

Interview
of Luis Moniz Pereira¹ by journalist Pedro Lucas
for the "Um Café Com ..." section of Men's Health magazine (<https://menshealth.pt>)
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1 - Sophia has recently alarmed society by saying that robots will steal jobs from us. Are we so close to this reality? If so, in what functions do you see this beginning?

I draw on the in-depth study that includes Portugal by experts from the *McKinsey Global Institute*² in December 2017. It indicates that by 2030, 75 to 375 million of the global workforce (3% to 14%) will need to change their type of work to have a full-time job, as a result of the automation of work by machines and software of the digital economy. It also states that 60% of current professions contain at least 30% of activity that can be automated, including by Artificial Intelligence. The occupations most at risk are: registry administrators; office, finance and accounting assistants; customer interaction jobs, such as in hotels and travel, cash, and food services; and a vast scope of predictable environment jobs, such as assembly lines, dishwashing, food preparation, car drivers, and agricultural and other equipment operators.

2 - You said at the Huawei luncheon keynote that the most important of all is to legislate. How should the Government be thinking about it now?

The great social changes triggered by the new automation, namely the software with cognitive capacities (called Artificial Intelligence - AI), and also its articulation with sensors and physical manipulators (Robotics), require a deep reflection on the capital/labour relation, and the design of new models of social contract that address the enormous risks of social instability and discontent inherent to such changes. Various parties and our Government are already beginning to think about and to elaborate studies on their impact in Portugal and how to address it, in coordination with the EU. Besides the social contract, it is important to legislate on the good use of technological advances. As there is a National Commission for Bio-Ethics, a National Commission for AI and Robotics Ethics could be set up.

3 - Being an area with confessed little knowledge, who is in a position to serve to support the government in this function?

The Portuguese Association for Artificial Intelligence (APPIA), with 180 active members, and the scientific community in general, are able to provide current and prospective scientific and technological expertise in connection with the European Union and the international community. A number of countries and organizations, including standards organizations, have long considered these issues, and much material is available online for anyone interested in the subject.

4 - It also said that robots will have to pay taxes like any human being. Do you want to substantiate?

Not only robots, but also especially software that will replace humans with increasingly sophisticated cognitive abilities, which were once monopolistic, and are more invasive than robotics by itself.

The massive increase in unemployment, since the new jobs will not balance the loss of the old, will produce serious problems of sustainability of all social functions, and especially pensions.

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² <https://technologyreview.us11.list-manage.com/track/click?u=47c1a9cec9749a8f8cbc83e78&id=66f78fce4f&e=d1762c0ec8>

We must not confuse great technological progress with social progress, which must also exist as a result of it, which should benefit all, and not only those who invest capital. Human life is also a capital that is amortized, both in the functioning of companies and socially. A robot or software that replaces a human should replace it in its entirety, including the taxes the human pays. The benefit cannot be so that the rich become even more unbalanced-wise richer, which is what has been happening for some decades.

5 - In what area of intervention is the artificial intelligence more developed?

AI develops in a large plethora of complementary areas, in synthesis grouped into Perception, Cognition, and Action. An AI application usually involves multi-area coordination and interaction with other related sciences.

6 - Is it possible to attribute emotion and feeling to, say, a robot?

Yes, it is possible. In my recent works, which can be consulted on my page, I show how important it is to instill in the machines a sense of guilt, because this improves cooperation between them and with us. Also the extra-terrestrial civilizations will have beings with emotions, because these are necessary to the gregariousness, but certainly bodies differing from ours. The same applies to intelligent machines.

7 - How do you see the relationship between humans and machines?

In my 2016 book in Portuguese, "The Illuminated Machine - Cognition and Computing," published by Fronteira do Caos, I develop the argument that the relationship is one of symbiosis, that is, of mutual development in cooperation.