

1921: during a play.
THE WORD DERIVES FROM
A TERM MEANING "FORCED
LABOUR"

ORIGINS OF THE TERM

3

MACHINE ABLE TO
AUTOMATICALLY PERFORM
A TASK OR A SERIES OF
TASKS BASED ON ITS
PROGRAMMING AND ITS
ENVIRONMENT

1

WHAT IS
A ROBOT?

UNLIKE ORDINARY MACHINES,
IT IS ABLE TO RESPOND TO
ITS ENVIRONMENT (i.e. motion
detector as it senses a person
walking by and automatically
switches on a light)

ROBOTICS and AI

ROBOTICS
HAS EVOLVED
A LOT AND
ROBOTS HAVE
BECOME MORE
AND MORE
COMPLEX

4 -
FIELDS
OF APPLICATIONS

DANGEROUS
OR REPETITIVE
TASKS
ASSEMBLY
LINES
HOUSE
CHOIRS
SURGERY
EDUCATION

HOWEVER

THERE ARE THINGS THAT
HUMANS CAN DO AND
MACHINES CAN'T:
- creativity
- tackle novel situations

HUMANS CAN'T
COMPETE WITH
MACHINES ON
FREQUENT
AND HIGH-
VOLUME
TASKS

2

WHAT FEATURES
HAVE ALL ROBOTS
GOT IN COMMON?

- powered by a source of electricity
- programmed by humans to perform a task (or a series of tasks)
- ability to respond to its environment.

5

WHAT IS
ARTIFICIAL
INTELLIGENCE?

THIS TERM REFERS TO THE
SIMULATION OF HUMAN INTELLIGENCE
IN MACHINES THAT ARE
PROGRAMMED TO THINK LIKE
HUMANS AND MIMIC THEIR
ACTIONS.

MACHINE
LEARNING

IT IS A BRANCH OF
A.I., WHICH IS
BASED ON THE IDEA
THAT A MACHINE
CAN LEARN FROM
LARGE VOLUMES OF
PAST (AND ALREADY
EXPERIENCED) DATA
AND MIMIC SOME OF
THE THINGS THAT
HUMANS CAN DO.

UNLIKE ROBOTS
OR MACHINES,
HUMANS CAN "SOLVE
PROBLEMS THEY HAD
NEVER SEEN BEFORE"

(BUT)

Video Activities: "The jobs we'll lose to machines, and the ones we won't"
 "What is AI, or Machine Learning"
 "Google Duplex: A.I. Assistant calls local business to make appointments".

ROBOTICS
AND THE
WORLD OF
WORK

IN 2013 SOME RESEARCHERS AT OXFORD UNIV.
CARRIED OUT A STUDY ON THE FUTURE OF WORK.
ON THE BASIS OF THE RESULTS, ALMOST ONE IN
EVERY TWO JOBS HAS A HIGH RISK OF BEING AUTOMATED
BY MACHINES.

HOEWEVER

→ FAST DEVELOPMENT OF
A.I.

MACHINES CAN DO NOW
WHAT THEY COULDN'T DO
IN THE PAST

preparing a
copy for a
marketing
campaign

developing
business
strategies

THERE ARE STILL
SOME TASKS THAT
HUMANS ARE BETTER
AT

BUT

↓ 1990s: assessing
credit risk of loans,
sorting the emails
by reading handwritten
characters from zip
codes....

now: grade high school
essays, perform eye
check ups...

* ORIGINS OF
THE TERM

1956 by JOHN MCCARTHY.
WITH A GROUP OF SCIENTISTS
AND MATHEMATICIANS THEY
TRIED TO SEE IF MACHINES COULD
LEARN LIKE A CHILD, USING
TRIAL ERROR TO DEVELOP FORMAL
LEARNING.

↓ DUE TO:

- a lot of data
- higher data processing speed
making it efficient

⇒ personal contributions → Discussion questions (worksheets)