C/M/S/
Law . Tax

KASPAROV VS. COMPUTER

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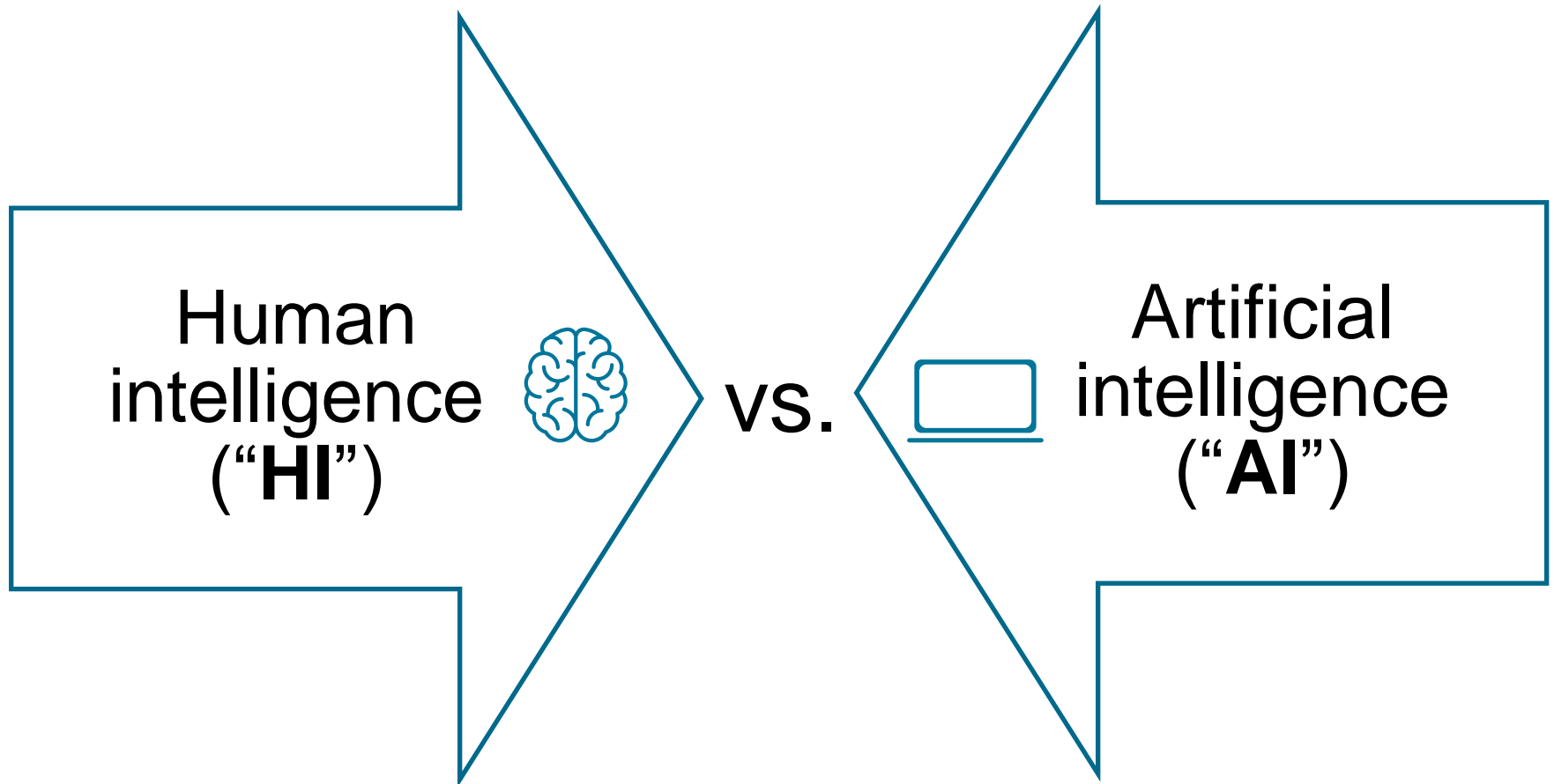
What It All Is About?

Human intelligence ("**HI**") vs. Artificial intelligence ("**AI**")

Background

Legal practice - conservative traditions

IT Revolution

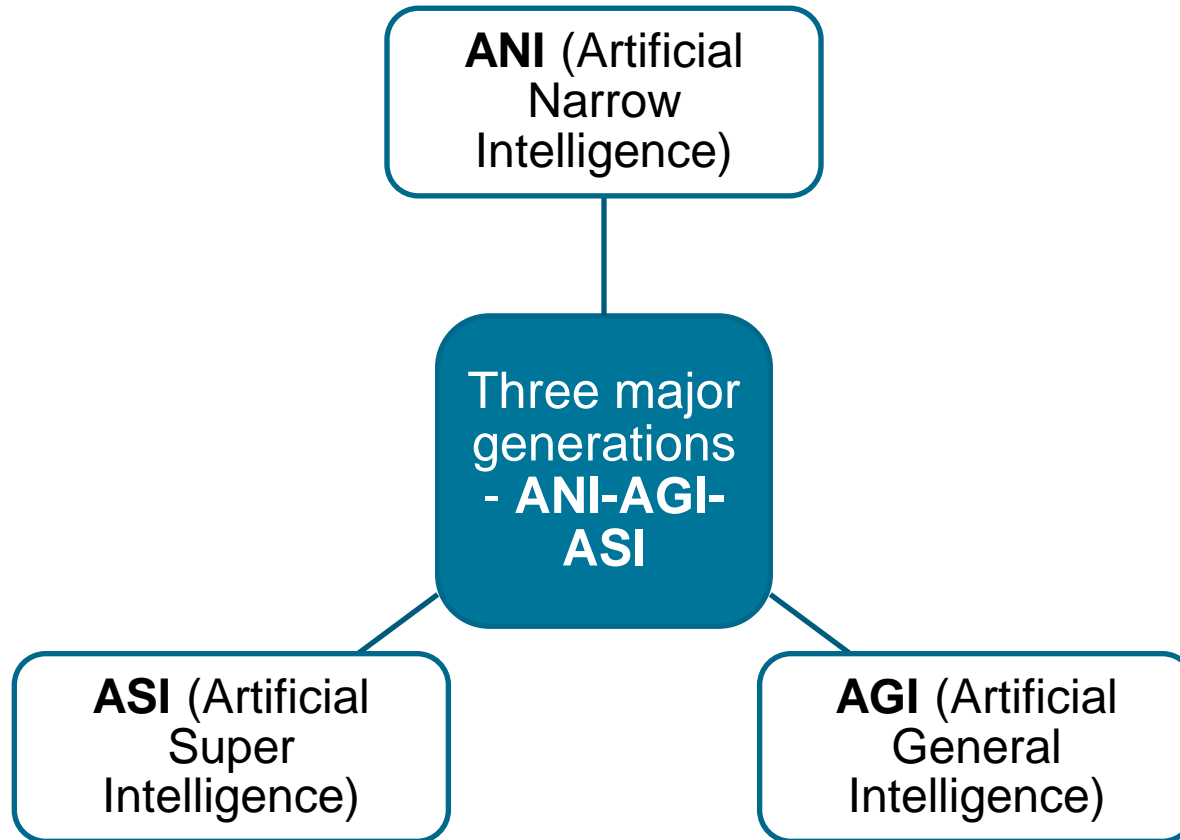|	
	computers
	e-mails
	e-databases
	keywords search
	remote access
	smartphones/tablets
	natural language
	cloud technologies
	blockchain
	AI

AI

In layman words AI is ability of a machine to mimic HI

- to understand
- to communicate
- to learn
- to research
- to group/put in order
- to propose solutions
- to take decisions
- to issue commands/orders
- to control data/data flows etc.

AI Generations

ANI (Artificial Narrow Intelligence)

Three major generations - ANI-AGI-ASI

ASI (Artificial Super Intelligence)

AGI (Artificial General Intelligence)

ANI (two sub-generations)

Purely reactive - the basic one ("**ANI-PR**")

↓

is ignorant of anything beyond its self

↓

no memory of the prior actions/experience

↓

takes actions on what it sees/is required to do

Limited memory - an upgraded one ("**ANI-LM**")

↓

operates with the general concepts of the world/environment

↓

adds up memory of the past actions/experience

↓

able to take proper decisions and to perform required actions

ANI-PR

most computer games

most data collection/processing systems

most elements of complex AI systems (distance brake in car navigation systems)

actually - most of the AI products on the market

ANI-LM

Siri, Cortana, Alexa & analogues	specialized computers/programs (1997, IBM's Deep Blue vs. Kasparov)	chatbots
self-propelling/self-driving vehicles	extra-terrestrial man-made devices (Mars Curiosity)	on-line games
automated Internet services (booking, searching, teaching etc.)	firewalls, spam filters, anti-virus programs	ad-analyzers

AGI

AGI (aka a **Theory of Mind Machine**) is a carbon copy of the human matrix:

- knowledge
- emotions
- intentions
- thoughts
- capable of building up social ties and building itself up into the social tissue
- capable of predicting the reactions/thoughts/actions of others (both humans and AGIs)
- capable of abstract thinking

Dream on!!! NOT YET AROUND!!!

TIP: DECEIPT + HUMOR + CRIME => AGI

ASI

ASI (aka a **Self-Awareness Machine**) shall surpass the human matrix in every single aspect even if only marginally

- fully self-conscious
- able to position itself within the outside world
- perhaps able to operate with additional senses (more than the four ones reserved for humans)
- able independently to do full-scale analytical work including
  - *formulating the tasks*
  - *identifying the methods*
  - *finding solutions*
  - *implementing them*

NOT YET THERE!

DANGER? DANGER!! DANGER?!!!

Our Discussion

Limited to ANI only

Turing Test (1950)

- Alan Turing (1912-1954), English computer scientist, the AI father
- Test - minimalistic threshold:
  - three participants - (i) evaluator ("**E**"), (ii) human ("**H**") and (iii) machine ("**M**")
  - three-way communication
  - M to generate human-like responses/comments
  - equal time lags for both H and M
  - E to identify if he/she communicates with H or M
- ELIZA and PARRY the first ones to pass the test (1966 and 1972)
- Necessary but insufficient

Test Case Background

A forward contract ("**FC**") between a crop producer ("**P**") and a buyer ("**B**")

Two of them are located on the opposite banks of a river

A flood destroyed the only closest bridge connecting the two of them by the time of the crop delivery

P is in default under his contractual obligations under FC

Arbitration clause & force-majeure one

Test Case Issues

Arbitrator to take a decision

Is B entitled to damages?

Is the force-majeure clause triggered?

Was P able/unable to perform his contractual obligations?

Is P spared from liability?

Test Case Variation 1

Two FCs between P and each of two Bs

Both Bs are located on the opposite bank of a river from P

A flood destroyed the only bridge connecting P and the Bs by the time of the crop delivery

P is in default under his contractual obligations under each of the FCs

Both FCs contain an arbitration clause & force-majeure one

Yet one FC provides for P's '*all reasonable efforts*' obligation to meet his/her obligations under the FC; the other one is silent on that matter

Same issues

Test Case Variation 2

- [ ] Two FCs between P and two Bs

- [ ] Both Bs are located on the opposite bank of a river from P

- [ ] A flood destroyed the only bridge connecting P and Bs by the time of the crop delivery

- [ ] P is in default under his contractual obligations under each of the FCs

- [ ] Both FCs contain an arbitration clause & force-majeure one

- [ ] Yet one FC provides for P's '*all reasonable efforts*' obligation to meet his/her obligations under the FC; the other one provides for P's '*best efforts*' to meet his/her obligations under the FC

- [ ] Same issues

Further Variations

(a) => there is another bridge 100 miles up the river and yet another one 180 miles down the river

(b) => (a) + part of the road to the North also destroyed by the same flood

(c) => the closest bridge 500 miles both ways; yet there are five cargo ferries 20 miles apart from each other

(d) => on the due date P had a relative terminally ill in the household

(e) => (d) + P's housewife

(f) => (e) + P's housewife sick with a fever

(g) => (f) + live-in professional paramedic looking after the sick relative

etc.

Law Profession

- pilotage in the sea of law
- details, nuances and shadows
- correlations & interpretations
- right vs. wrong
- cognitive functions & empathy
- everything but quantification
- professional & sentient

QUALIA (phil.)

side effect - "*To err is human!*"

Conclusions

ANI

- part of the <u>digital world</u>
- quantification algorithms
- some cognitive features
- no sensations
- no empathy
- no sentience
- **<u>no QUALIA</u>**

Conclusions Cont'd

AGI & ASI

two philosophical extremes

| (a) Man ≠ God | (b) Man = God |

if (a), then both AGI & ASI are impossible

if (b), then the same result

AGI is scientific fiction while ASI is fantasy

I go for a nap; please wake me up when you see one around

Conclusions Cont'd

Collision of two worlds

Legal profession/arbitration is from the analogue world	AI is from the digital one

In professing of law analogue world rules, digital world serves

Forever and ever AI will remain a useful but always auxiliary tool for law professionals (including arbitrators)

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AMEN!

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