# Our Robot Overlords? Business Ethics and the New Tech

**Moore’s Law** observes that computing power doubles roughly every two years. This generalization has held since the mid-1960s (when it was first formulated) until relatively recently (when the pace has slowed down a bit). This steady increase in computing power has led to significant changes in both what jobs are available, and what sort of work these jobs entail. The software industry, for example, now employs a significant number of people, and many of the largest firms in the world (Alphabet/Google, Apple, Microsoft) didn’t even exist 40 years ago. On the other hand, the increasing automation of tasks ranging from manufacturing to bookkeeping to customer service has significantly reduced the number of jobs available in other fields. Looking to the future, scholars have been increasingly focused on the potential opportunities and threats posed by increasingly powerful **artificial intelligence** systems. In this lecture, we’ll be taking a brief look at some of these issues, with a special focus on their potential ethical implications for those working in the business world in the next 20 years or so.

## The Luddites and their Critics

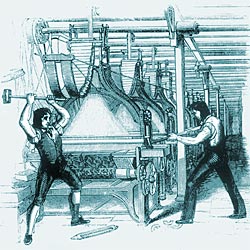
**What Worried the Luddites.** Since at least the beginning of the scientific and industrial revolutions (~1650 to 1800), there have always been those who are worried that advancing technology will harm ordinary workers by depriving them of a job (and of an income). The most famous group is the **Luddites**, a group of protestors (primarily skilled textile workers) who were concerned by the increasing move toward machines run by much lower-paid workers. In a certain sense, the Luddite’s concerns were obviously warranted: 300 years ago, the vast, vast majority of people worked either in agriculture or at some sort of skilled craft (blacksmith, weaver, cooper, etc.). While these jobs haven’t vanished, improved technology means that the same work can now be done with a small fraction of the human labor (or skill) that used to be needed. In another respect, however, the Luddites’ concerns were obviously overblown: as the old jobs vanished, new (and often better paying and more interesting) jobs took their place, and a lower- or middle-class worker is significantly better off now than even the richest citizens were 300 years ago. The current debate over the effects of technology is simply an updated version of this. On one side, there are those (call them **“neo-Luddites”**) who think that *this time is different,* and that the jobs we lose to technology really *won’t* be replaced by new jobs, or at least by jobs that are as high paying or rewarding. On the other side, there are those who argue that this time is NOT different, and that we shouldn’t jump from the fact that we can’t *imagine* what the new jobs will be doesn’t mean that that there won’t be new jobs. (After all, the original Luddites turned out to be pretty bad at prognosticating.)

Figure 1 The Luddites often smashed machines as an act of protest against the replacement of high-skill, highly paid workers with low-skill, lowly paid machine operators.

**Is This Time Different?** The neo-Luddites argue that the threats posed by information technology are significantly different than those posed by the industrial revolution. In particular, where the innovations of the industrial revolution primarily offered replacements for manual labor, increasingly powerful software systems offer replacements for human intelligence and creativity. In the last 30 years, computers have “learned” to beat humans at chess, compose symphonies, drive cars, recognize faces in pictures, prove mathematical theorems, translate foreign languages, recognize grocery store products, and thousands of other tasks which once seemed “distinctively human.” These threaten to take away jobs in transportation (self-driving vehicles), medicine (diagnostic software), economics and accounting, legal research, food preparation (automated burger cookers), and perhaps even education (massive-enrollment online classes). At some point, the neo-Luddites worry, there will simply be nothing for humans to do. At the very least, they argue there will be *much less* for humans to do, with widespread unemployment as a result. Given unemployment’s strong link to depression, drug use, crime, poverty, and other “social ills,” this would seem to be a bad outcome.

**The Blessing (or Curse) of Increasing Productivity?** In 1931, the famous economist **John Maynard Keynes** noted the ever-increasing **productivity** of workers and predicted that, were the then-current trends to continue, people would no longer need to work many hours to fulfill their basic needs within 100 years. On this basis, he predicted that the people of 2131 would be able to work around 15 hours/week, and could devote their remaining time to activities they find intrinsically worthwhile (art, sports, science, etc.). However, something strange happened: while productivity increased in more-or-less the way Keynes predicted, the vast majority of people (especially in the U.S.) have continued to devote most of their adult lives to work. As it turns out, the market has continued to produce novel (and pricier) products that people want, and has also continued to offer employment opportunities allowing workers to afford these things. Now, however, this may be changing, as improved computer technology threatens to do uniquely “human” tasks (see above) better than humans can, and leaving nothing else for humans to do. While Keynes thought this change *could* be good, butthis was based on several assumptions: first, that the gains from this increased productivity would be passed on to the ordinary worker (and not captured by the very rich); and second, that society could present the (now-unemployed) workers something worthwhile to do with once their time had vanished. But what if these assumption don’t hold?

## Ethics at the End of Work

In its strongest version (technology replaces humans, who become unemployed, poor, and miserable), the neo-Luddite argument would seem to have stark, anti-technological consequences: that firms and (perhaps governments) ought to delay or prevent the deployment of new technology in an effort to preserve workers’ wages and wellbeing. In its more modest (and common) forms, it suggests that firms and governments need to take steps to protect those workers most at risk of losing their jobs to improved technology. Some specific issues include the following:

**Reciprocity and Retraining.** Rapidly advancing technology presents several significant challenges for older workers. First, they often occupy the jobs that are most likely to eliminated by changing technologies, and it is often *cheaper* for firms to hire young workers to do the newjobs that take the place of the eliminated positions. Second, older workers often find it significantly more difficult to find new positions than do younger workers. There are a variety of reasons for this, both legitimate (their education and training is “out-of-date”) and illegitimate (age-based discrimination on the part of both employers and elite schools). From a moral point of view, however, these trends are particularly worrisome, since they seem to violate the fundamental moral principle of **reciprocity:** we have a special obligation to help those who have helped us. Specifically, older workers have often made significant *investments* in both their firms and in society as whole, especially when compared to younger workers. It would thus be unjust, and immoral, for firms and governments to allocate the returns on these investments disproportionately to younger workers. There is thus some reason to think that firms and governments have significant obligations to help older workers retrain when they face technology-based unemployment.

**Is Universal Basic Income the Solution?** In recent years, a number of economics, political scientists, and political philosophers have argued that rich governments ought to consider guaranteeing their citizens a **universal basic income (UBI).** These include both right-leaning libertarians (who think a UBI could take the place of other government programs they dislike) and left-leaning liberal egalitarians (who think UBI could be a valuable supplement to existing programs). The basic idea is simple: every citizen would receive a set, annual payment sufficient to meet basic needs for food and shelter (maybe around $10,000 if medical care is funded separately, as seems plausible). This would be funded by some sort of progressive income tax or wealth tax (so, rich people would basically pay back the whole $10,000 plus some more). Defenders of the UBI argue that this plan would work well in rich societies (with large tax bases) that suffered from increasing amounts of technology-related unemployment and underemployment. They also argue it could stimulate the economy, by putting money directly in the hands of those who would spend it. Critics, however, argue that UBI would either be inefficient (if used to replace existing government programs), costly (if added on top of them), or both. They also note that it wouldn’t (at least by itself) solve the problem of unemployment, since the unemployed people would still need something to do with their lives (even if they could now afford to live). Finally, a UBI may decrease the incentive of people to work low-wage, high-stress jobs, and may make filling these jobs difficult. The U.S. state of Alaska already has something like a UBI (funded by oil revenue), and Finland has been investigating it. However, both of these programs pay far, far less than what an individual could actually live on.

## Other Ethical Issues

The issue of technology-based unemployment is far from the only ethical concern raised by advancing technology. A few other concerns include the following:

**Artificial Intelligence and Moral/Legal Accountability.** As artificial intelligence moves into areas such as driving vehicles, reading medical scans, making financial investments, and (perhaps) actively engaging in military operations (under the name **autonomous weapons systems),** there will be increasing problems in identifying who should be held accountable when something goes wrong, and someone is hurt as a result. This might happen when two self-driven cars collide, medical scan software makes an error, and so on. There are many (perhaps too many) options: the current owner or user, the firm that sold it to them, the software development company, and so on. In the (very) long run, we may eventually begin holding machines directly responsible for their behavior, but even the most optimistic experts think this is *at least* 50 to 100 years or so in the future (though there is at least some research aimed at teaching machines “values”). Until this point arrives, we need to figure who gets held accountable.

**“Big Data” and “Big Brother.”** In recent years, technologies related to image-recognition, voice-recognition, text-analysis, and location tracking has vastly improved, as have our abilities to store and process these data. All of this has made it much easier for firms and governments to document and track the behavior of individual consumers, employees, and citizens, even if they take steps to avoid this. While this may come with significant benefits (police forces become increasing better at preventing crime, advertisers better understand which products consumers actually want), there are also potential costs (this data is used to *coerce* people into doing things). There are a few concerns here. First, private data regarding things such as health status may be used against employees or customers. Second, as it becomes easier and easier to track even “minor” misbehaviors or violations, there is a worry that firms and governments may *selectively* enforce policies or laws against vulnerable groups: e.g., an unpopular employee may be fired for accessing a social media site during work (where another employee escapes punishment for doing the exact same thing).

## Review Questions

1. To what extent will advancing technology will affect employment rates? On the whole, what sorts of workers do you think stand to gain/lose from this? How ought firms and governments ought to respond to this?
2. Suppose that Keynes’ predictions come true, and you are able to meet your basic needs (and those of your family) by working 15 hours a week. How do you think you would respond to this? Would you reduce your working hours? What might you do with the extra time?
3. Do you think that Universal Basic Income is a good idea? Why or why not? Support your answer with what you’ve learned in class, along with outside research (there should be plenty of articles on this topic).

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