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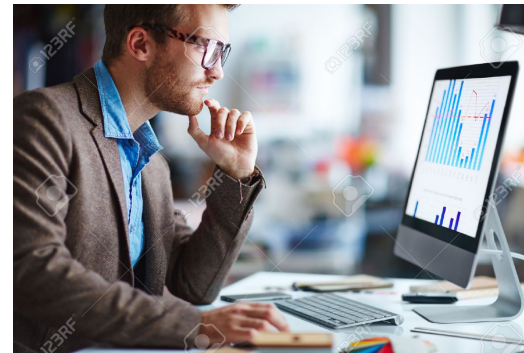
The crucial importance of understanding AI

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Power tools



Perfect Ersatz Principle (PEP)

- F: a function (from vacuum cleaning to powering a bicycle, to driving a car, to identifying a tumor, to playing a game of chess, to assessing an insurance claim...)
- T: the traditional way of achieving F
- N: the new way of achieving F
- PEP: as far as fulfilling F, there is no difference between T and N: N is a perfect substitute for T.

PEP is never quite true

Patterns of failure



Creative usage



Enabling conditions



From almost right to totally wrong

PEP	Physical / Embodied	Mental / Disembodied
Local/Modular	Almost right for most practical purposes (thanks to fast, on-the-fly adjustment of a single delimited bodily skill)	Wrong (no mental equivalent of dynamic bodily adjustment)
Global/Contextual	Wrong (many interdependent joints to be simultaneously adjusted)	TOTALLY WRONG

Conclusion 1: Worker needs some understanding of (the) AI...

- She can't rely on PEP.
- She must have a working understanding of how *the* AI which is substituting for the traditional human process gets to fill its role.
- Further, as that particular AI is bound to evolve, she needs to develop a sense of the direction that AI (the field, the project) is giving to the AI (or AIs) she is working with.

... and so do decision-makers

- The same goes for the CEOs & CTOs.
- ... and for science and technology policy makers
- ... and for public officials in charge of major sectors such as health, education, security, the military, law
- ... and for political leaders

Don't we understand AI?

- If we did there wouldn't be such wide divergence regarding its present state and its near, medium and long-term future.
- More importantly, AI is a moving target, an engineering project for a boundless and largely uncharted territory.
- Understanding AI involves both getting the gist of today's AI and agreeing on where to steer it.

The interplay of understanding & steering: an example

- The issue : *Als vs AI, or local, task-specific, context-limited intelligent tools vs. global, versatile, context-illimited Ersatz of human intelligence.*
- Understanding: the present play of the game
- Steering: On a continuum between maximally narrow and maximally wide, which position should we aim for?

Conclusion 2: A call for education

- Participants: specialists, decision-makers, end-users (professional & domestic)
- Steering: all stakeholders have a say, for pragmatic and ethical reasons
- Understanding: different levels, a familiar problem in technoscience, only especially hairy

A JP-DE-FR interdisciplinary project?

- A major challenge: how to conduct the steering-understanding educational project.
- AI is *unlike* other major technological disruptions such as nanotech or biotech.
- It is part engineering, part basic science, part social science.
- A tripartite collaboration would help us go beyond the limitations of our respective national specialization & perspective.