

develop solutions, then test those solutions and adopt them to new circumstances. I am entirely open to the possibility that AI tools could revolutionize scientific processes on, say, a 20-30-year horizon, but with humans still in the driver's seat. So, for example, humans may be able to identify a problem that AI could help solve, then humans could test the solutions the AI models provide and make iterative changes as circumstances shift. A truly superintelligent AI model would be able to achieve all of that without human involvement, and I don't find that likely on even a thirty-year horizon, and probably beyond.

**Allison Nathan: Your colleague David Autor and coauthors have [shown](#) that technological innovations tend to drive the creation of new occupations, with 60% of workers today employed in occupations that didn't exist 80 years ago. So, could the impact of AI technology over the longer term prove more significant than you expect?**

**Daron Acemoglu:** Technological innovation has undoubtedly meaningfully impacted nearly every facet of our lives. But that impact is not a law of nature. It depends on the types of technologies that we invent and how we use them. So, again, my hope is that we use AI technology to create new tasks, products, business occupations, and competencies. In my example about how AI tools may revolutionize scientific discovery, AI models would be trained to help scientists conceive of and test new materials so that humans can then be trained to become more specialized and provide better inputs into the AI models. Such an evolution would ultimately lead to much better possibilities for human discovery. But it is by no means guaranteed.

misuse generative AI. And a trillion dollars of investment in deepfakes would add a trillion dollars to GDP, but I don't think most people would be happy about that or benefit from it.

**Allison Nathan: Given everything we've discussed, is the current enthusiasm around AI technology overdone?**

**Daron Acemoglu:** Every human invention should be celebrated, and generative AI is a true human invention. But too much optimism and hype may lead to the premature use of technologies that are not yet ready for prime time. This risk seems particularly high today for using AI to advance automation. Too much automation too soon could create bottlenecks and other problems for firms that no longer have the flexibility and trouble-shooting capabilities that human capital provides.

And, as I mentioned, using technology that is so pervasive and powerful—providing information and visual or written feedback to humans in ways that we don't yet fully understand and don't at all regulate—could prove dangerous. Although I don't believe superintelligence and evil AI pose major threats, I often think about how the current risks might be perceived looking back 50 years from now. The risk that our children or grandchildren in 2074 accuse us of moving too slowly in 2024 at the expense of growth seems far lower than the risk that we end up moving too quickly and destroy institutions, democracy, and beyond in the process. So, the costs of the mistakes that we risk making are much more asymmetric on the downside. That's why it's important to resist the hype and take a somewhat cautious approach, which may include better regulatory tools, as AI technologies continue to evolve.