

HW3
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Artificial Intelligence

Our time is the time of *Civilization* as Oswald Spengler put it in his opus, *The Decline of the West* [5], which means that technical progress has surmounted the intellectual (or spiritual) culture. Frey and Osborne [3] deal with the fate of employment with regard to the deepening of technical progress, realised through the computerization of jobs. The effect is analogous to the type of ramifications the adoption of steam or electricity power had; human labour is substituted by technological advances and people are coerced to look for other types of jobs, which are still dependant on human labour.

Computerization picks up after the effects that electrification had on the composition of employment; electrification exerted an evolutionary pressure on the employment environment, such that demand was for skilled blue and educated white collar workers [4], [1]. People's jobs, divided into routine or non-routine intensive, and manual or cognitive, are susceptible to computerization in different degrees. However, advances in robots' manual dexterity, mobility and sensory, and in Machine Learning mean that more and more types of jobs are in danger of being hijacked by computers; not only manual and routine ones. In [3], Frey and Osborne conclude that 47% of their considered occupations of the U.S. labour market are likely to be automated by machines in the near future, while the fate of the rest depends on the breakthroughs on robotics and AI and, essentially, how much related they are to the human psyche.

With resistance to new technologies diminishing as the balance of power

in society is skewed away from the people¹, computerization, in my humble opinion at least, is going to march unobstructed². However, that does not imply that unemployment will rise necessarily; the widespread adoption of electricity in employment in the twentieth century may have rendered some occupations deprecated, but gave rise to and spawned others that were not foreseeable at that time. For example, the transistor, the building block of modern computers, would only be possible only if the door to electrification was open. This facilitated the migration of labourers from one area of occupation to another and paved the way for AI. Just as electrification demanded skilled workers to work on complicated machinery as guides and overseers, maybe the same will happen with computers.

For sure though, given the findings of Frey and Osborne, people of low-wage and low-skill jobs will be soon replaced by machines, and they will have to migrate to jobs where creative and social skills are required. This might play the evolutionary pressure role needed to shift the landscape of occupation. However, the rise in supply might not be met by corresponding demand; this will undoubtedly render the occupation landscape barren for them.

The ethics of employment and its evolution are also subject to the balance of power within society.

References

- [1] S.G. Allen. Technology and the wage structure. In *Journal of Labour Economics*, volume 19, no. 2, pages 440 – 483. 2001.
- [2] Wikipedia Contributors. List of sovereign states and dependent territories by fertility rate — wikipedia, the free encyclopedia, 2015. [Online; accessed 20-September-2015, Last revision: 07-September-2015].
- [3] Carl Benedikt Frey and Michael A. Osborne. The future of employment: How susceptible are jobs to computerisation? 2013.

¹From [3]: “The balance between job conservation and technological progress therefore, to a large extent, reflects the balance of power in society, and how gains from technological progress are being distributed.”.

²That does not necessarily mean that the rate of unemployment will follow the rate of births globally; developed nations that are computerization-intensive exhibit lower birth rates than the other nations, which still lack behind in adoption of new technologies [2].

- [4] C. Goldin and L.F. Katz. The origins of technology-skill complementarity. In *The Quarterly Journal of Economics*, volume 113, no. 3, pages 693 – 732. 1998.
- [5] Oswald Spengler. *The Decline of the West*. A. Knopf, 1992.