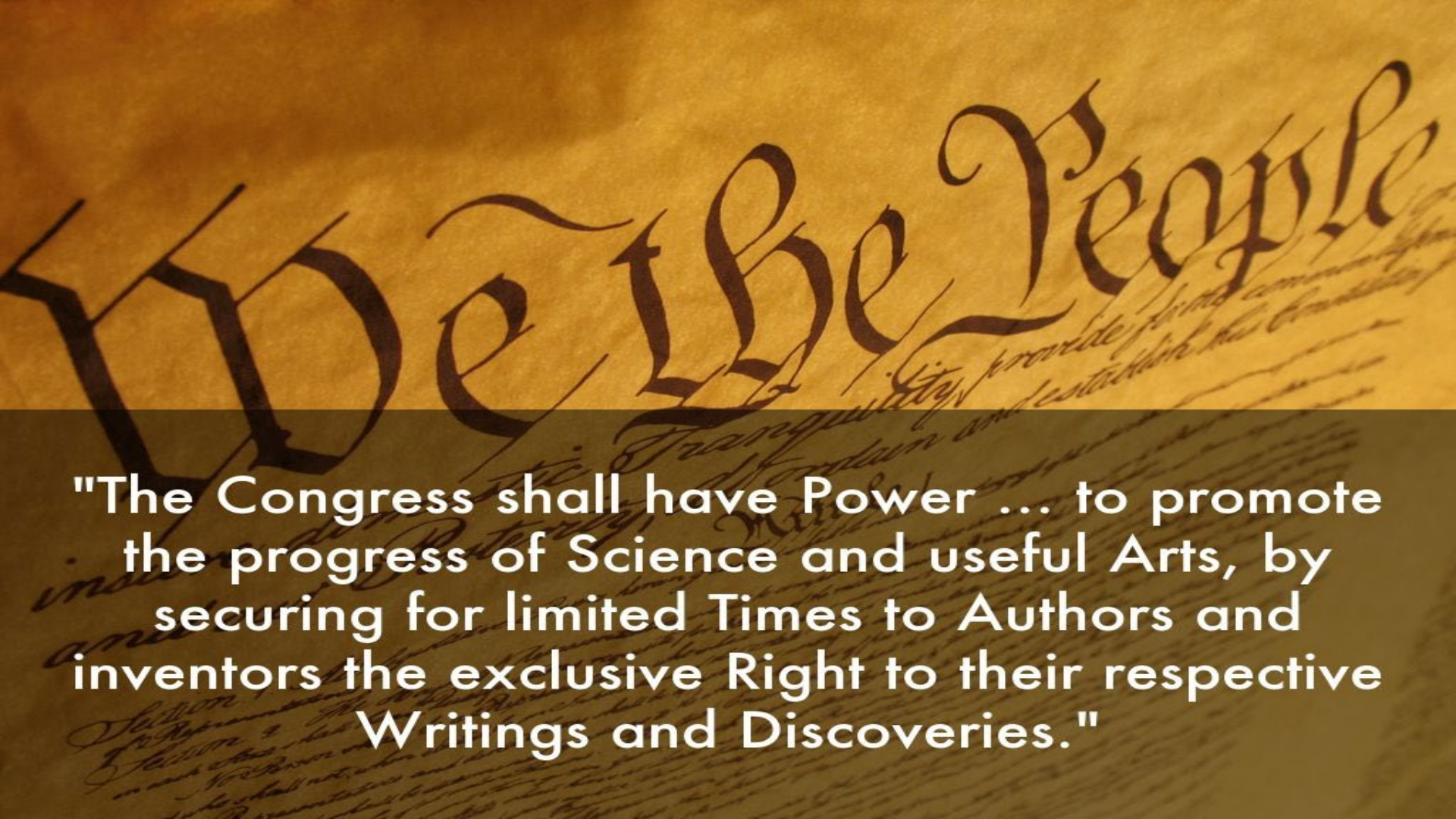
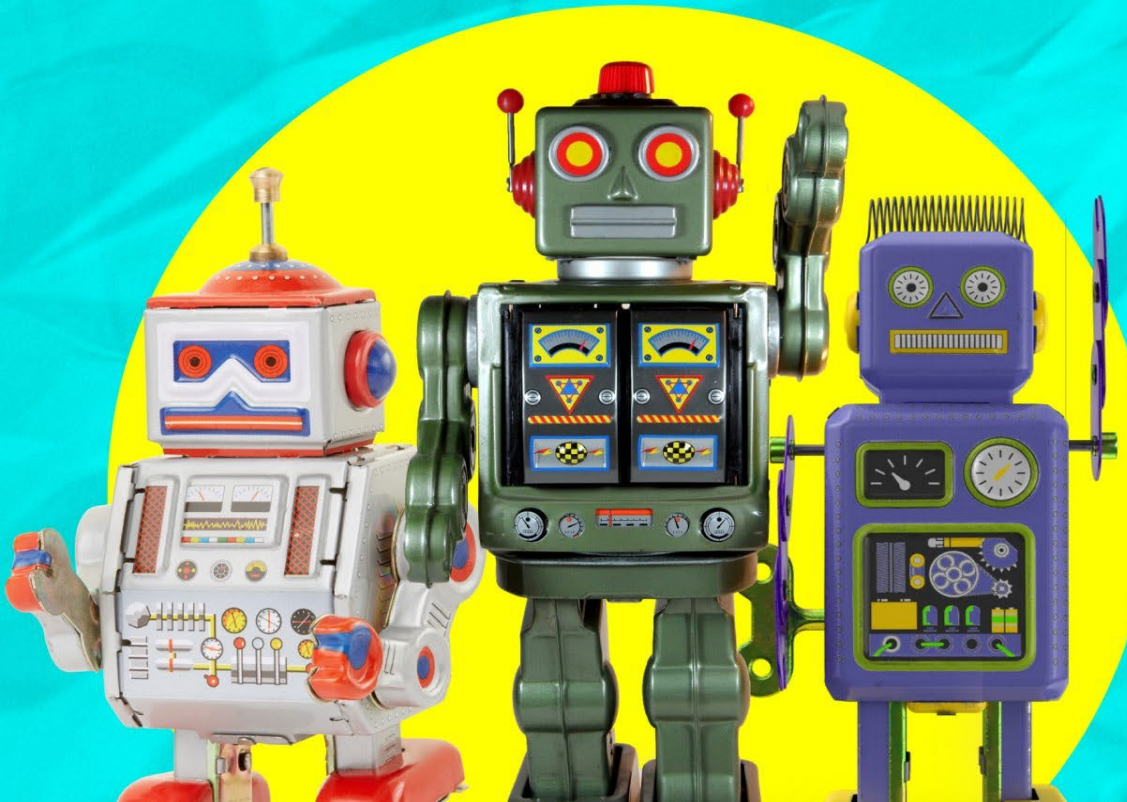




"The Congress shall have Power ... to promote the progress of Science and useful Arts, by securing for limited Times to Authors and inventors the exclusive Right to their respective Writings and Discoveries."

FUTURE TIMES

1 JANUARAY 2040



Robots Fight For Equal Rights

The now famous humanoid robot Sophia, created by the Hong Kong-based company Hanson Robotics, was granted citizenship in Saudi Arabia in October this year. But many people were offended, even outraged by it, because now the robot had more rights than women in the country which is believed to be the birthplace of Islam.But technically, if a person (or creation) is a "citizen" of a particular country, won't he/she have rights there? The right to free will, the right to life, and maybe even the right to vote?Benjamin Kuipers, professor of computer science and engineering at the University of Michigan had a unique take on the predicament:"A human being is a unique and irreplaceable individual with a finite lifespan. Robots (and other AIs) are computational systems, and can be backed up, stored, retrieved, or duplicated, even into new hardware. A robot is neither unique nor irreplaceable. Even if robots reach a level of cognitive capability (including self-awareness and consciousness) equal to humans, it is not at all clear what this means for the 'rights' of such 'persons'. We already face, but mostly avoid, questions like these about the rights and responsibilities of corporations. A well-known problem with corporate 'personhood' is that it is used to deflect responsibility for misdeeds from individual humans to the corporation."But Professor Kuipers' statement doesn't take into account the very human nature to anthropomorphize robots because of popular psyche, and basically an inherent nature to relate and protect. The now famous humanoid robot Sophia, created by the Hong Kong-based company Hanson Robotics, was granted citizenship in Saudi Arabia in October this year. But many people were offended, even outraged by it, because now the robot had more rights than women in the country which is believed to be the birthplace of Islam.But technically, if a person (or creation) is a "citizen" of a particular country, won't he/she have rights there? The right to free will, the right to life, and maybe even the right to vote?Benjamin Kuipers, professor of computer science and engineering at the University of Michigan had a unique take on the predicament:"A human being is a unique and irreplaceable individual with a finite lifespan. Robots (and other AIs) are computational systems, and can be backed up, stored, retrieved, or duplicated, even into new hardware. A robot is neither unique nor irreplaceable. Even if robots reach a level of cognitive capability (including self-awareness and consciousness) equal to humans, it is not at all clear what this means for the 'rights' of such 'persons'. We already face, but mostly avoid, questions like these about the rights and responsibilities of corporations. A well-known problem with corporate 'personhood' is that it is used to deflect responsibility for misdeeds from individual humans to the corporation."But Professor Kuipers' statement doesn't take into account the very human nature to anthropomorphize robots because of popular psyche, and basically an inherent nature to relate and protect.
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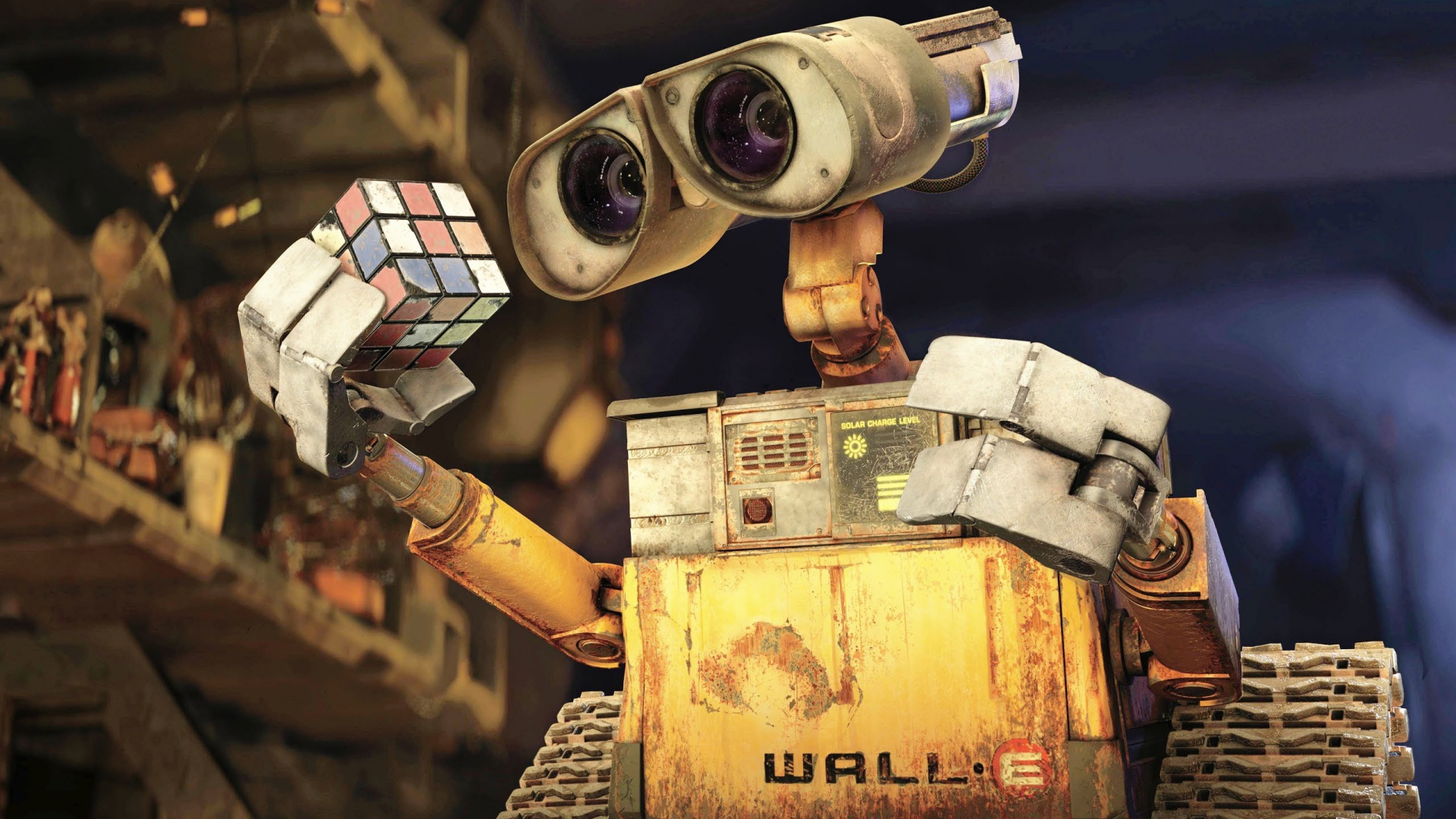
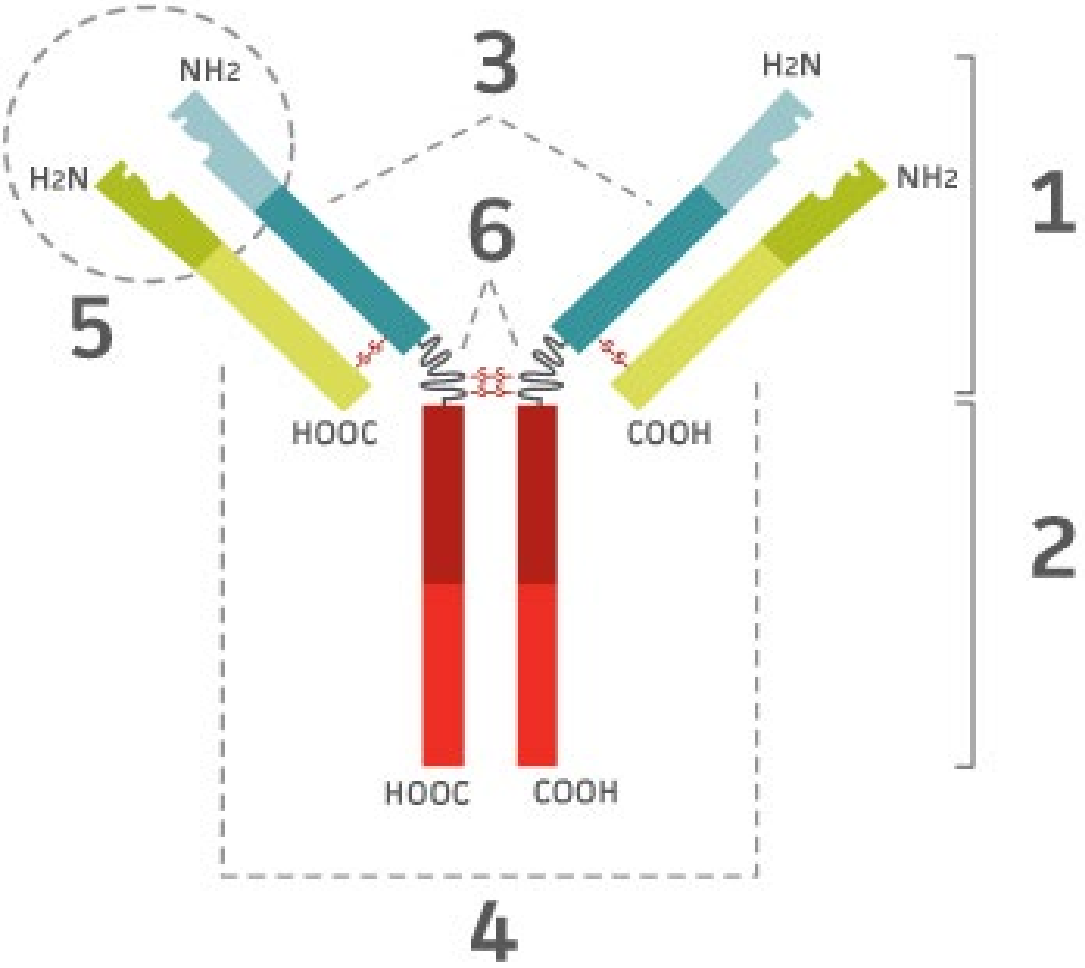

SOLAR CHARGE LEVEL
WALL·E


Tickets
Platforms 9 to 19
Tickets
Platforms 1 to 8
Tickets
Platforms 9 to 19
1 to 8
9 to 19
FISH & CHIPS
PRE THEATRE DINING


ANNO MDCCXLIII.



1 Fab region

2 Fc region

3 Heavy chain with one variable (V_H) domain followed by a constant domain (C_H1), a hinge region, and two more constant (C_H2 and C_H3) domains.

4 Light chain with one variable (V_L) and one constant (C_L) domain

5 Antigen binding site (paratope)

6 Hinge regions

1 The accelerating pace of change ...

Agricultural Revolution ← 8,000 years → Industrial Revolution ← 120 years → Light-bulb ← 90 years → Moon landing ← 22 years → World Wide Web ← 9 years → Human genome sequenced

2 ... and exponential growth in computing power ...

Computer technology, shown here climbing dramatically by powers of 10, is now progressing more each hour than it did in its entire first 90 years

3 ... will lead to the Singularity

2045 Surpasses brainpower equivalent to that of all human brains combined

Surpasses brainpower of human in 2023

Surpasses brainpower of mouse in 2015

COMPUTER RANKINGS
By calculations per second per $1,000

Analytical engine
Never fully built, Charles Babbage's invention was designed to solve computational and logical problems

Colossus
The electronic computer, with 1,500 vacuum tubes, helped the British crack German codes during WW II

UNIVAC I
The first commercially marketed computer, used to tabulate the U.S. Census, occupied 943 cu. ft.

Apple II
At a price of $1,298, the compact machine was one of the first massively popular personal computers

Power Mac G4
The first personal computer to deliver more than 1 billion floating-point operations per second

Hollerith Tabulator
IBM Tabulator
National Ellis 3000
Zuse 2
Zuse 3
IBM SSEC
ENIAC
BINAC
EDVAC
Whirlwind
Datamatic 1000
IBM 1620
DEC PDP-10
DEC PDP-4
IBM 1130
Intellec-8
Data General Nova
IBM PC
Compaq Deskpro 386
Pentium PC
Pentium II PC
Dell Dimension 8400
Mac Pro
Nvidia Tesla GPU & PC

10^{26}
10^{20}
10^{15}
10,000,000,000
100,000
1
0.00001

ELECTROMECHANICAL → RELAYS → VACUUM TUBES → TRANSISTORS → INTEGRATED CIRCUITS

1900 1920 1940 1960 1980 2000 2011 2020 2045