

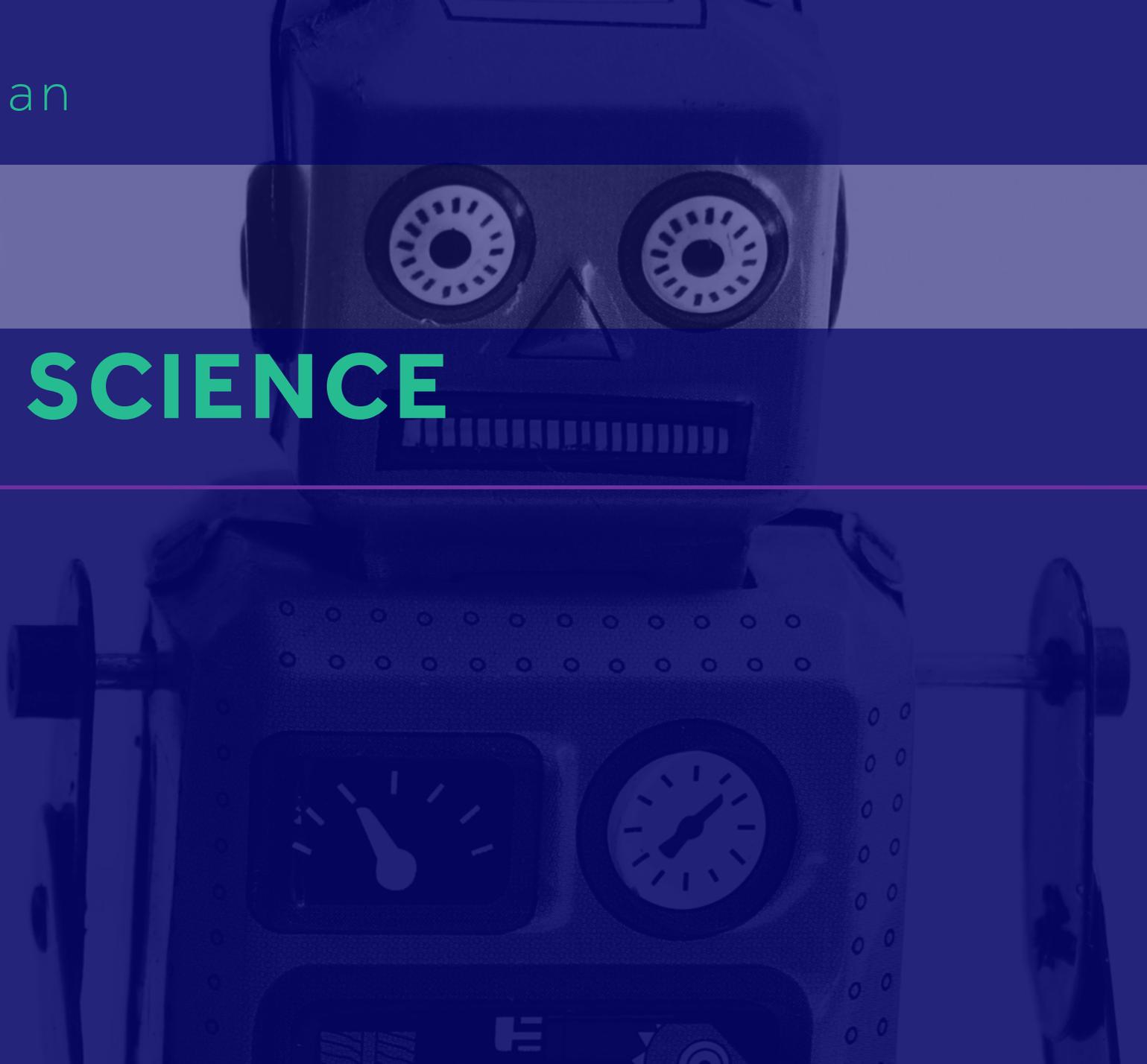
How not to be human

# ROBOTS IN SCIENCE FICTION

Jim Endersby



**GRESHAM**  
COLLEGE



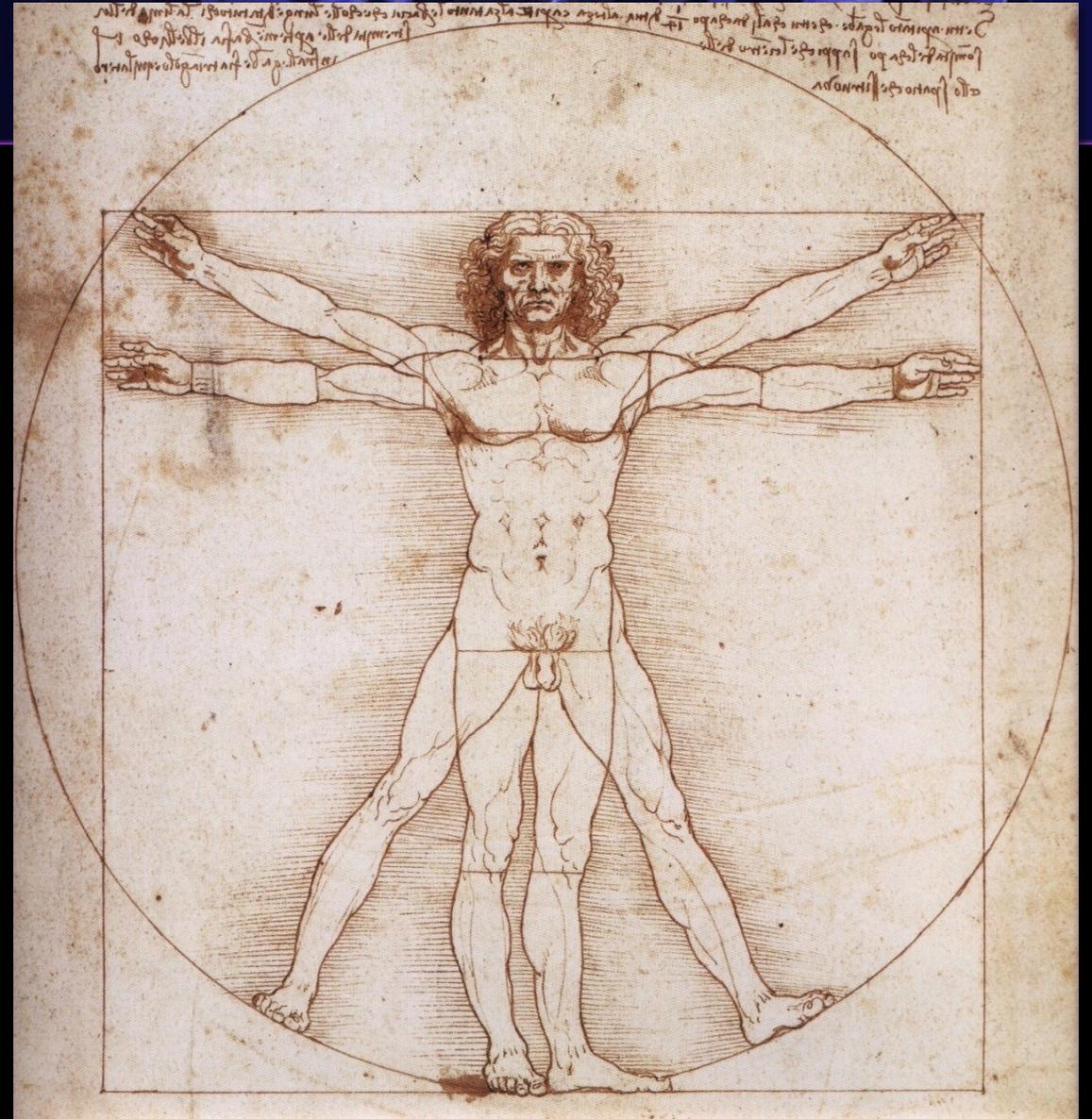


# Nature and Culture



## Natural differences?

The concept of “human nature” is founded on the idea that people have naturally occurring properties.



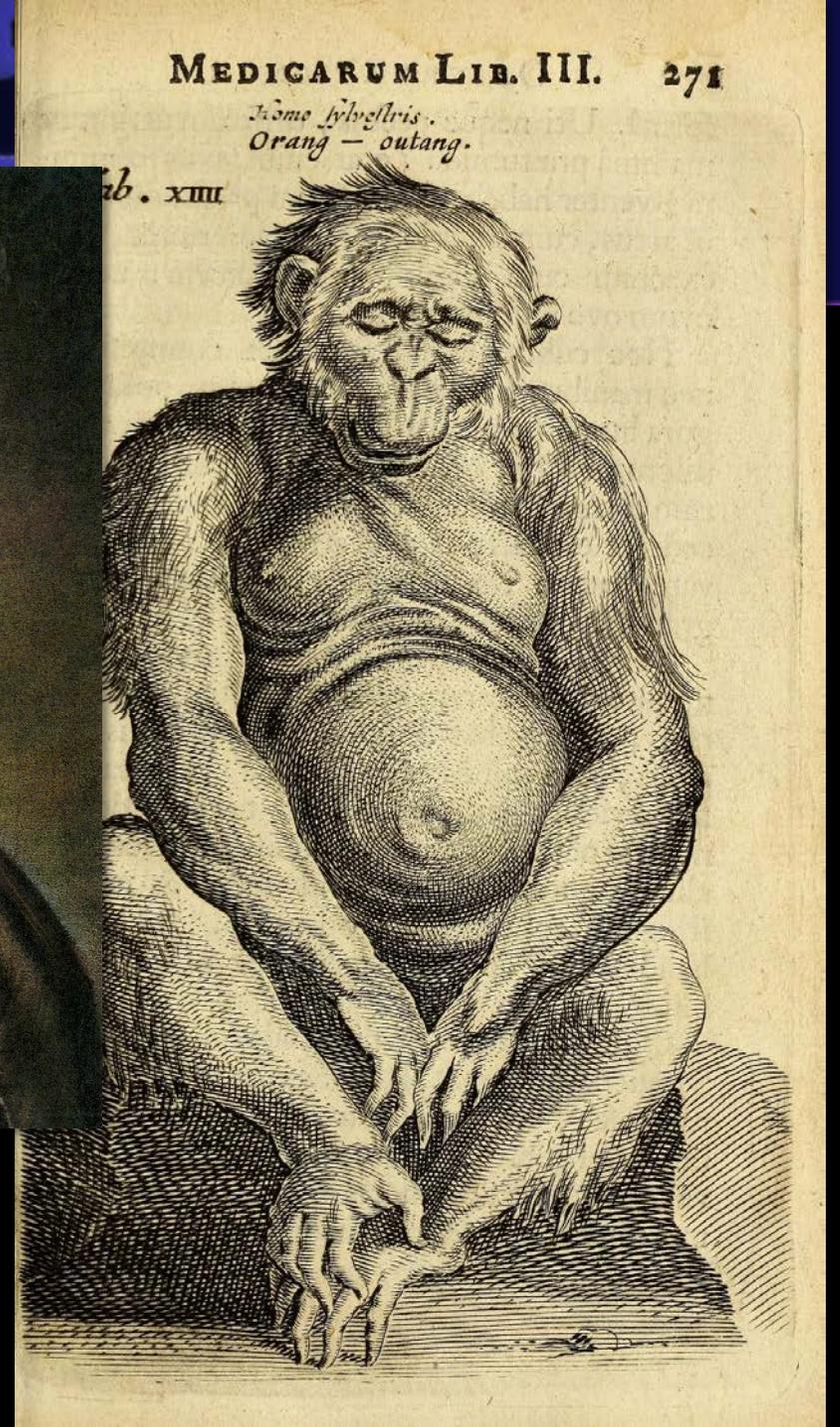
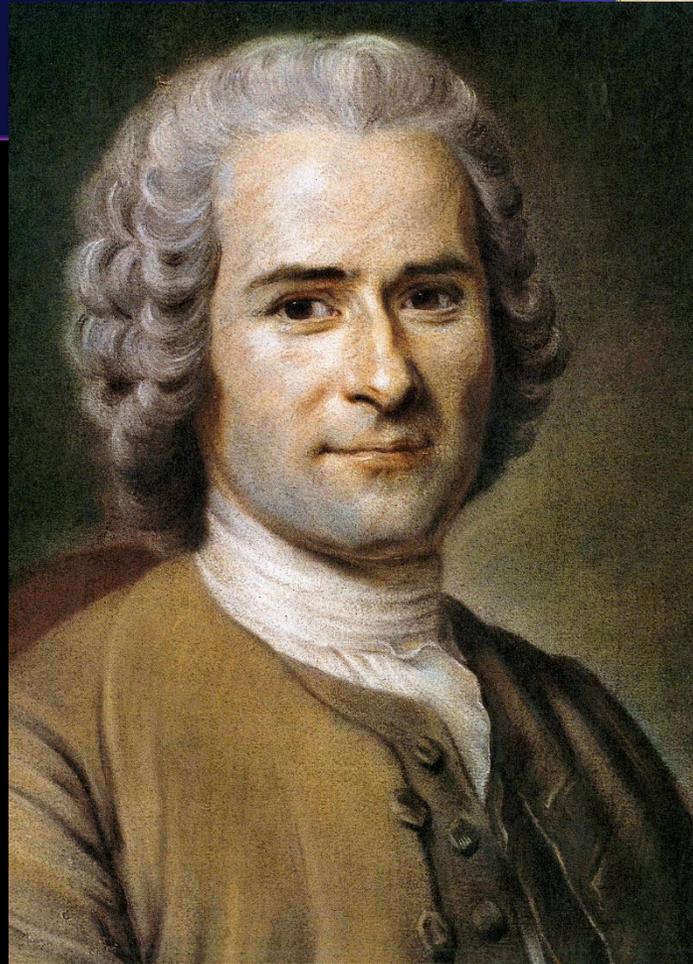
## Mary Wollstonecraft (1759–1797)

Like many other Enlightenment philosophers, she argued for the concept of *natural* rights.



## The state of nature

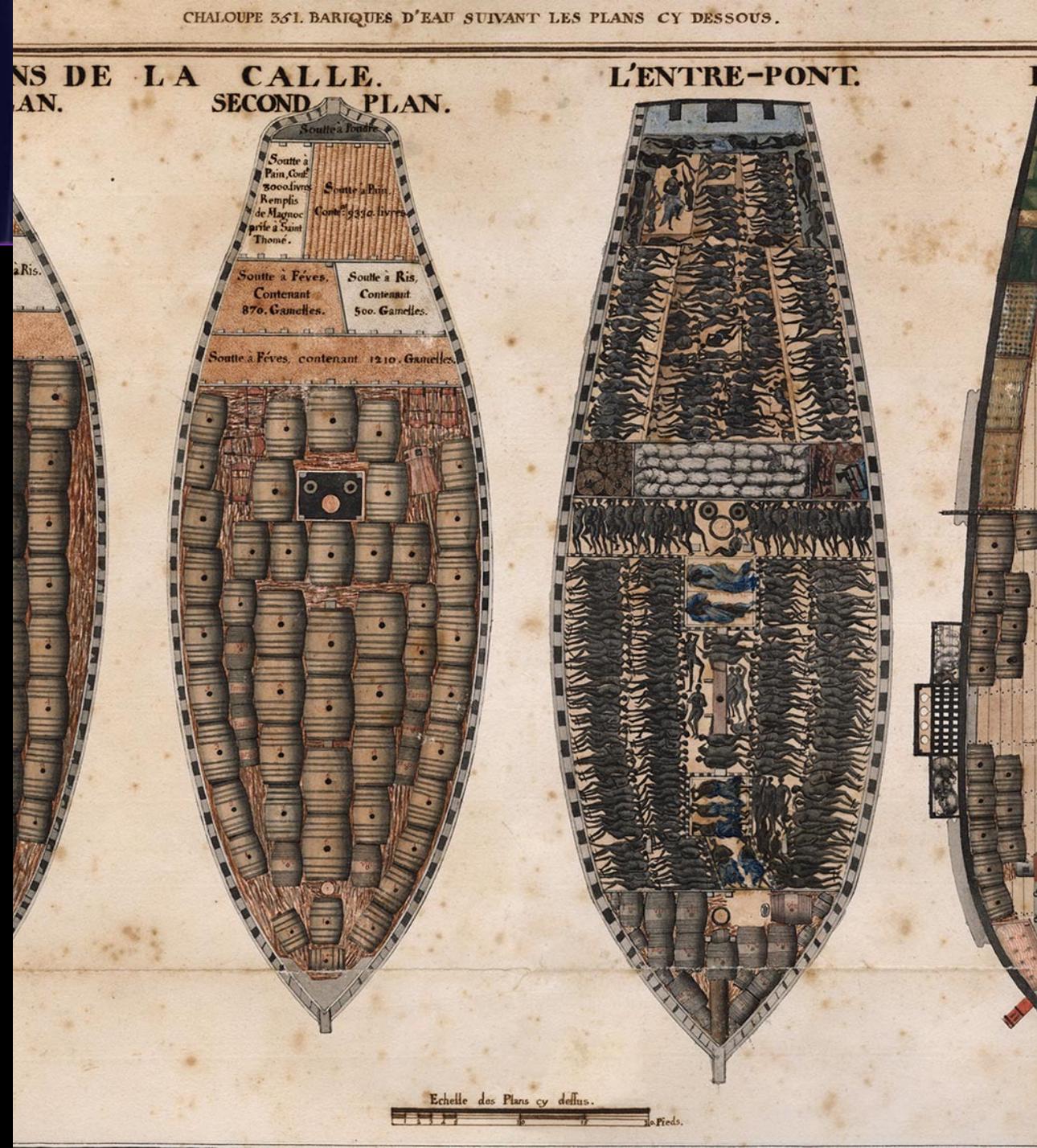
Jean-Jacques  
Rousseau used the  
idea of the ape to  
imagine how humans  
might live in a  
simpler, more  
*natural*, state.



Nature and culture

## Saint-Domingue (Haiti)

Successful slave uprising in 1791 helped expand the natural “Rights of Man” into universal human rights.



## Apes, Women and Robots

Earlier examples of the supposedly non-human (or less than human) were apparently natural.

Robots are clearly artificial; should reveal a sharper contrast between the way things (naturally) are, and the way people might like them to be?



## Objective knowledge

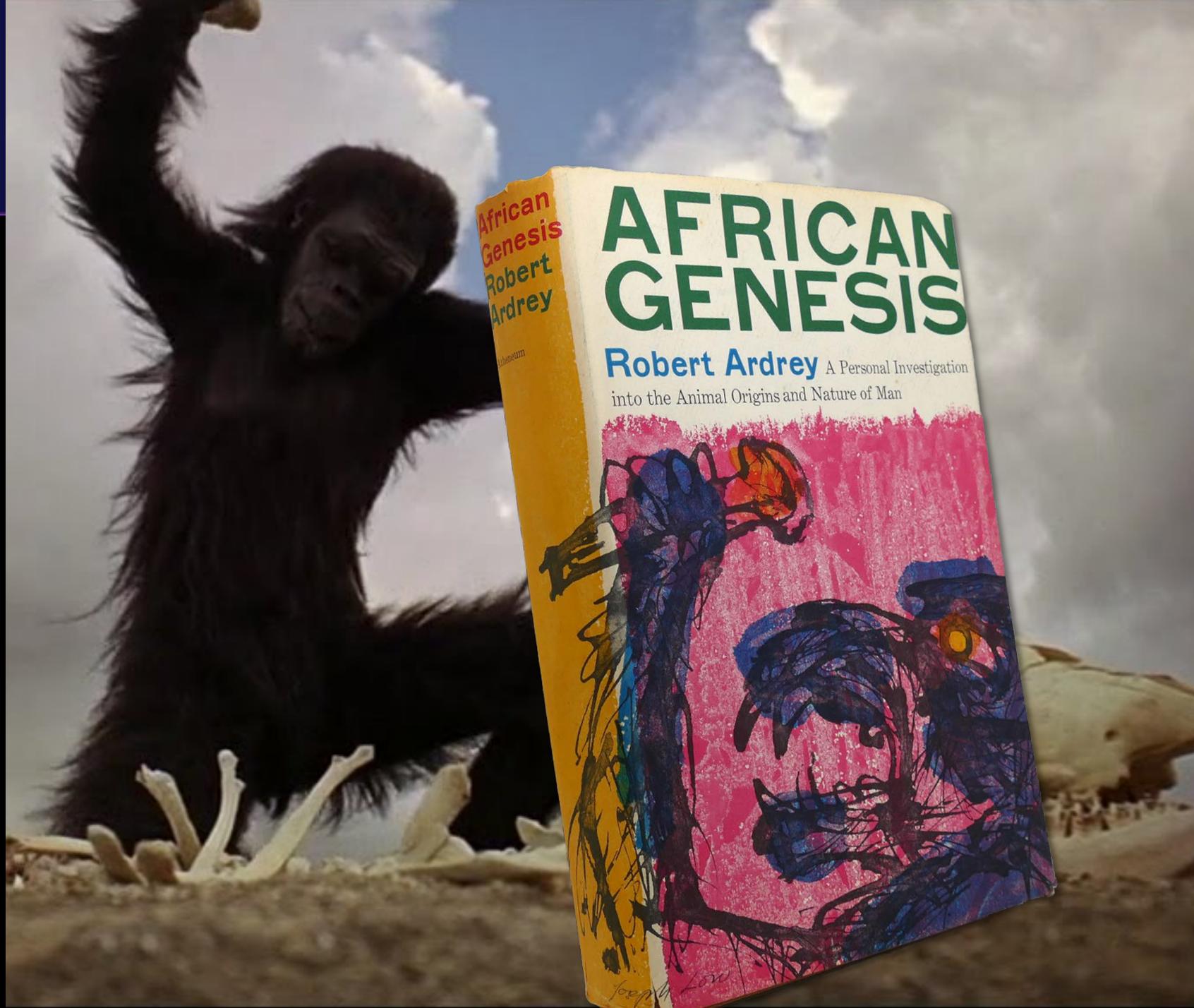
Rise of Western science:  
dream of acquiring objective  
– and thus potentially  
universal – knowledge (not  
specific to any one group).

Culture is almost always  
about the differences  
between groups.



## Shifting contexts

As we saw in the first lecture, scientific concepts of apes have shifted several times, often in response to cultural or political changes in human societies.

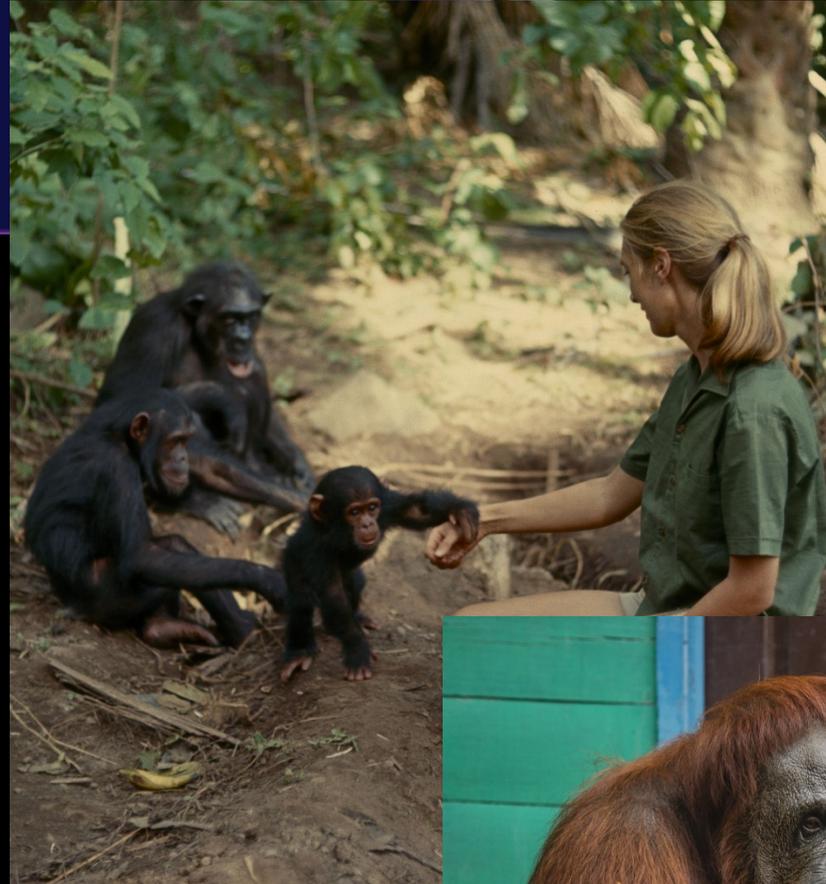


## Apes and Women

Women's movement in 1960s was one factor that encouraged more women to study science.

Women primatologists fundamentally changed how science understood apes.

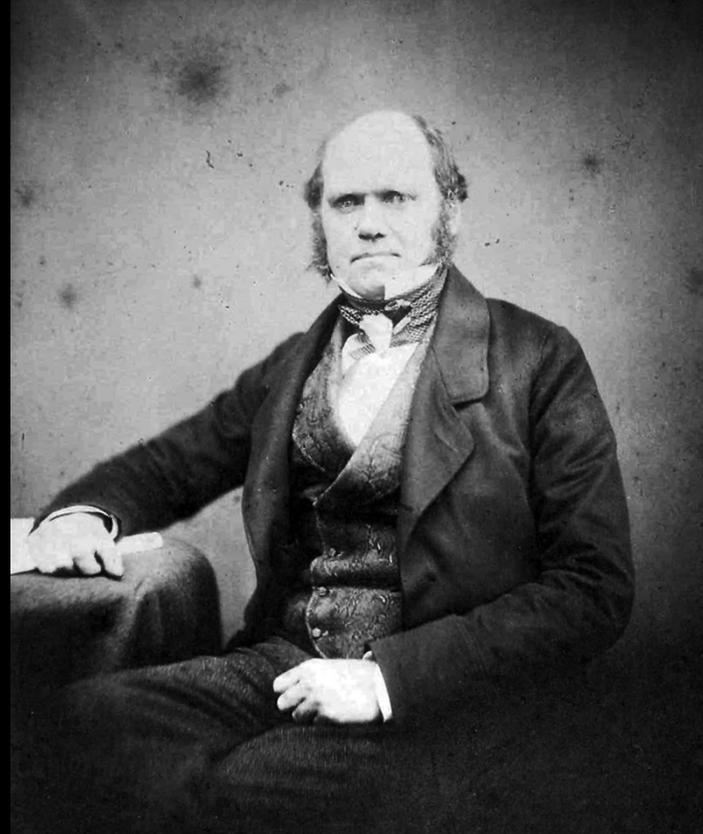
Culture transformed nature?



## Natural Selection

Key concept in evolution was discovered simultaneously by Charles Darwin and Alfred Russel Wallace in the mid nineteenth century.

World's first industrialised, capitalist economy provided both men with a metaphor for how nature worked.



## Communicating science

*Darwin explaining orchid pollination mechanism in *Cypripedium* (Lady's slipper orchids):*

Small insect could crawl in but not out and so “the labellum thus acts like one of those conical traps with the edges turned inwards, which are sold to catch beetles and cockroaches in the London kitchens”.



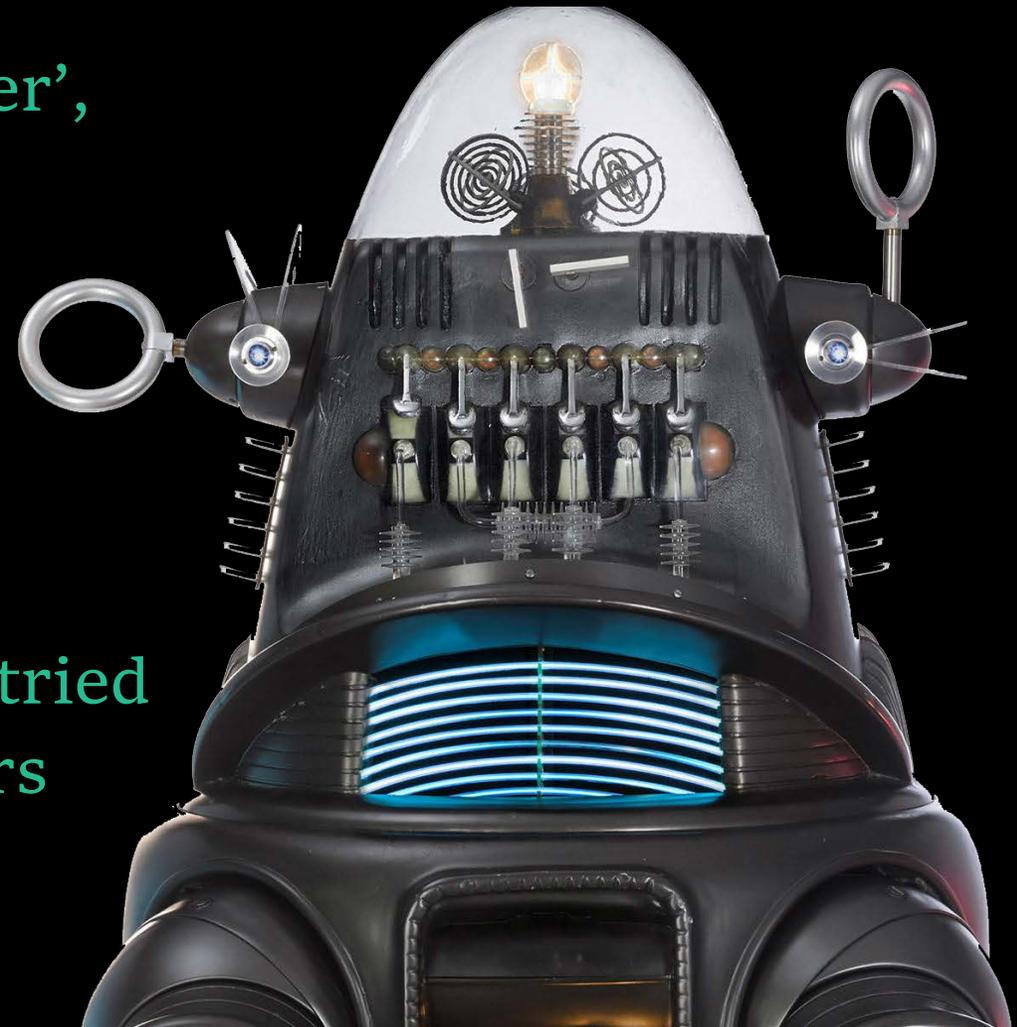
## Creating 'others'

Science (and its fictions) creates an 'other', to provide a contrast with the human.

Apes and women are (supposedly) natural examples.

Robots (real or imaginary) provide new models of what people are, or could be.

Some robot builders (real and fictional) tried to make robots more human, while others have tried to make people more robotic.





**Model workers**

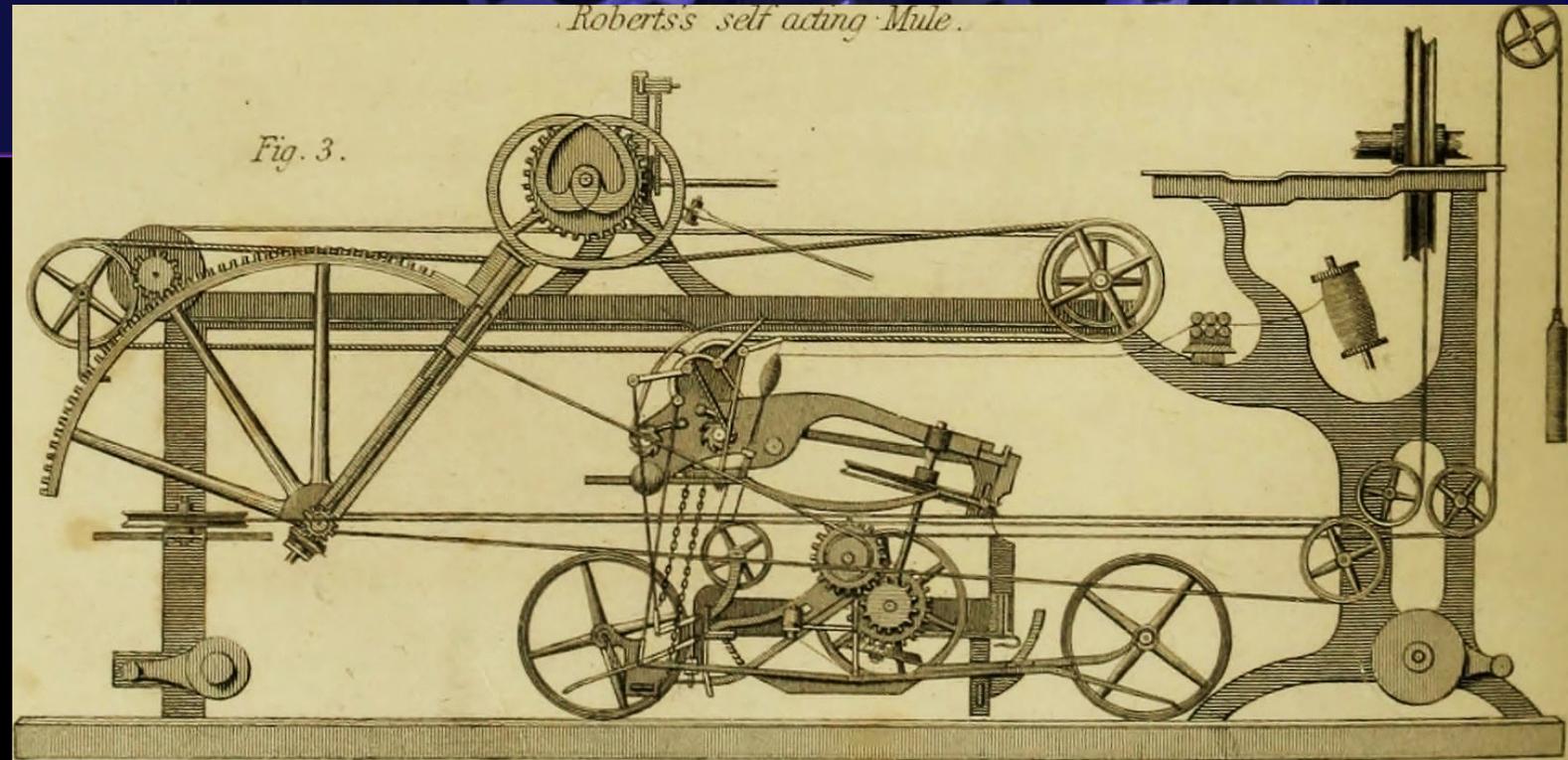


## The first robot?

Appeared in British factories in 1835.

A “machine apparently instinct with the thought, feeling, and tact of the experienced workman”, became known as the “Iron Man”.

Installed by mill owners to put a stop to the strikes that plagued the cotton-spinning industry.

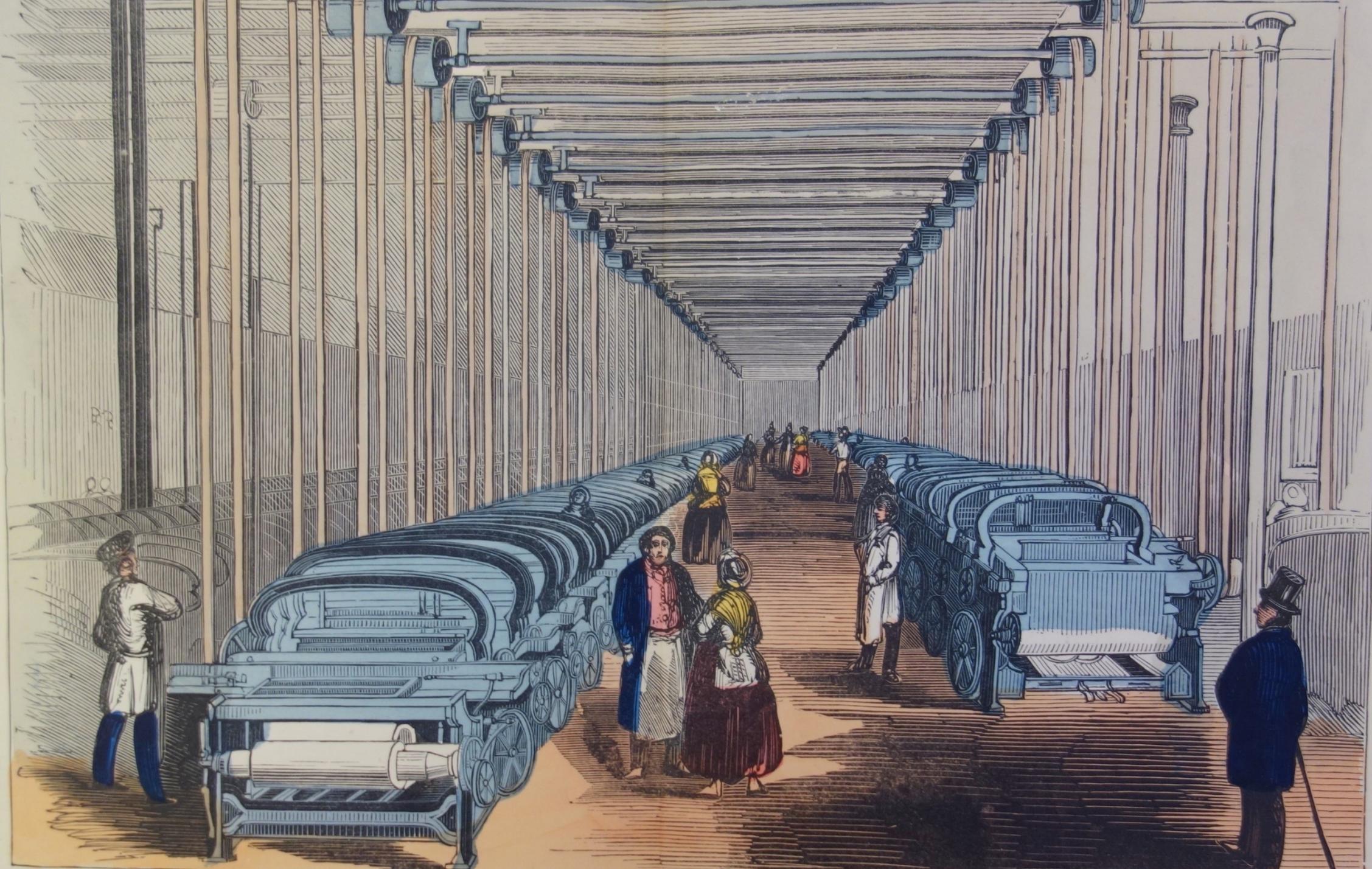


## The first robot

Self-acting spinning mule, designed by Richard Roberts and marketed by the Manchester engineering firm of Sharp, Roberts & Company.

Patented in 1823, the latest in a long-series of attempts to create a “self-acting” spinning machine – an automaton – a machine that worked by itself.





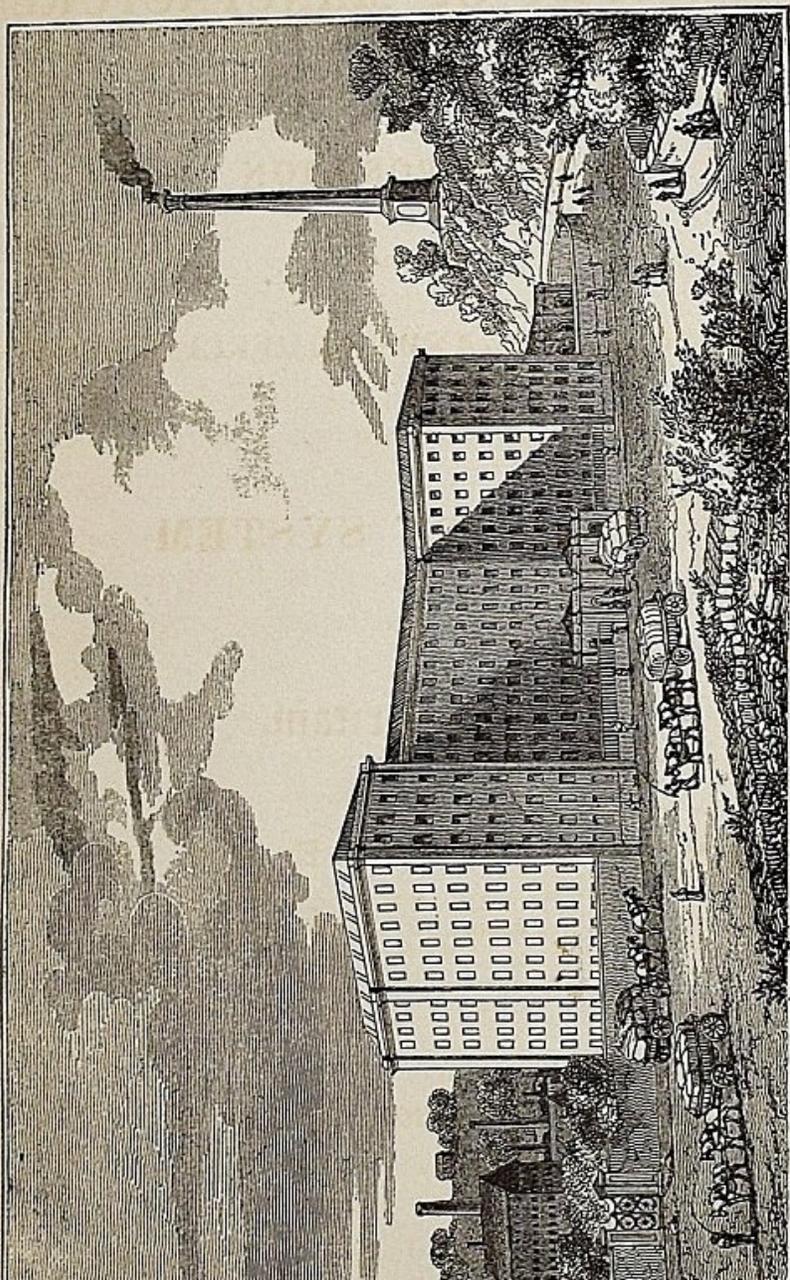


## Andrew Ure

(1778–1857), Scots doctor and chemist.

Profoundly impressed with the scale of the British textile industry

Especially by high productivity and profits with little skilled labour.



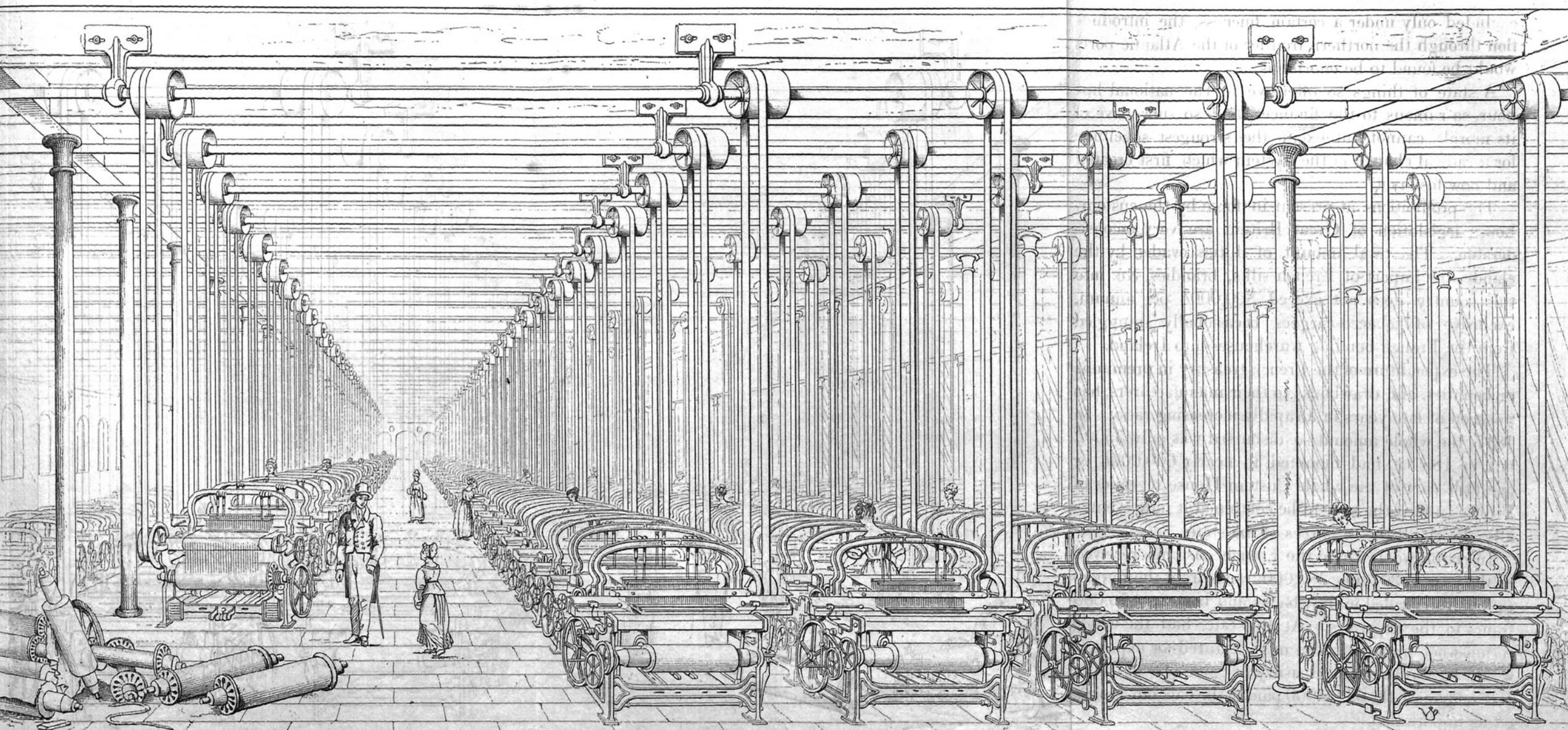
O'REILL'S Cotton Factory, Stockport.

THE  
PHILOSOPHY OF MANUFACTURES :  
OR,  
AN EXPOSITION  
OF THE  
SCIENTIFIC, MORAL, AND COMMERCIAL ECONOMY  
OF THE  
FACTORY SYSTEM  
OF  
Great Britain.

BY ANDREW URE, M.D., F.R.S.,

M.G.S., M.A.S. Lon., M. Acad. N.S. Philad.,  
S. Pharm. Soc. North Germany,  
&c. &c. &c.

SECOND EDITION, CORRECTED.



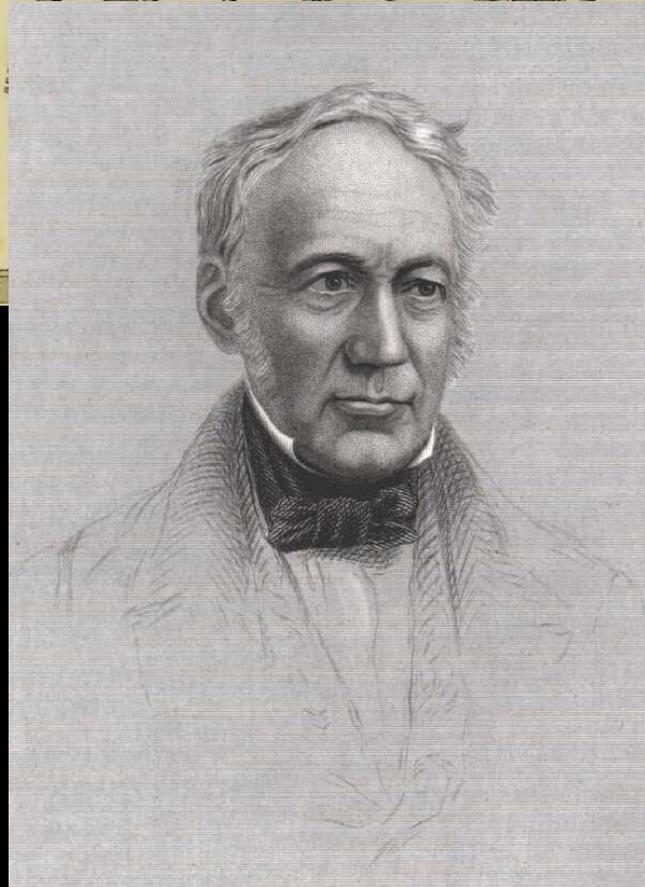
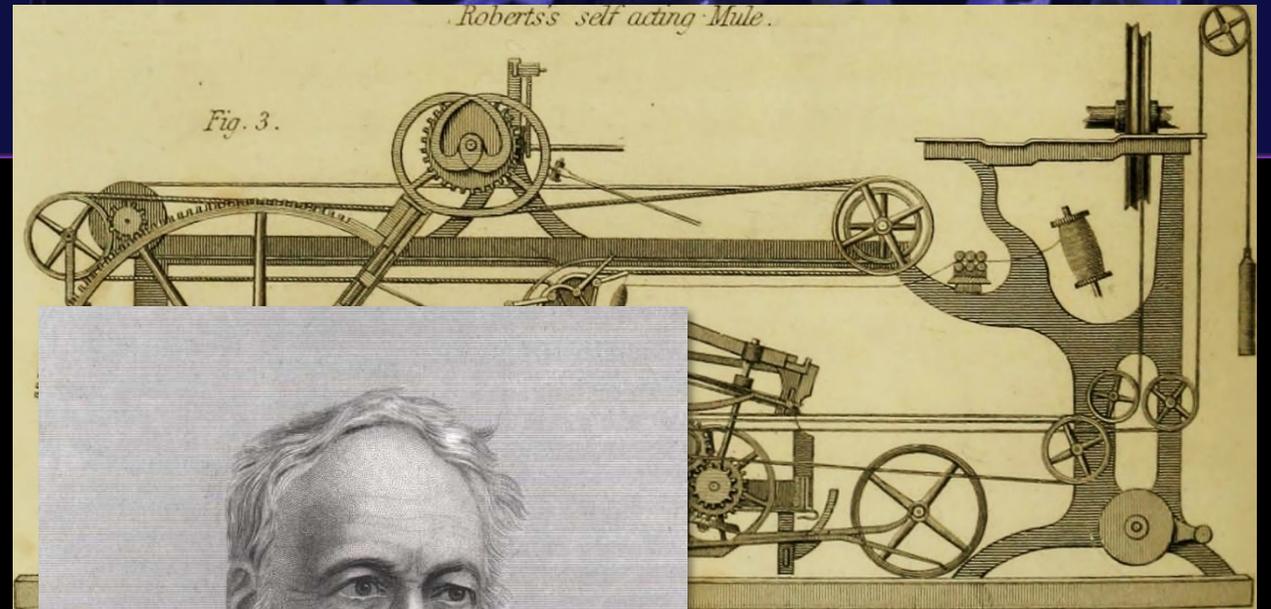
POWER LOOM FACTORY OF THOMAS ROBINSON ESQ<sup>R</sup>  
STOCKPORT.

James Nasmyth delin.

J.W. Lowry sculp.

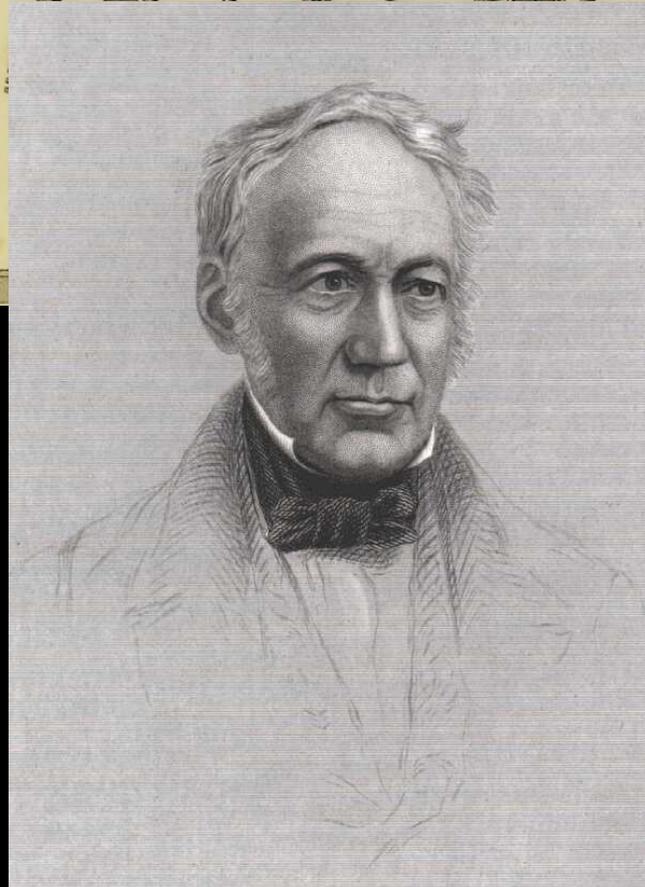
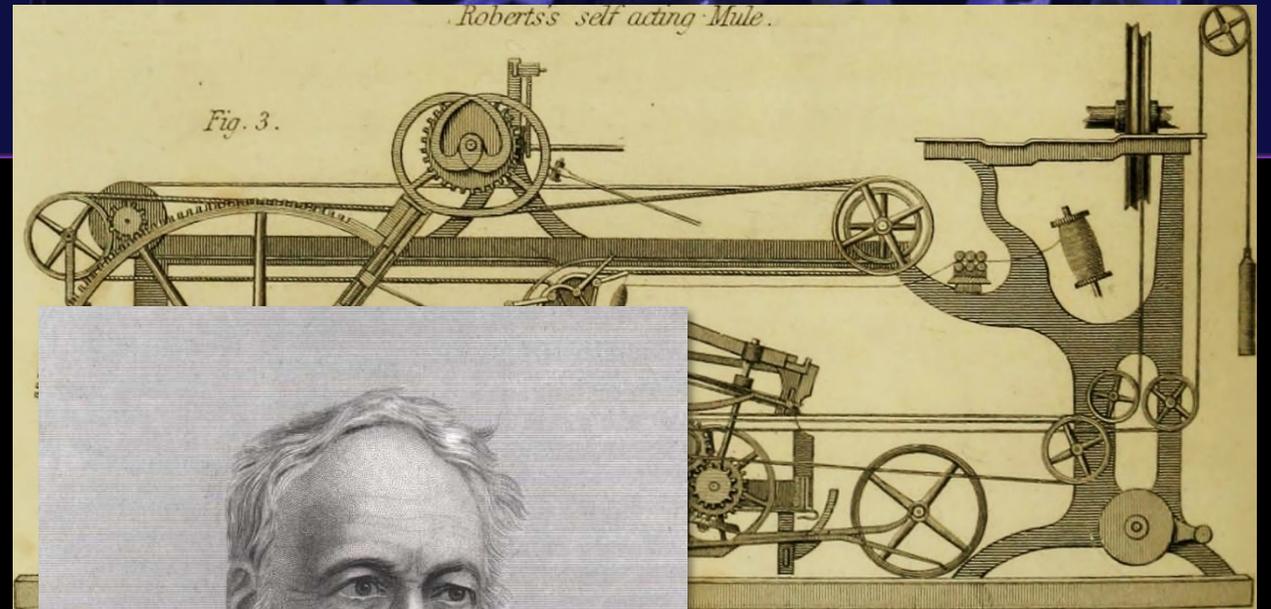
## The Iron Man

“I have stood by for hours”,  
Ure wrote “admiring the  
rapidity and precision with  
which the self-actor  
executes its multifarious  
successions and reversals  
of movement”.



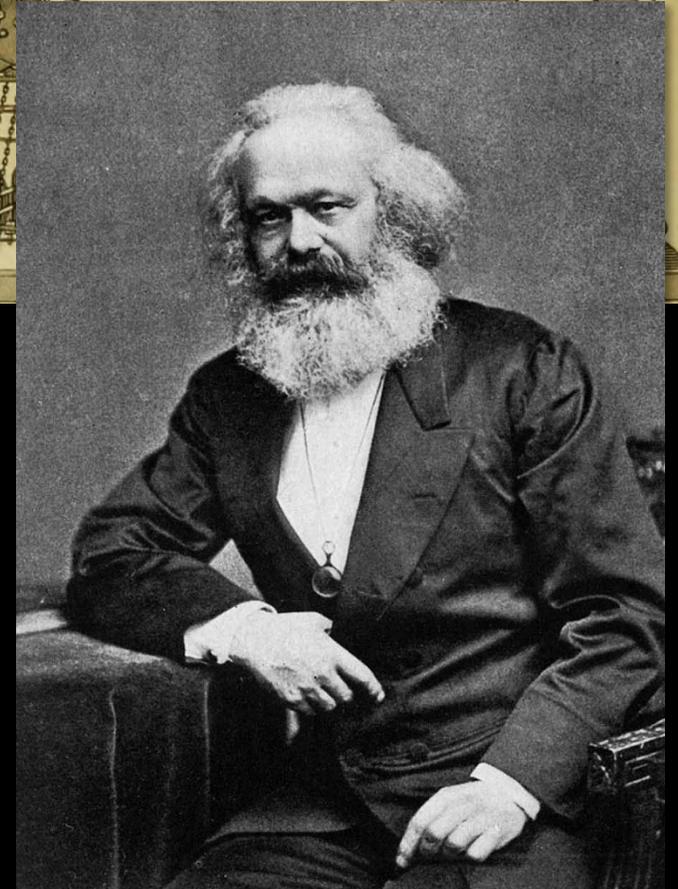
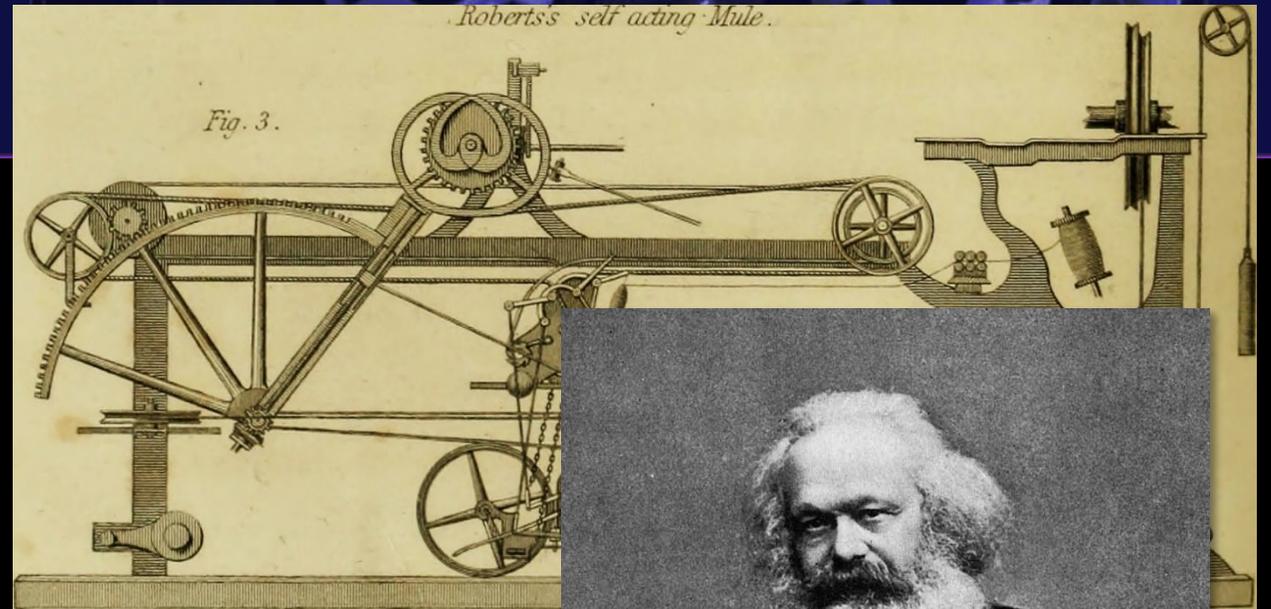
## The Iron Man

“This invention confirms the great doctrine already propounded, that when capital enlists science in her service, the refractory hand of labour will always be taught docility”.



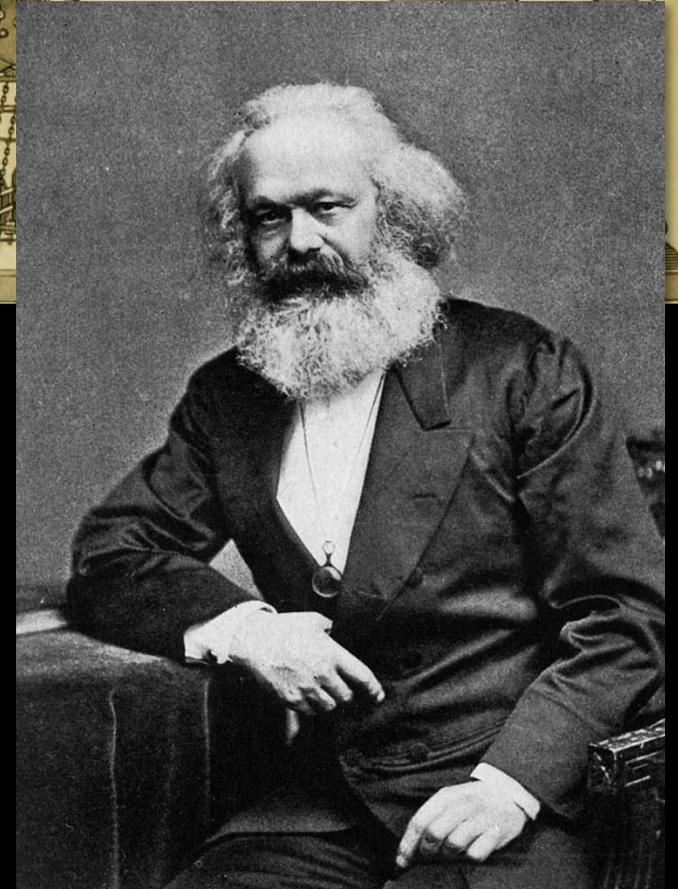
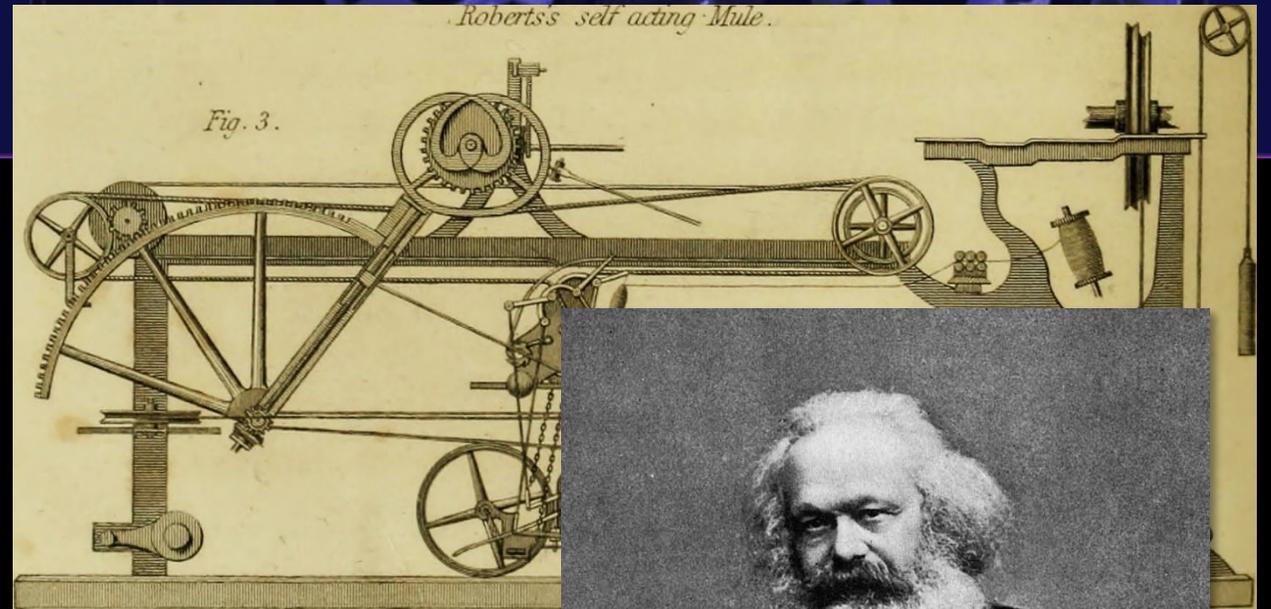
## The Iron Man

Karl Marx: the “self-acting mule ... opened up a new epoch in the automatic system”.



## The Iron Man

“Machinery not only acts as a competitor who gets the better of the workman, and is constantly on the point of making him superfluous. It is also a power inimical to him, and as such capital proclaims it from the roof tops and as such makes use of it”.



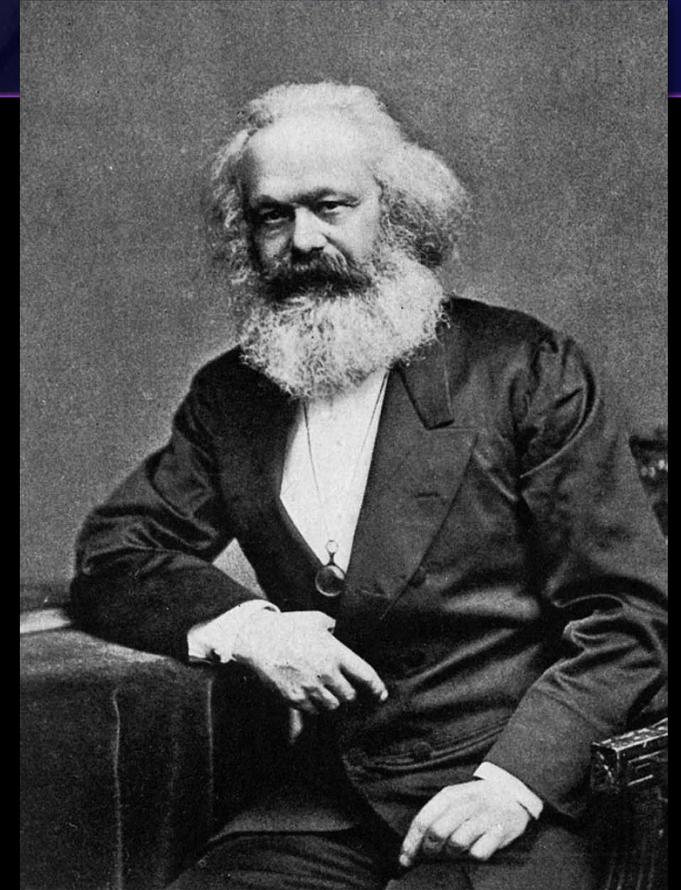


## Power of the machines

Ure: “how vastly productive human industry would become, when no longer proportioned in its results to muscular effort, which is by nature fitful and capricious, but when made to consist in the task of guiding the work of mechanical fingers and arms, regularly impelled with great velocity by some indefatigable physical power”

## Power of the machines

Marx: “slavery cannot be abolished without the steam-engine and the mule and spinning-jenny” because “people cannot be liberated as long as they are unable to obtain food and drink, housing and clothing in adequate quality and quantity”



## Reason's universal serfs

Czech writer Karel Čapek coined the word “robot”, which he derived from the Czech word *robota* (forced labour, drudgery), in his play *R.U.R. (Rossumovi Univerzální Roboti, Rossum's Universal Robots, 1921)*.

Play is named after the robot-making company, R.U.R., whose founders' surname, Rossum, derives from the Czech word *Rozum* (reason), so the play's title could be rendered as “Reason's universal serfs”.



Model workers

## ***R.U.R.***

Play is set in a future where Ure's vision of the perfect factory has been realised: the robots have taken over all the world's manual labour, supposedly freeing humans for more creative tasks.



Model workers

## ***R.U.R.***

Idealistic young woman, Helena Glory, visits the remote island where all the robots are made.

She learns from the manager, Domin, that the robots don't want freedom.



## **R.U.R.**

The robots are biological not mechanical and are supplied as male or female models (to meet a demand for female robots to do traditionally female work).

But “sex means nothing to them”, and Domin assures Helena that “There’s no sign of any affection between them”.



## **R.U.R.**

Domin hoped robots would abolish the “appalling social structure” based on work and inequality. “I wanted to turn the whole of mankind into an aristocracy of the world. An aristocracy nourished by milliards of mechanical slaves. Unrestricted, free and consummated in man. And maybe more than man”



## **R.U.R.**

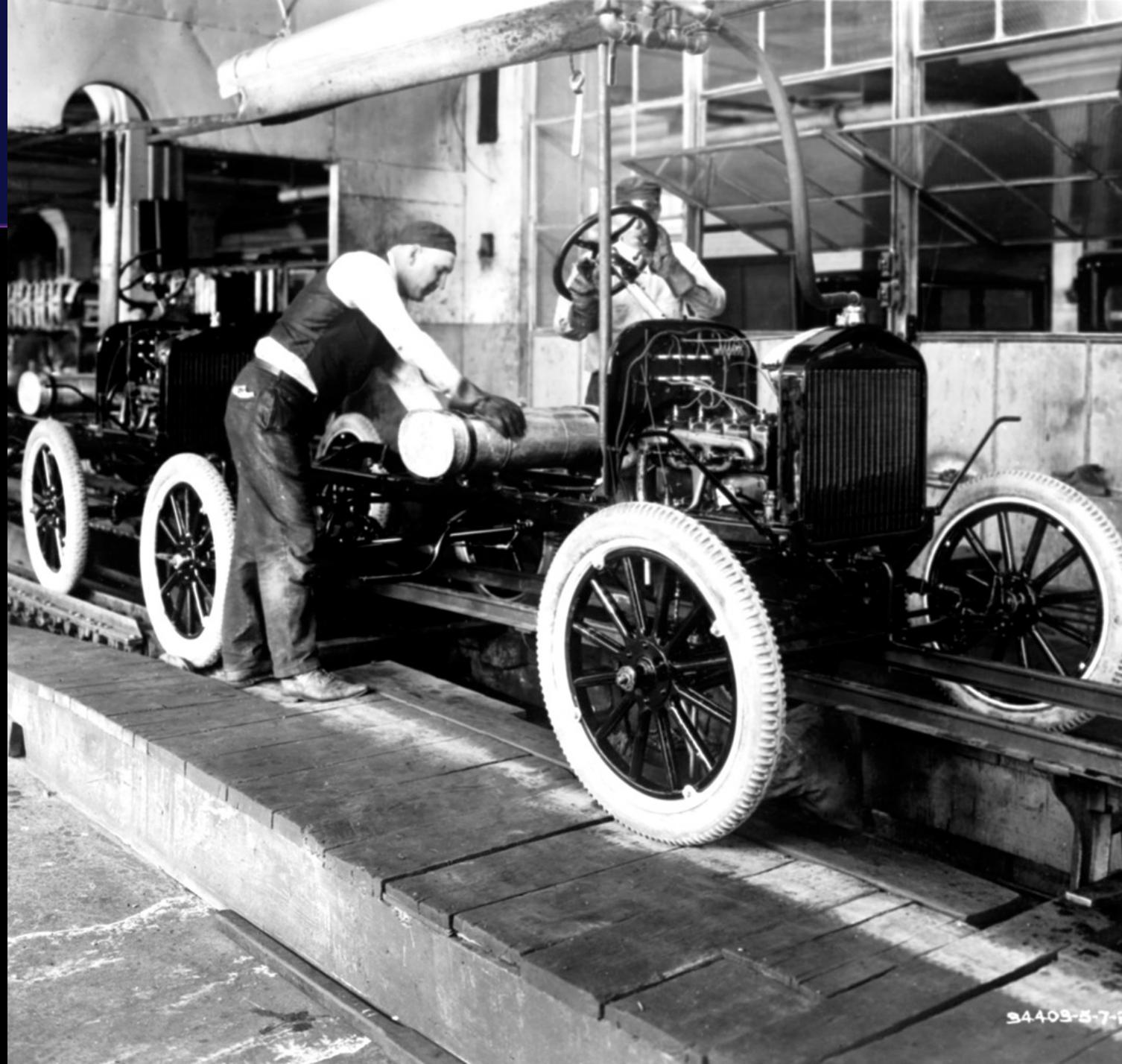
But when Helena asks why the factory continues making robots even after they have clearly begun rebelling, she is told that the shareholders won't hear of a reduction in production, since all the world's governments and manufacturers are demanding more robots.



## Humans into robots?

Frederick Winslow  
Taylor *The Principles of  
Scientific Management*  
(1911):

“In the past the man has  
been first; in the future  
the system must be  
first”.



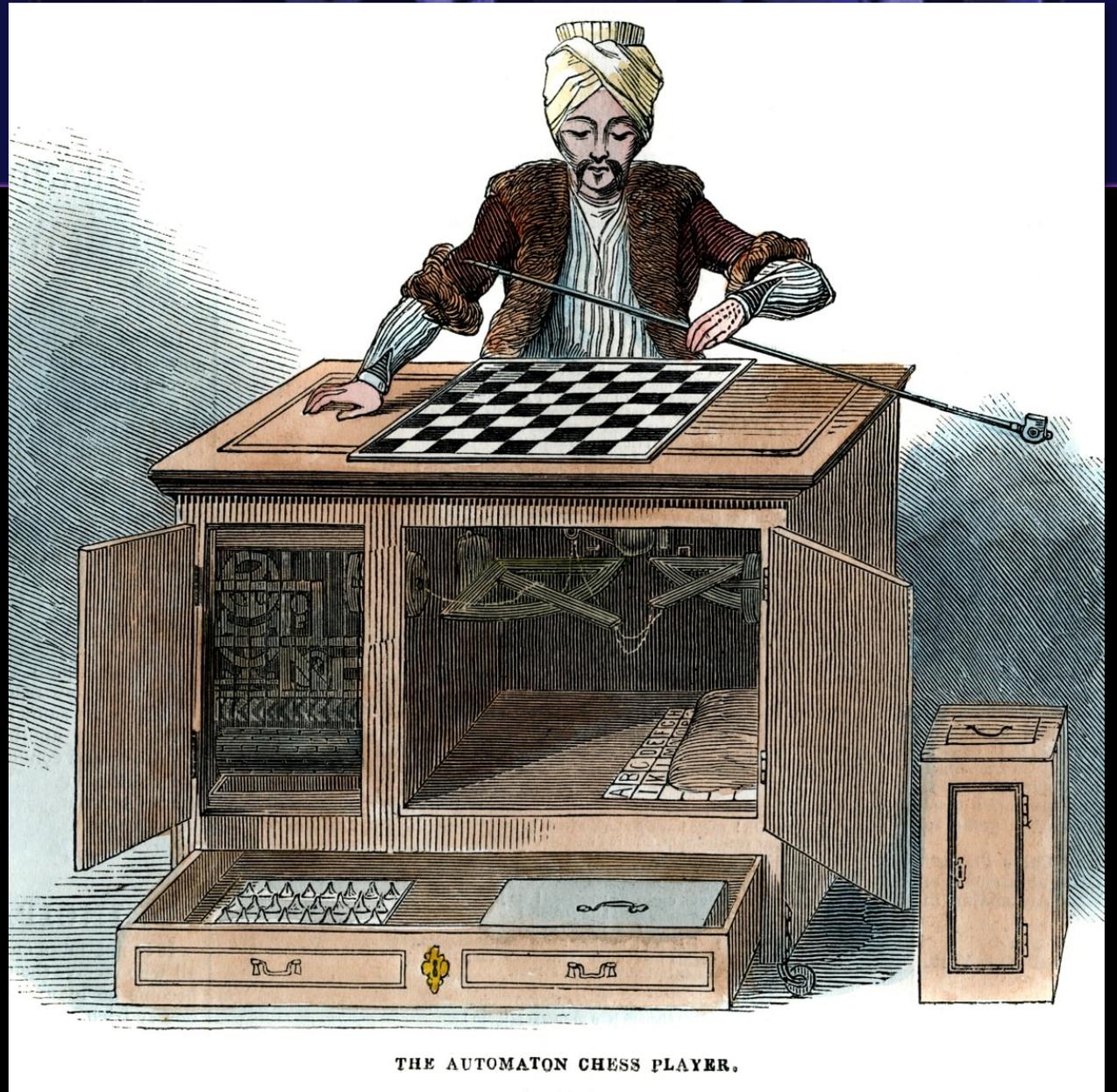




**Enlightened automata**

## Rational robots?

Industrial robots (literally) embody reason: which many philosophers and others have cited as the most important thing that distinguishes humans from nonhumans.

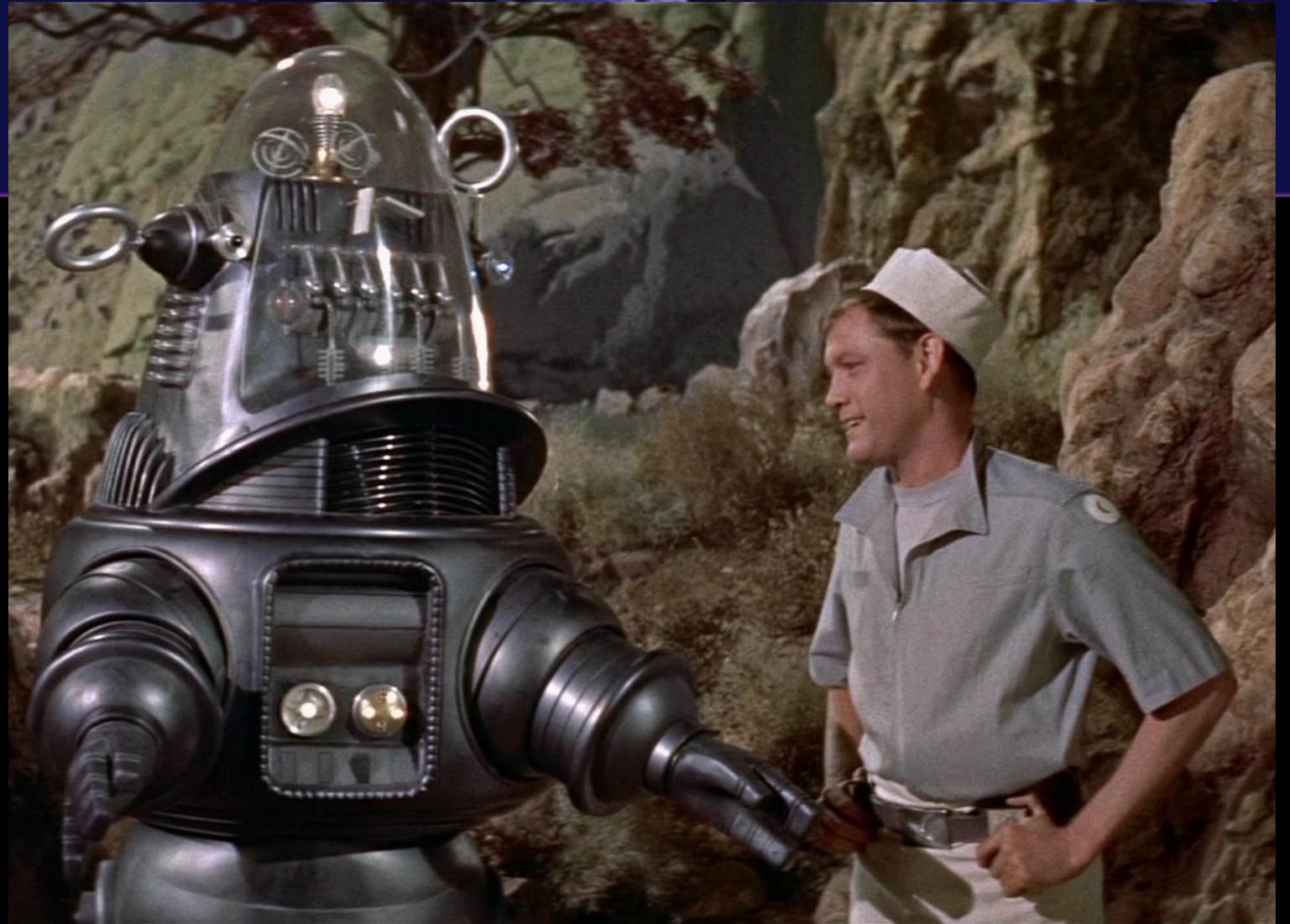


THE AUTOMATON CHESS PLAYER.

Enlightened automata

## Emotional robots?

SF's most memorable robots are neither mass-produced nor anonymous.



Robby the Robot and Cooky,  
*Forbidden Planet* (1956)

Enlightened automata

## Emotional robots?

SF's most memorable robots are neither mass-produced nor anonymous.



Freeman Lowell (Bruce Dern) with Dewey and Huey  
(*Silent Running*, 1956)

Enlightened automata

## Emotional robots?

SF's most memorable robots are neither mass-produced nor anonymous.



Wall-E (2008)

## Emotional robots?

SF's most memorable robots are neither mass-produced nor anonymous.



*Maschinenmensch* (human-machine) and Rotwang  
*Metropolis* (1927)

Enlightened automata

## Emotional robots?

SF's most memorable robots are neither mass-produced nor anonymous.



Pris and Roy Batty,  
*Blade Runner* (1982)

Enlightened automata

## Emotional robots?

SF's most memorable robots are neither mass-produced nor anonymous.

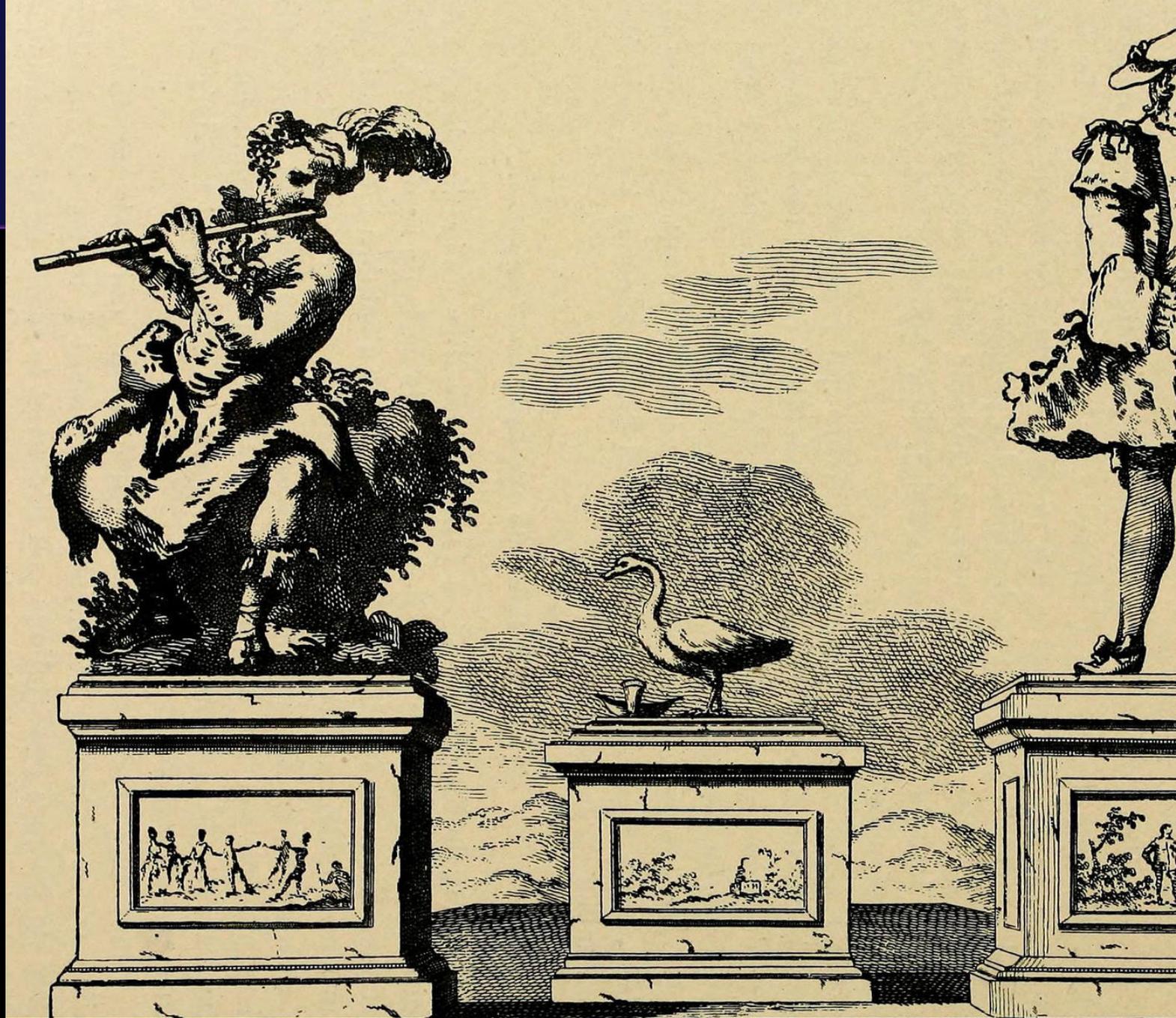


T-800 terminator,  
*Terminator 2: Judgment Day* (1991)

## Eighteenth-Century automata

Jacques de Vaucanson (1709–1782), built an automaton Flute Player in 1738.

Followed by others including a duck.



Enlightened automata

## Eighteenth-Century automata

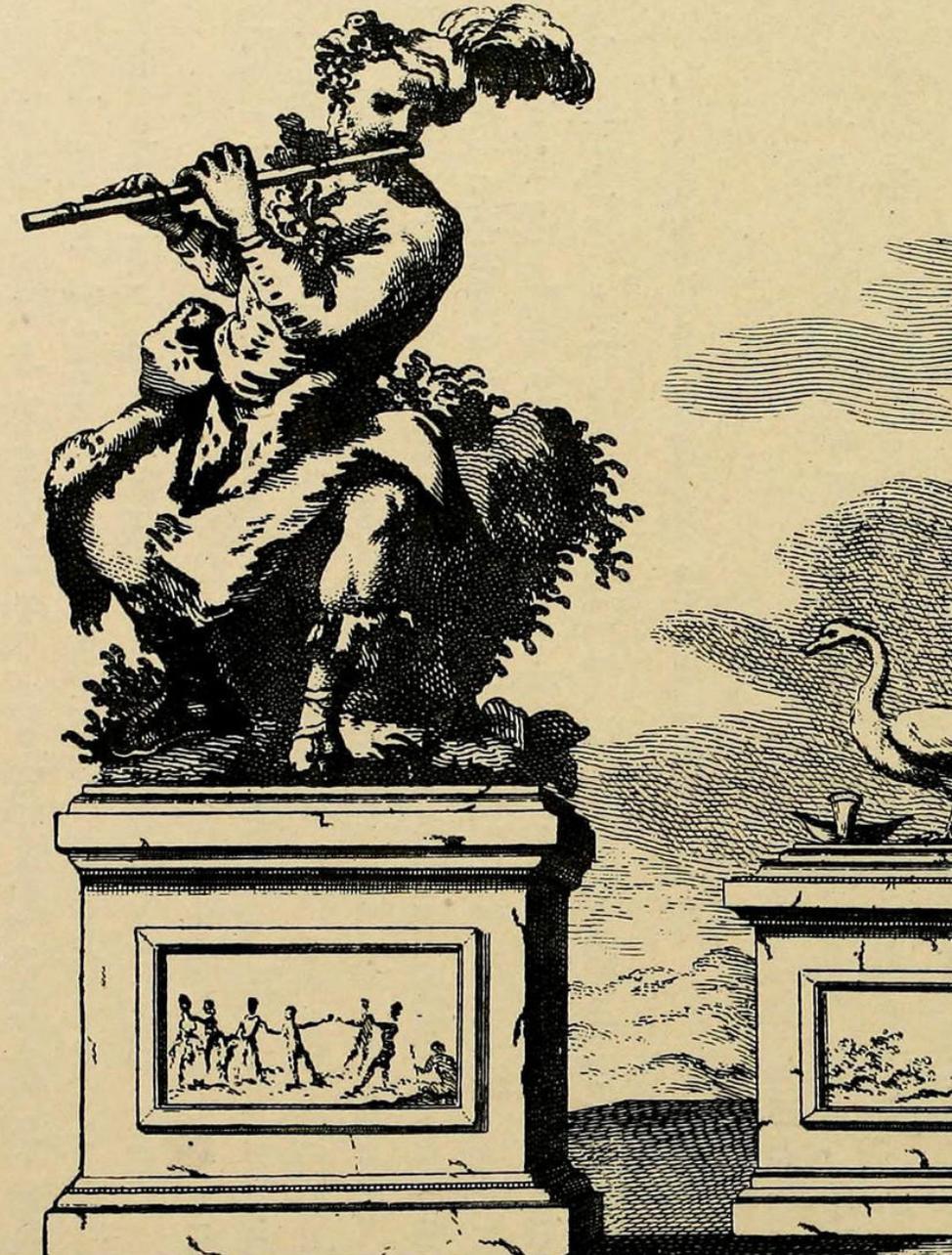
Pierre and Henri-Louis Jaquet-Droz, Swiss watchmakers. Built a musician, a draughtsman and a writer.



## Eighteenth-Century automata

Julien Offray de La Mettrie (1709–51) in *L'Homme Machine* (The Man Machine, 1748), argued that there was “only one substance in the universe”, matter, in more-or-less perfect forms.

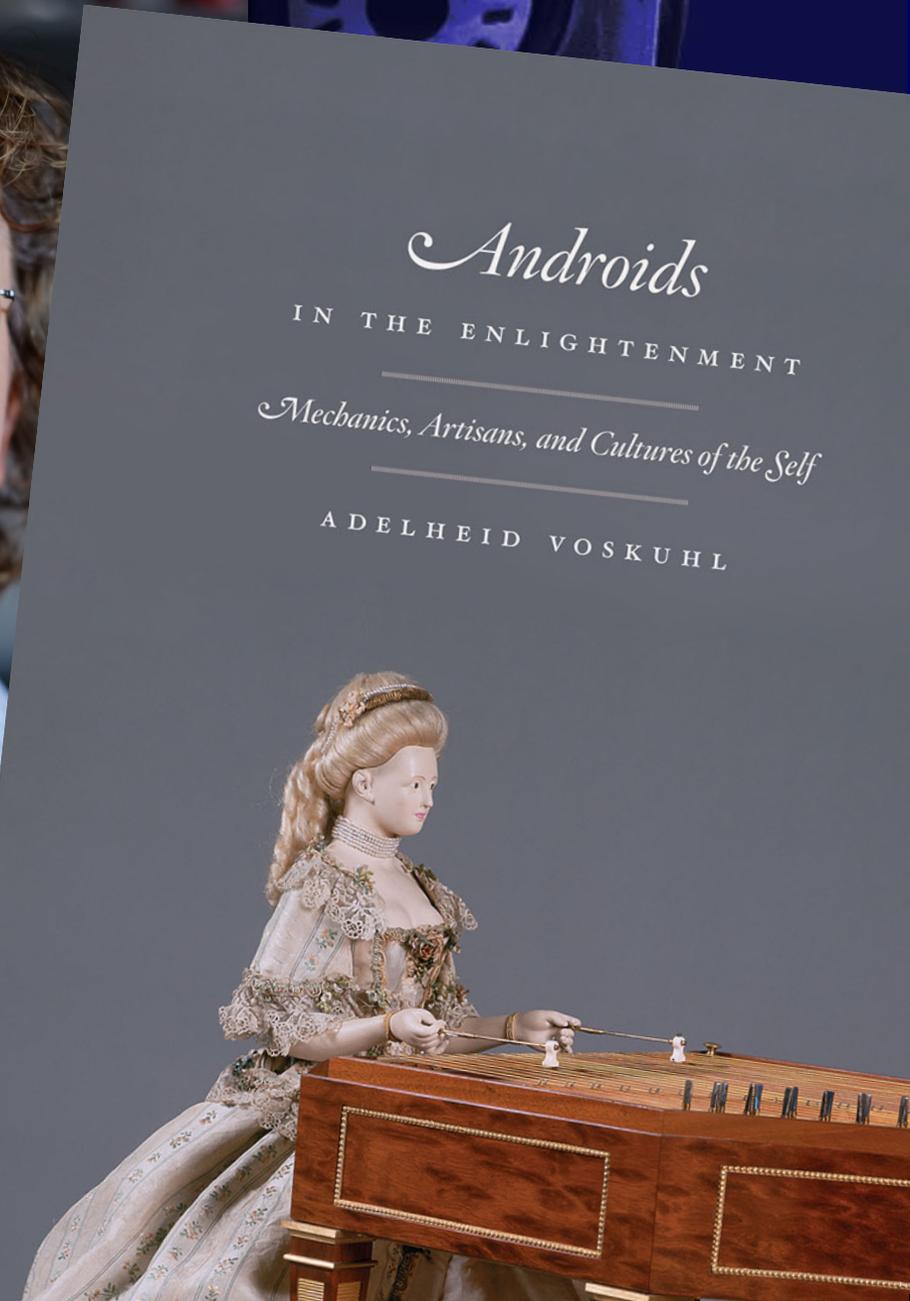
“it took Vaucanson more artistry to make his flautist than his duck, he would have needed even more to make a speaking machine, which can no longer be considered impossible”



## Eighteenth-Century automata

Adelheid Voskuhl argues that la Mettrie was an exception.

Automata were deliberately built as musicians, writers and other artists in order to explore the more emotional, cultural side of human nature.



## Eighteenth-Century automata

Hand-made, unique, artisan-built, luxury objects (not made in factories or by machines).

They asked whether such activities as learning to play music made the learner more of an individual, more cultured and sensitive – in effect, more human.



## The Age of Revolutions

Debates around human rights – and whether women and people of African descent were human – were the background to automaton building.

Hand-made automata raised questions about how to mass-produce the kind of people who were suited to a more democratic society.



## Mr Data

*Star Trek: the Next Generation* introduced Lieutenant-Commander Data (Brent Spiner), one of a handful of humanoid androids created by Dr Noonian Soong.



## Mr Data

Data's attempts to become more fully human are at the heart of many of the show's best episodes ( "Data's Day", Season 4, Episode 11; "The Measure of a Man", S.2, E9; and "In Theory", S4, E25).



## Mr Data

Data is cultured (plays classical music, reads novels, paints and performs Shakespeare).

Struggles to understand human emotions and develop his own.

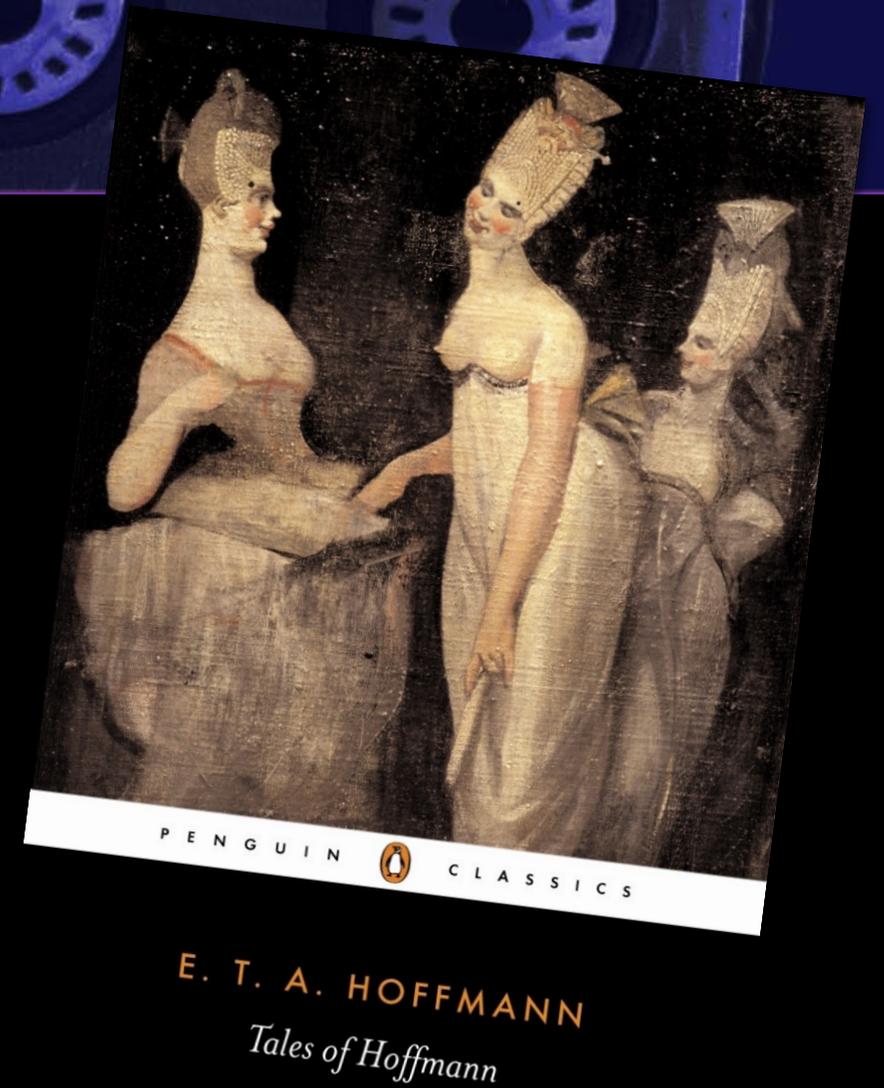
For Data, emotions are the key to being human.



## The Sandman

Nathaniel falls in love with Spalanzani's daughter, Olympia, who is "tall, very slim, perfectly proportioned and gorgeously dressed".

Her dancing is perfect but has a disconcerting "exactitude of rhythm" and her conversation is distinctly limited (all she ever says is "ah, ah, ah").

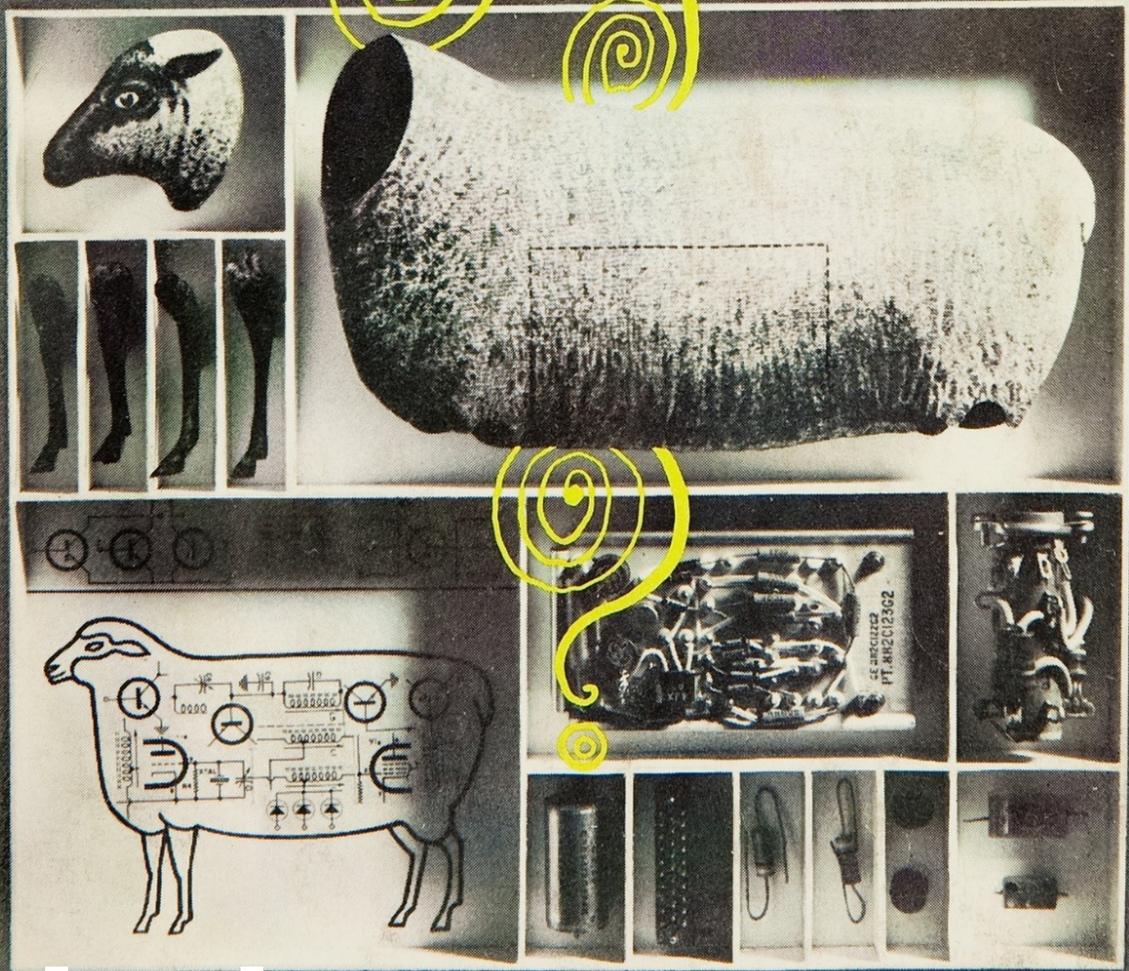


Enlightened automata

## *L'Eve Future (Tomorrow's Eve, 1886)*

Villiers de L'Isle-Adam's android Hadaly is unique (and presumably expensive) and cultured.





**What do Androids dream  
of?**

Conclusions: what do androids dream of?

## The missing Link?

First emotional, individual robot in pulp SF was probably Adam Link, created by Eando Binder, who made his debut in a story called “I, Robot” (*Amazing Stories*, 1939).



Conclusions: what do androids dream of?

## "I, Robot" (1939)

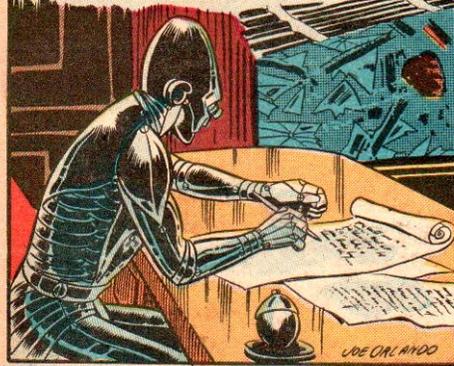
Narrated by the robot, Adam Link, described being 'born' with a blank mind and having to learn everything.

Robot initially so limited that his creator, Dr Link, plans to destroy him. Until Adam reveals that he understands pain and reacts to avoid it:

# I, ROBOT

ADAPTED FROM THE ORIGINAL "ADAM LINK" STORY BY EANDO BINDER

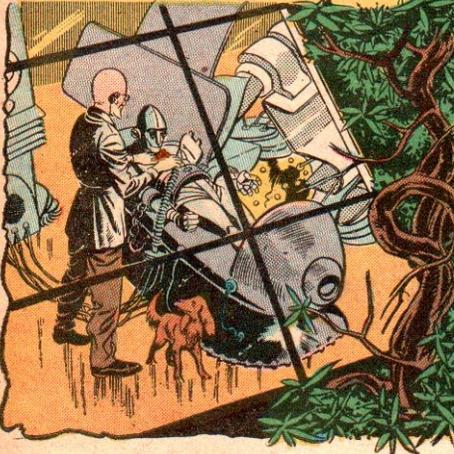
**I. MY CREATION:** MUCH OF WHAT HAS OCCURRED PUZZLES ME. BUT I THINK I AM BEGINNING TO UNDERSTAND NOW. YOU CALL ME A MONSTER, BUT YOU ARE WRONG. UTTERLY WRONG! I WILL TRY TO PROVE IT TO YOU, IN WRITING. I HOPE I HAVE TIME TO FINISH...



"I WILL BEGIN AT THE BEGINNING. I WAS BORN, OR CREATED, SIX MONTHS AGO, ON NOVEMBER 3 OF LAST YEAR. I AM A TRUE ROBOT. SO MANY OF YOU SEEM TO HAVE DOUBTS. I AM MADE OF WIRES AND WHEELS, NOT FLESH AND BLOOD. MY FIRST RECOLLECTION OF CONSCIOUSNESS WAS A FEELING OF BEING CHAINED. AND I WAS. FOR THREE DAYS BEFORE THAT, I HAD BEEN SEEING AND HEARING, BUT ALL IN A JUMBLE..."



"NOW, I HAD THE URGE TO ARISE AND PEER MORE CLOSELY AT THE STRANGE, MOVING FORMS THAT I HAD SEEN SO MANY TIMES BEFORE ME, MAKING SOUNDS... DR. LINK, MY CREATOR... AND HIS DOG TERRY..."



"BUT I WAS CHAINED. I WAS HELD DOWN BY THEM SO THAT IN MY BLANK STATE OF MIND, I WOULDN'T WANDER OFF AND BRING MYSELF TO AN UNTIMELY END, OR HARM ANYONE UNKNOWINGLY. THESE THINGS, OF COURSE, DR. LINK EXPLAINED TO ME LATER, WHEN I COULD DISSOCIATE MY THOUGHTS AND UNDERSTAND..."

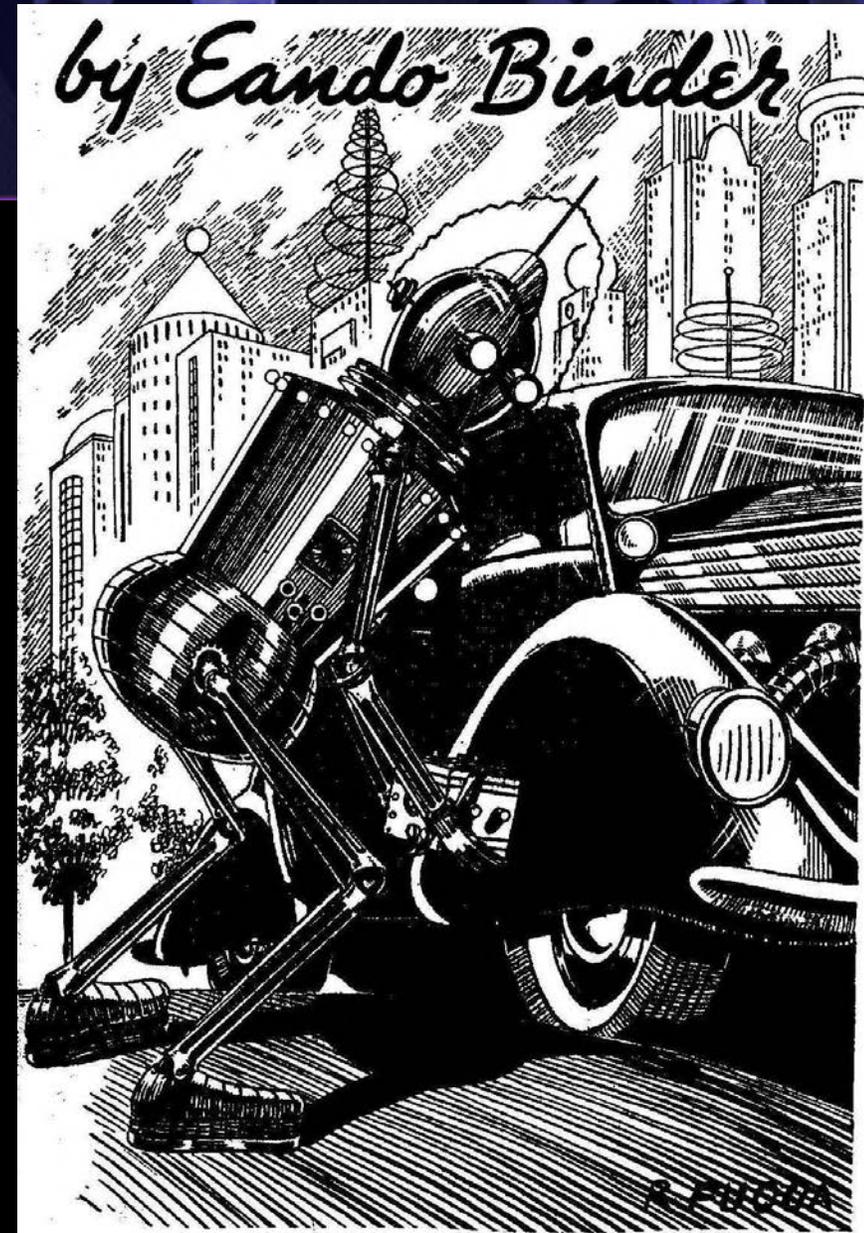


HE IS LIKE A **BABY**... A **HUMAN BABY**... SLOWLY BECOMING **AWARE** OF THE WORLD **AROUND HIM!** WE MUST **PROTECT** HIM...

Conclusions: what do androids dream of?

## **“I, Robot” (1939)**

“Dr. Link tells me he let out a cry of pure triumph. He knew at a stroke I had memory. He knew I was not a wanton monster. He knew I had a thinking organ, and a first-class one”.

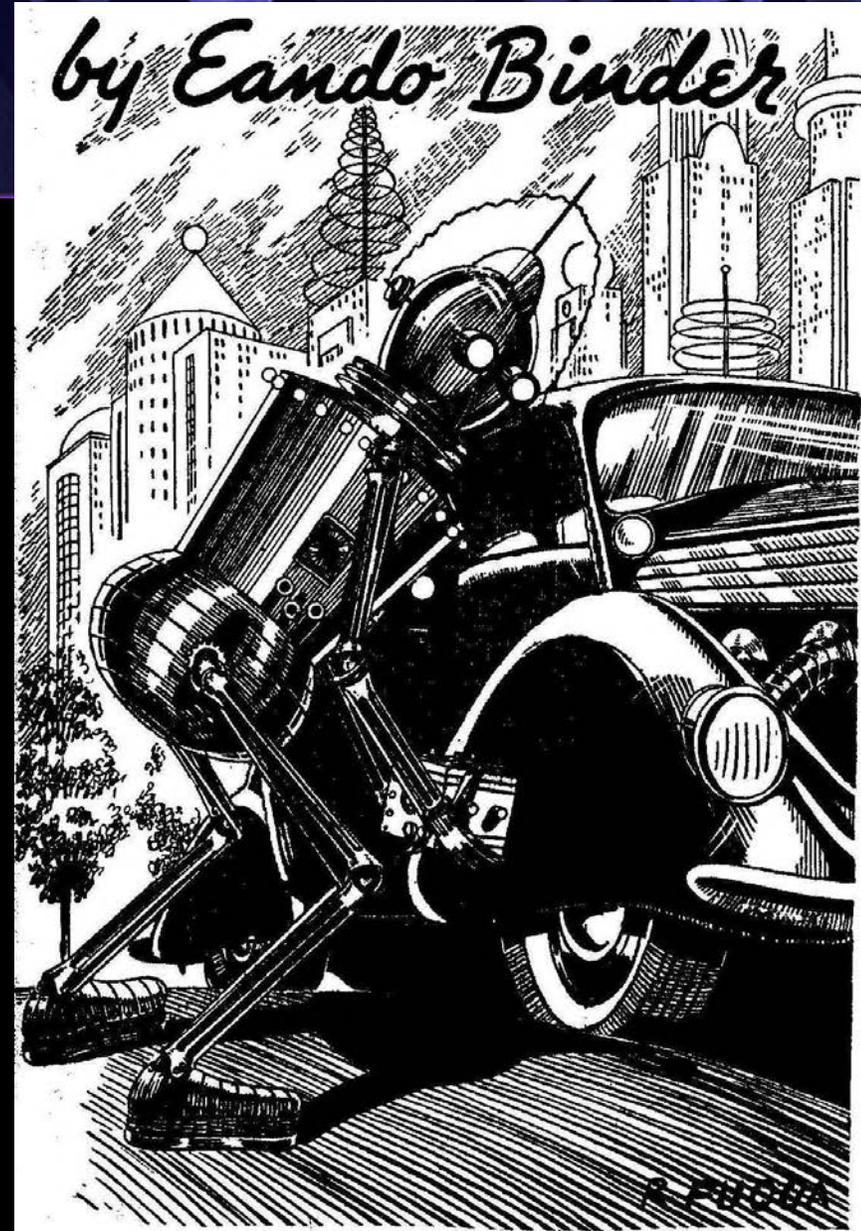


Conclusions: what do androids dream of?

## **“I, Robot” (1939)**

Dr. Link tells Adam:

“You are not merely a thinking robot. A metal man. You are—life! A new kind of life. You can be trained to think, to reason, to perform. In the future, your kind can be of inestimable aid to man and his civilization. You are the first of your kind”.



Conclusions: what do androids dream of?

## "I, Robot" (1939)

Sadly, Dr Link dies in an accident. Adam leaves to explore the world. Soon finds himself pursued by an angry lynch mob.

Returns to hide in the laboratory and finds a copy of *Frankenstein* on Link's desk, reads it and if able to understand the mob's fears



Conclusions: what do androids dream of?

## “I, Robot” (1939)

Lab is surrounded and the robot knows he could escape but would have to kill several humans in the process. Decides to simply switch himself off.

Adam’s last words are that he is about to prove “that I have the very feelings you are so sure I lack”.



BLACK EMPRESS by JOHN RUSSELL

SEE BACK COVER

# AMAZING

AN AMAZING CONFESSION  
**"I, ROBOT"**  
by EANDO BINDER



STORIES by ED EARL REPP • STANTON A. COOPER

UNDERSEA PRISONER By HARL VINCENT

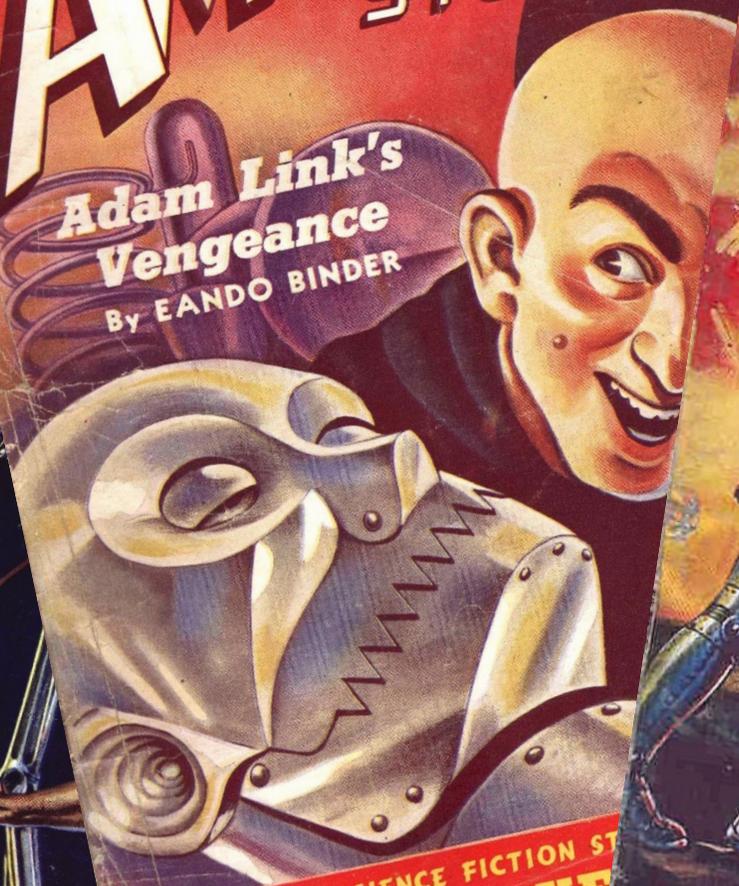
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# AMAZING

FEBRUARY • 20c

## STORIES

Adam Link's  
**Vengeance**  
By EANDO BINDER



A SMASHING SCIENCE FICTION STORY  
**ROCKETS OVER**  
BY ROBERT MOORE

Find the Errors - A Cash Contest  
TIGER GIRL by EDGAR RICE BURROUGHS

SEE BACK COVER

# AMAZING

NEW PRIZE CONTEST

# AMAZING

APRIL 25c

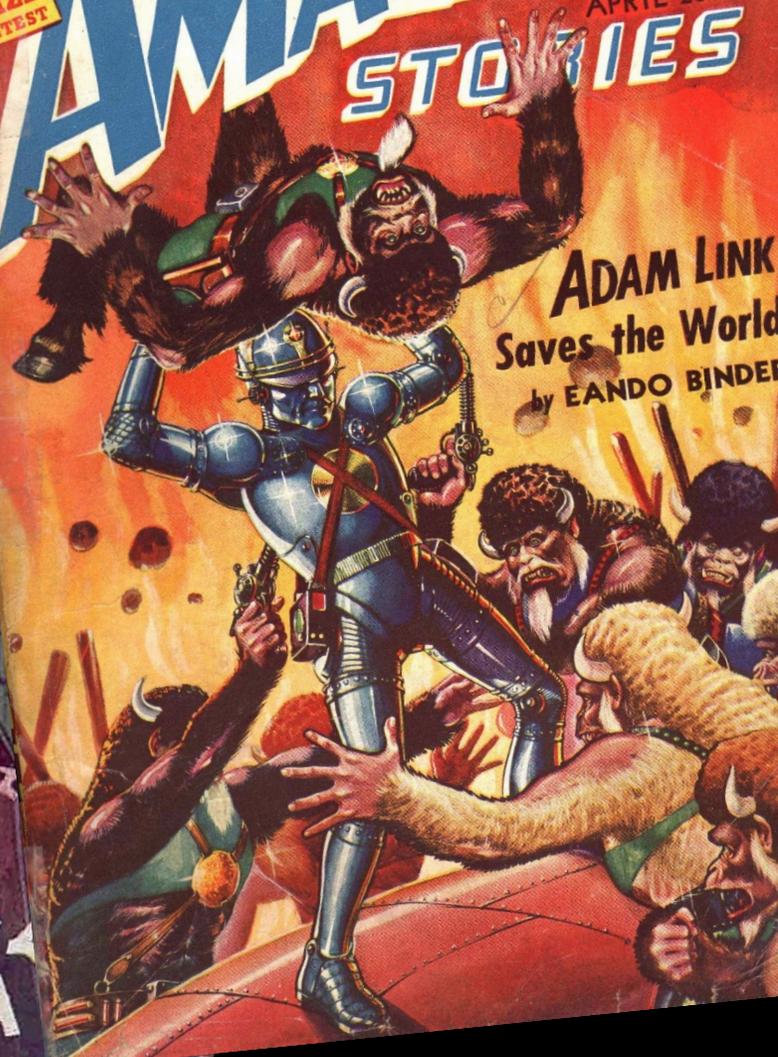
## STORIES

ADAM LINK  
**Saves the World**  
by EANDO BINDER



Adam Link  
**Fights A**  
By EANDO BINDER

LATEST STORIES  
BY MANY WRITERS



# ADAM LINK *in* BUSINESS

By EANDO BINDER



In his hand he held—a can opener! Despite Kay Temple's restraining hand on my metal arm, I surged to my feet amid sudden, tense silence.

**ADAM** Link finds out that human hearts are not machines, and discovers for the first time the real meaning of human love.



## CHAPTER I

Pardon . . . Or Death?

I AM a robot, a contrivance of wheels and wires, but I have also that human attribute of "emotion." This is proven—to me at least—by one thing.

When my reprieve came, I fainted.

I had been marching down the jail hall in that "last, long mile," between guards. Ahead of me waited the electric chair, for the "murder" of my creator, Dr. Link. I saw, through the open door, the solemn group of witnesses, and the electrical machine in which I would sit, in another moment, and have my brain burned to blankness by surging, searing energy. My metal face shows no emotion. But within, my thoughts were sad, bitter. I had been ordered by man to get out of his world.

And then, suddenly, shouts in back. People running up. A court official in the lead was yelling for the governor, who had come from the state capital to witness this unprecedented execution of a created being, an intelligent robot.

And then I saw a face I knew—that of the young reporter who had defended me in his editorials, and shaken hands

Conclusions: what do androids dream of?

## **“Adam Link in Business” (1940)**

Adam is acquitted of his creator’s murder, continues to develop and learn, acquires emotions and is eventually declared “legally a human being”.

His superior intellect allows him to set up a successful consulting business.

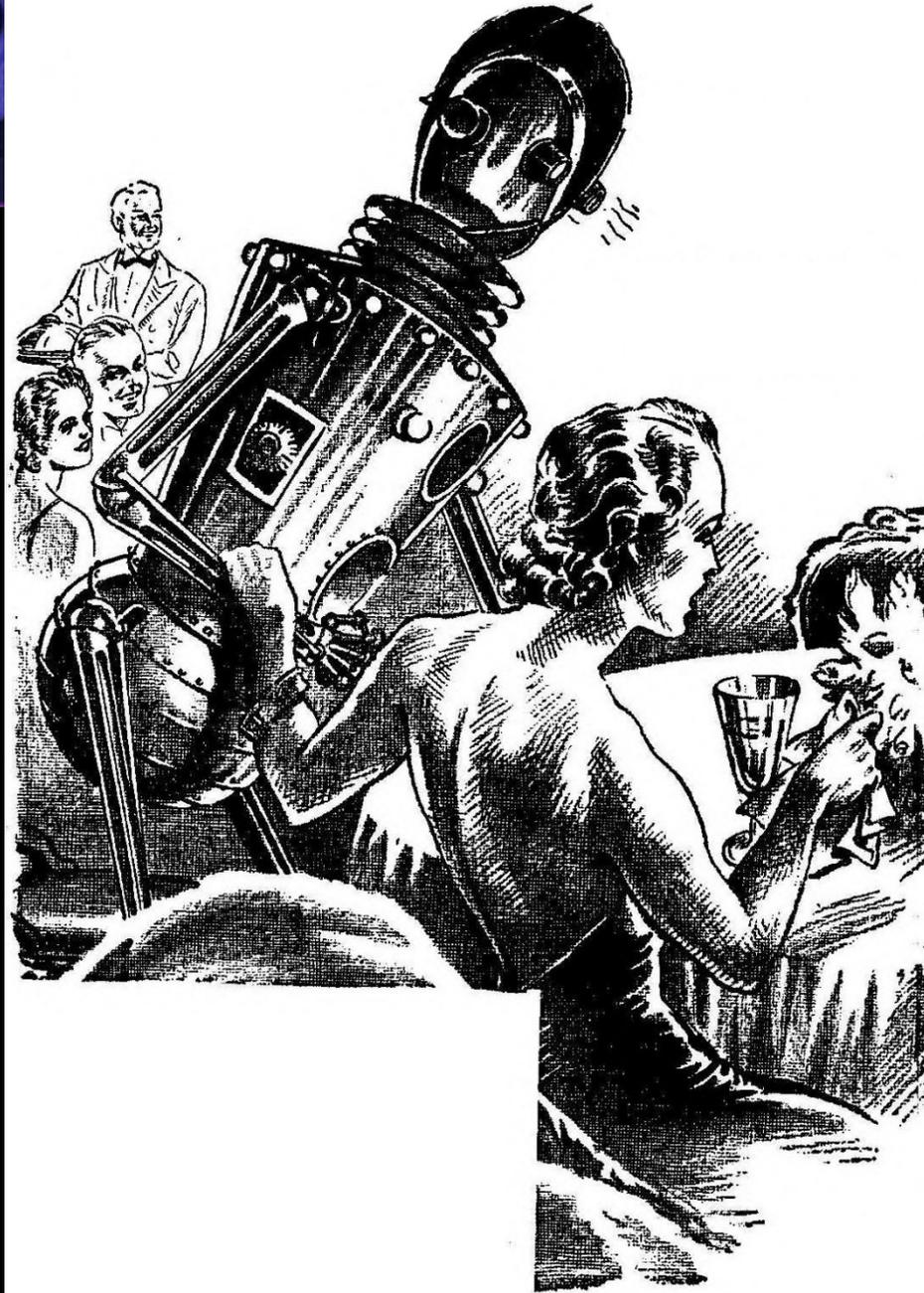
Grows to the point where he eventually needs a human secretary, Kay – who falls in love with him.



Conclusions: what do androids dream of?

## **“Adam Link in Business” (1940)**

Adam describes himself as “neuter” since he has “no biological body”, but Kay’s behaviour persuades him “that I was a man, in mind, not a woman”.



## **“Adam Link in Business” (1940)**

“I had begun life, under Dr. Link, purely from the man’s viewpoint. That is, I had come to think of and see all things in that peculiar way human males do, as distinguished from human females”.

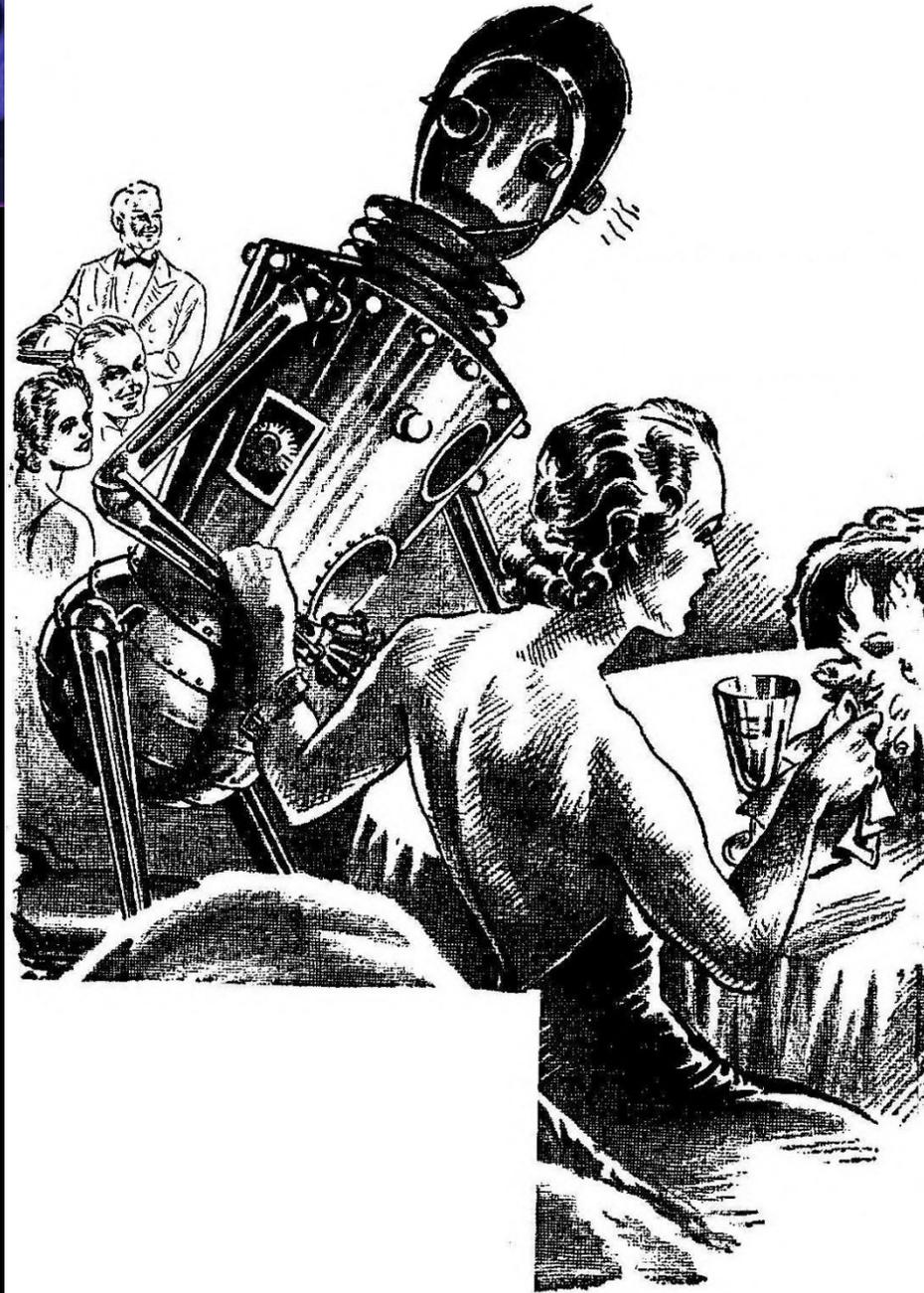
As a result, he longs to act like a man – “to take Kay in arms of flesh and blood and know the secret joys of human love. I hated my metal body now, despite all its strength and power...”



Conclusions: what do androids dream of?

## “Adam Link in Business” (1940)

Soon realises that even if were able to do so, his actions would be devastating for Kay’s fiancée Jack. Appalled by the thought of hurting a human being, Adam disappears, leaving Kay and Jack a note: “I am going away then, and I will not come back until Adam Link, the Robot, the machine—is truly a machine again”.



Conclusions: what do androids dream of?

## ***Blade Runner* (1982)**

Ridley Scott's film, based on Philip K. Dick's novel *Do Androids Dream of Electric Sheep?* (1968).

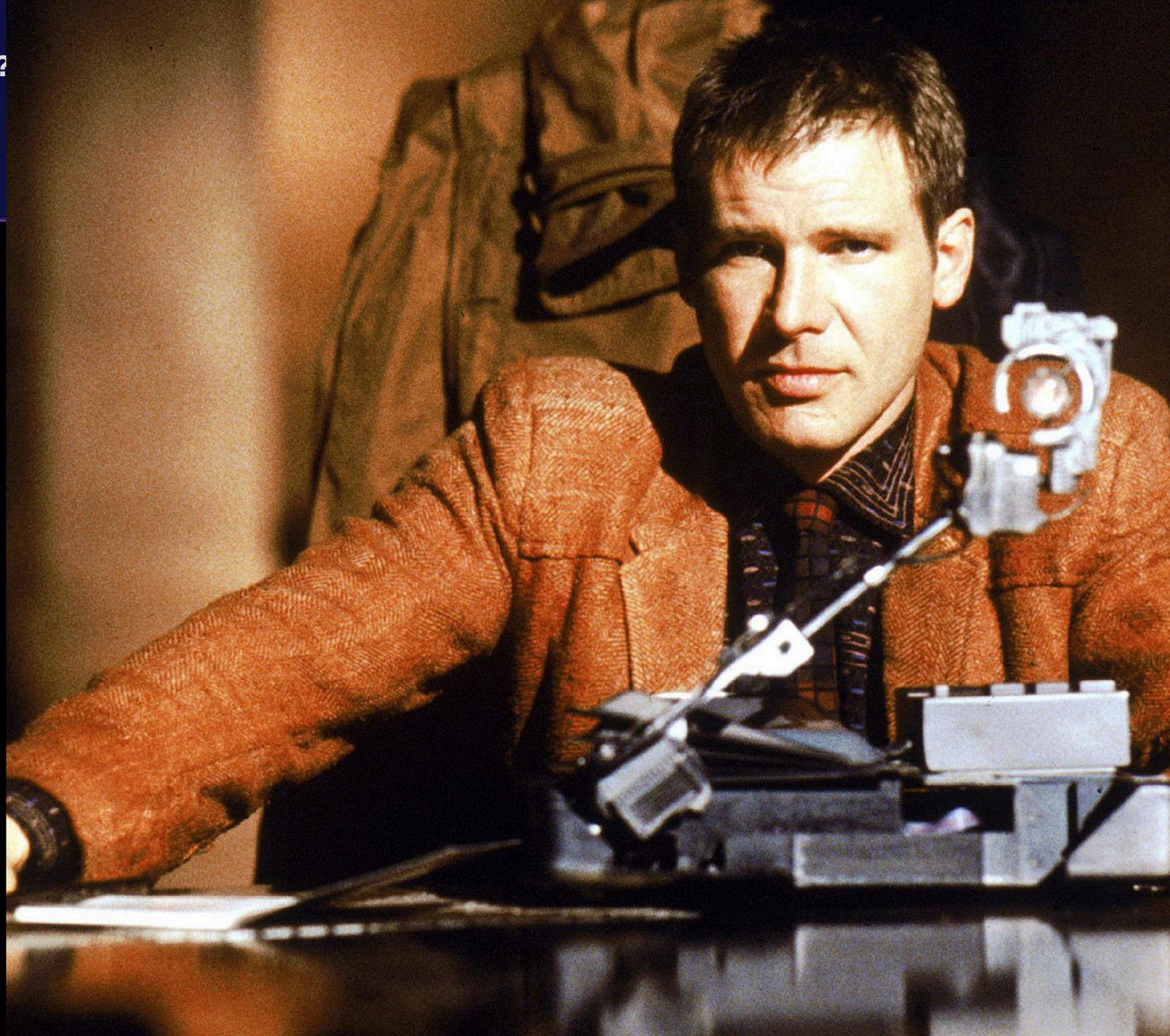
In both the book and the film, the most advanced androids ("replicants" in the film) are physically indistinguishable from human beings, but their emotional responses are flawed.



Conclusions: what do androids dream of?

## ***Blade Runner* (1982)**

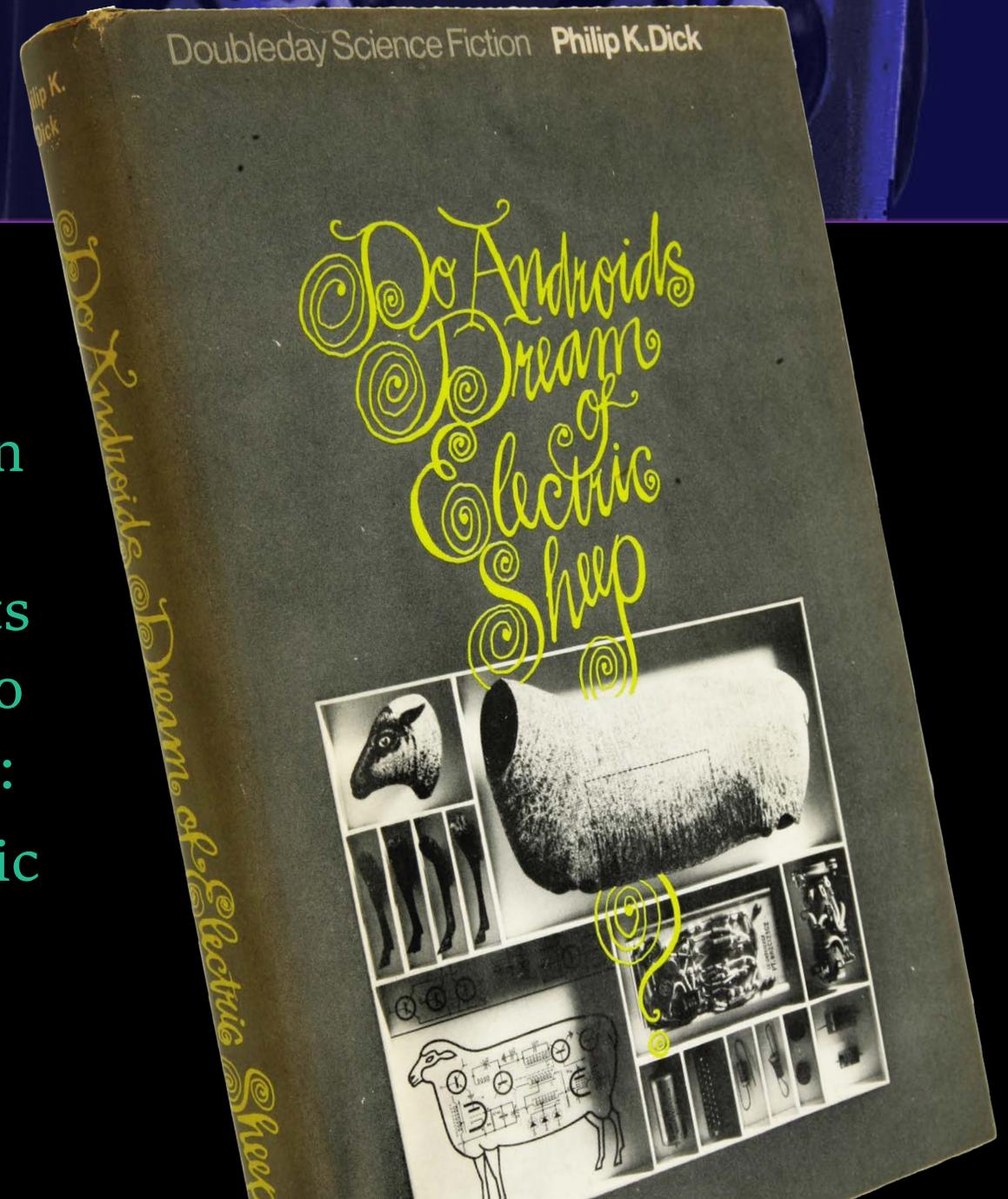
Both book and film use the Voigt-Kampff test, which distinguishes real and fake humans based on their emotional responses.

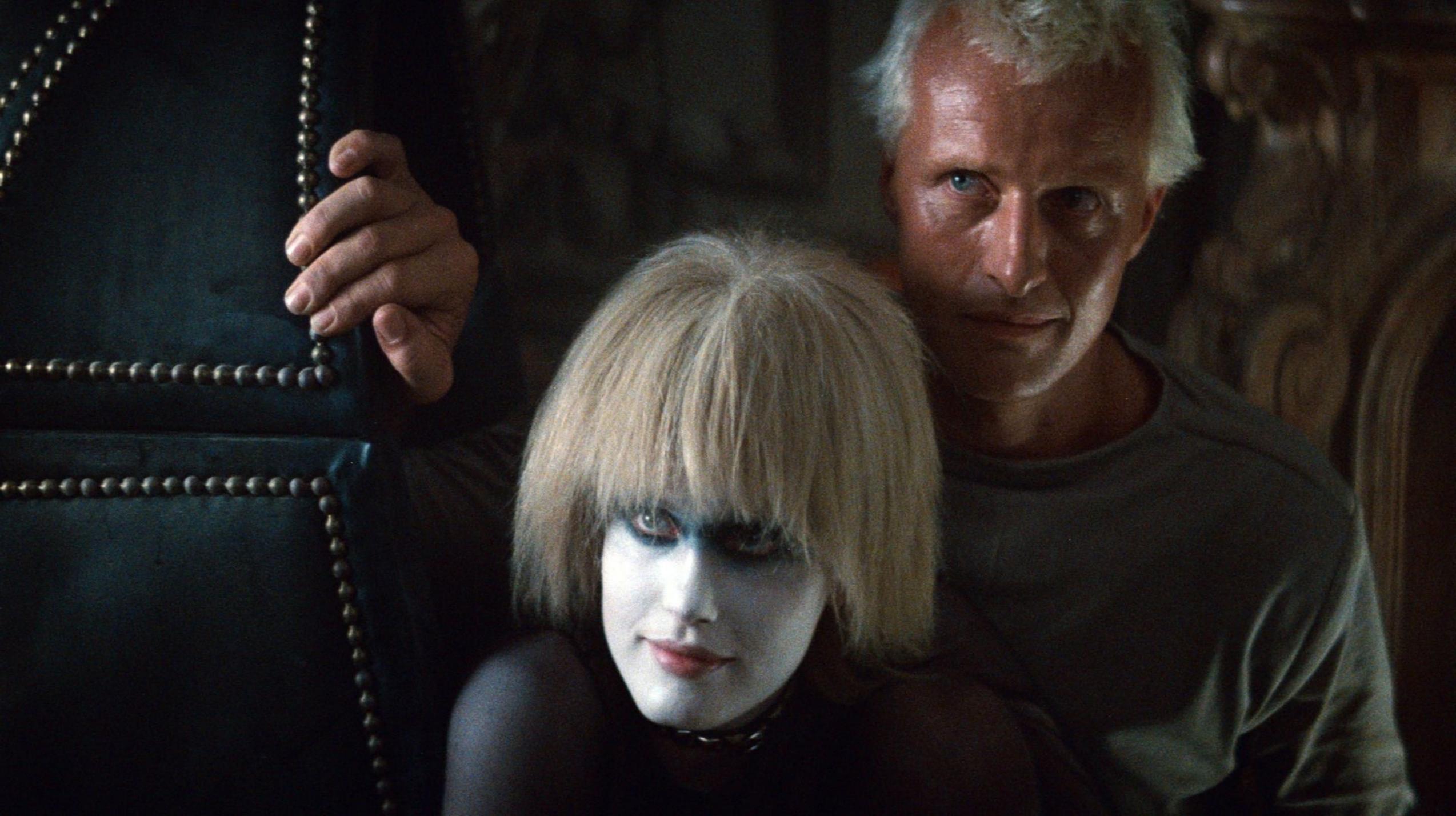


Conclusions: what do androids dream of?

## ***Do Androids Dream of Electric Sheep?***

The bounty hunter Deckard has an interesting exchange with one of the androids, Garland, who admits that androids lack empathy and so have little sense of real solidarity: “...it would seem we lack a specific talent you humans possess. I believe it’s called empathy”.





Conclusions: what do androids dream of?

## ***Blade Runner* (1982)**

Deckard's boss gleefully describes him as "a goddamned one-man slaughterhouse".

If something looks like a person and acts like a person and believes it's a person, who decides that it isn't?

And what about a person who acts like a heartless killing machine?



Conclusions: what do androids dream of?

DOMHNALL GLEESON ALICIA VIKANDER and OSCAR ISAAC

## ***Ex Machina* (2014)**

Wealthy genius Nathan Bateman (Oscar Isaac), summons a humble employee, Caleb Smith (Domhnall Gleeson) to his isolated, high-tech home.

Nathan wants Caleb to test his robot, Ava (Alicia Vikander), to see if she can pass the Turing Test.

Alicia Vikander as Ava, a highly advanced humanoid robot, is shown in profile, looking back over her shoulder. She has a metallic, mesh-like head and body. The background is dark.

ex machina

WHAT HAPPENS TO ME IF I FAIL YOUR TEST?

Conclusions: what do androids dream of?

DOMHNALL GLEESON ALICIA VIKANDER and OSCAR ISAAC

## ***Ex Machina* (2014)**

Nathan: “The real test is to show you she is a robot. Then see if you still feel she has consciousness”.



ex machina

WHAT HAPPENS TO ME IF I FAIL YOUR TEST?

Conclusions: what do androids dream of?

DOMHNALL GLEESON ALICIA VIKANDER and OSCAR ISAAC

## ***Ex Machina* (2014)**

Ava asks what will happen if she fails the test:

CALEB: ... Ava, I don't know the answer to your question. It's not up to me.

AVA: Why is it up to anyone? Do you have people who test you, and might switch you off?

Alicia Vikander as Ava, a highly advanced humanoid robot, is shown in profile, looking back over her shoulder. She has a metallic, mesh-like skin and a human-like face. The background is dark, highlighting her form.

ex machina

WHAT HAPPENS TO ME IF I FAIL YOUR TEST?

Conclusions: what do androids dream of?

DOMHNALL GLEESON ALICIA VIKANDER and OSCAR ISAAC

## ***Ex Machina* (2014)**

CALEB: No. I don't.

AVA: Then why do I?



ex machina

WHAT HAPPENS TO ME IF I FAIL YOUR TEST?

Conclusions: what do androids dream of?

## Data meets Spock

Spock observes that most Vulcans yearn to be as rational and free from emotion as Data, yet he has spent his life trying to acquire human emotions.

Data asks the half-human Spock whether he has any doubts about having turned his back on his human side.



Conclusions: what do androids dream of?

## Data meets Spock

Spock replies that he has “no regrets”, which Data observes is a human expression.

And all Spock can say in reply is...

“fascinating”.

