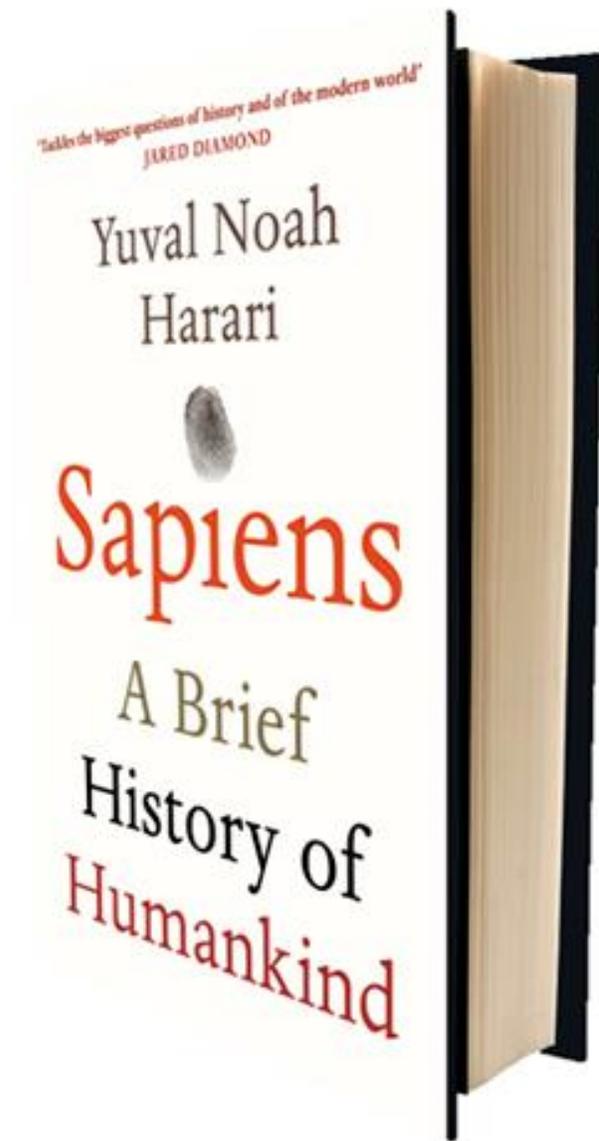


Technological revolutions and education

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Yuval Noah Harari, What Explains the Rise of Humans (TED talk, June 2015)

In the industrial revolution we saw the creation of a new class, of the **URBAN PROLETARIAT**, and much of the political and social history of the last 200 years involved what to do with this class, and the new problems and opportunities...

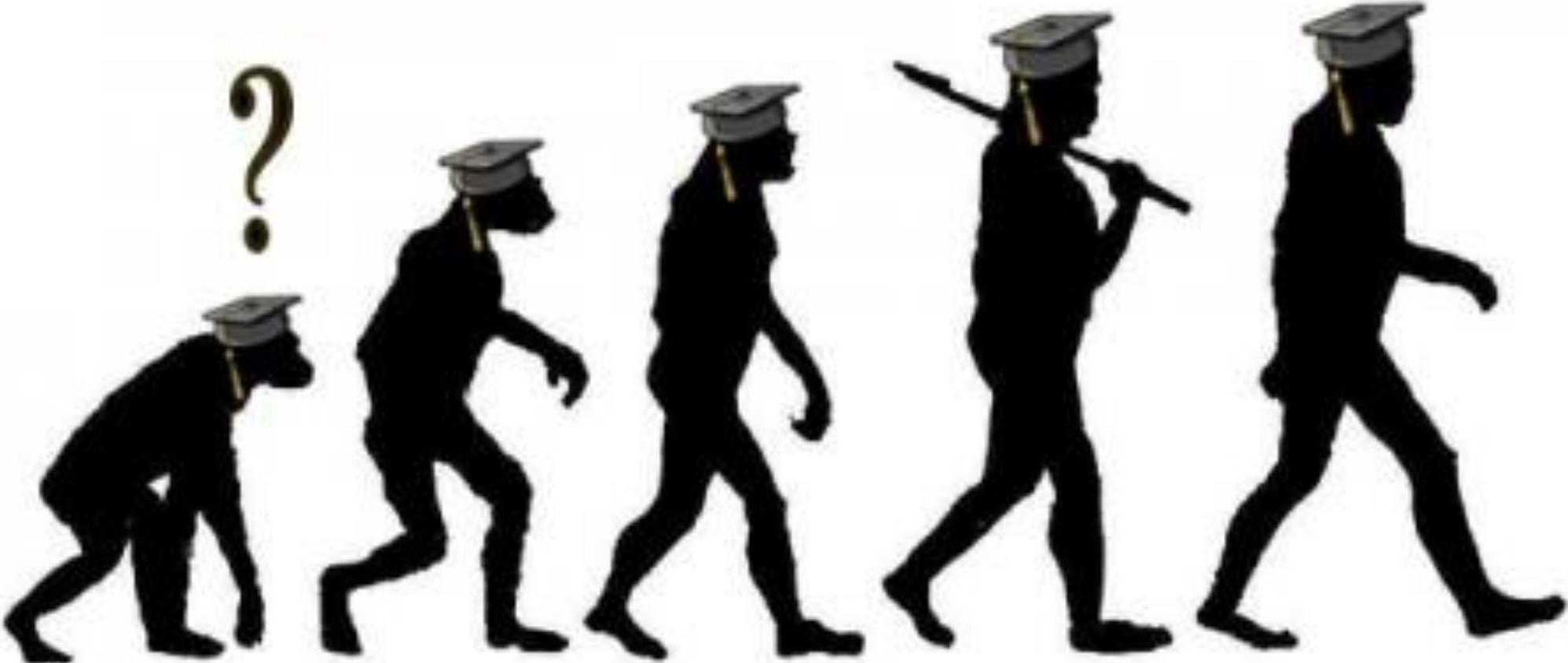
Now, we see the creation of a new massive class of... **USELESS PEOPLE**. And [since] computers become better and better.. the big political and economic question of the 21st century will be: what do we need humans for, or, at least, what do we need SO MANY humans for?

Useless people OR useless institutions???

the case of national education systems

- Technological revolution → **uncertainty** about future labor needs and employment prospects (*will there be jobs for textile workers?*)
- Many people end up learning useless skills -> jobs appear to be scarce, but so are qualified workers (=“**labor market mismatch**”)
- The main “matchmaker”, the education system is itself disoriented:
 - Schools operate under the early 20th century paradigm of mass “knowledge” education
 - Disoriented young people flock to colleges and universities
 - Disoriented universities keep producing outdated knowledge and unemployment
 - **A university diploma is no longer a signal of quality, but everybody have to have it!** (Hiring somebody without a university or college degree – is not an option!)

The “over-education” trap



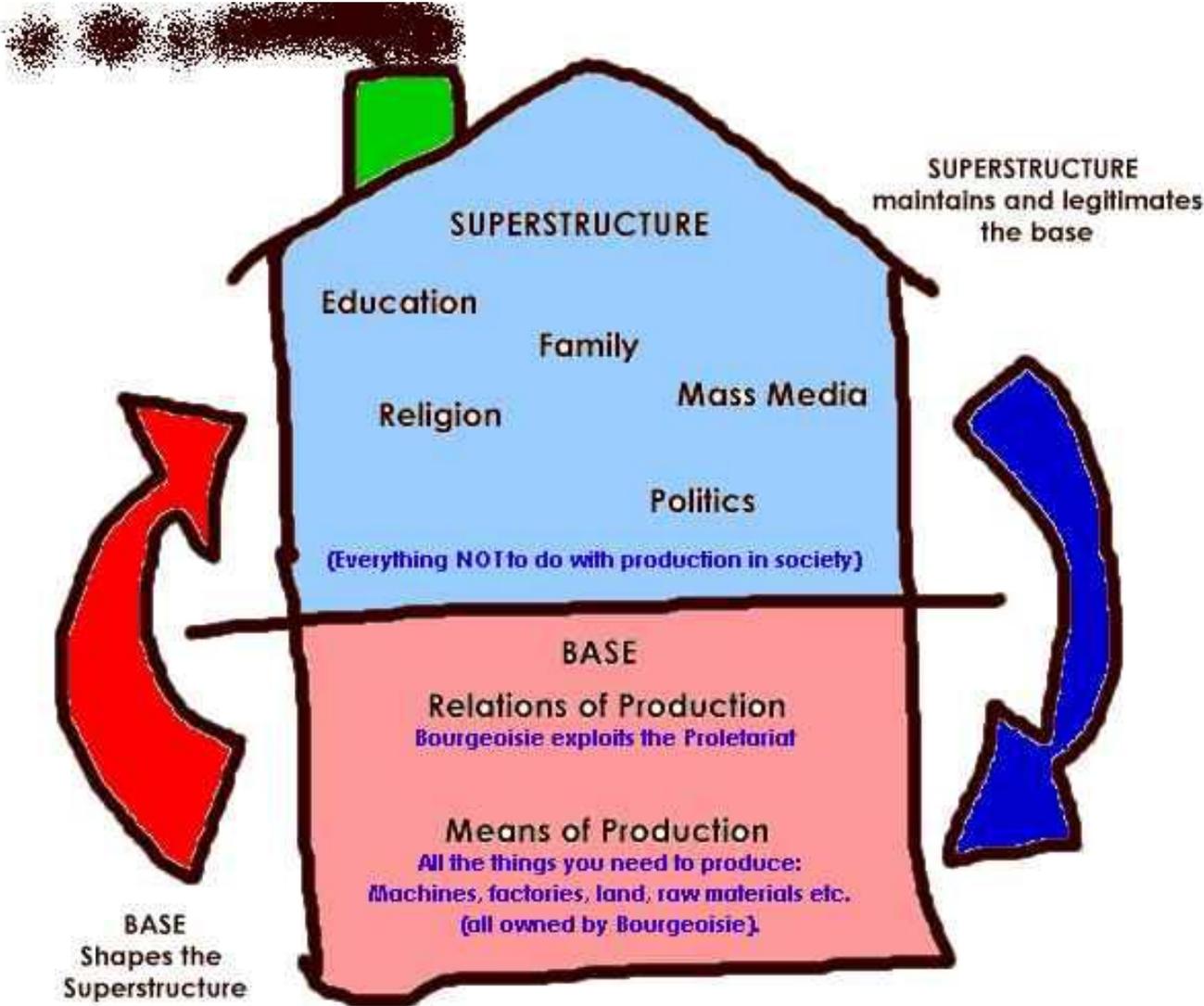
Symptoms of the problem

- Degree inflation and massive accumulation of student debt
- High (youth) unemployment (10% in the US, over 30% in Georgia)
- In Georgia: long unpaid internships, nepotism in hiring
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- Increase in suicide rates (up 60% since 1970)
- Migration (and strong xenophobic and anti-migration sentiments in receiving countries)
- Addiction to Facebook, videogames and drugs
- Extremism and terrorism

Technology challenges the existing institutional order but also offers **viable alternatives**

- Technology offers a wealth of **online learning programs** (Khan Academy, edX, Coursera, etc.,etc.) that can be tailored to anybody's individual needs. One can learn with the best international teachers, at any age, any time, and absolutely free! But, certification is still a problem
- Technology allows to **flip the role of classroom interaction** – from lectures (the least efficient learning modality!) to team projects, group discussions, etc.
- Technology also provides the means of **building professional reputation as an alternative to formal certification**:
 - It is no longer about BA, MA or PhD but the number of **stars** you get for your professional performance (similar to sellers on Amazon, e-Bay, etc.)

Change is in the air!



Writing the History of Tomorrow

- Harari's second book, titled "The History of Tomorrow", describes a very unattractive future – the Sapiens evolve into two distinct species:
 - The rich, who use their financial resources to upgrade themselves into superhumans who live a longer, healthier, and happier life
 - And useless humans
- However, this scary picture is drawn for a reason.
- There is a fundamental difference between studying weather and social phenomena. Predictions about social, economic, or political dynamics may very well be self-refuting. Common knowledge of what may lay ahead can help mobilize us into collective action:
 - Stop building walls that divide us
 - Stop fighting 20th century battles – tinkering with defunct "brick and mortar" institutions
 - Encourage new thinking and investment in new institutions that are a better fit for the 3rd millennium.