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How does one of the most pivotal researchers in the history of computer science think about the future of computing? Barbara Liskov, Institute Professor at MIT, is both hopeful and cautious, optimistic about how computers will continue to improve fields like healthcare, but also worried about issues like fake news, job displacement and social fragmentation. These problems require more than just technological solutions, she argues, and urges educational institutions that train engineers and computer scientists to also teach ethics.

Transcript

- As we think about how tech is now so integrated into our world, and for you to have seen that technology has become increasingly pervasive in our lives, I'm curious to know what are you most optimistic about in the world, and then what are you worried about? And you could either direction.. - Well, I'll start with the good stuff.. - Okay.. - Okay.. So it's clear that computer isn't doing a lot of good stuff for us.. And one thing that comes to mind right away is elderly people in their homes who can now have sensors that will detect if there's problems, even being able to use remote medicine.. I'm not talking about AI now, I'm talking about just being able to talk to somebody or pick up advice and so forth.. You think of any field and you can find ways that computers are helping, medicine is an easy one to think of, but there are many of them.. So you can see many of these benefits coming along.. Unfortunately you can see many problems and the problems are what worry me more..

I think about them more than I think about the benefits and I worry about things like fake news.. I worry about job displacement.. I worry about the spread of bad stuff on the internet.. I worry about the compartmentalization of communities that reinforce one another's views, there are just lots and lots of problems.. Now, in the days when this technology was being developed, I think to some extent, people were very naive, but maybe they were also a little blind, blinder than they should've been.. Because I can remember people saying, oh, we shouldn't have these people that are developing chat rooms, be at all, responsible for the content that people are putting into their chat rooms, because that would slow down development and get in their way.. But if we'd thought about it then, I think we could've seen what was coming and I worry about that.. And I think that we're facing a very difficult time now, it's always difficult when you have a displacing technology which I think is, the information age isn't really displacing technology, it takes time for people to adjust and learn how to live with that technology.. Some of the worries about job displacement are probably, maybe not an issue, because always in the past, other jobs have come along to make up for the jobs that are missing, I don't know.. But I worry about the ethical issues, this whole issue about privacy versus free speech, versus security, all of that stuff..

And I think some of these problems have technology that can help, but they're bigger than technology, it's gonna require changes to laws, changes the way we think about things, so I worry about that stuff.. - Does it change then the way we ought to educate our engineers and computer scientists? - I think that we should be teaching ethics to our students.. I think we should bring up these questions.. I think we should tell people who are doing innovative work, especially in artificial intelligence, I mean, people are working in security, that's been an issue for a long time.. But I think people developing AI should be thinking about these problems and thinking about ways to counteract them in their systems to the extent that that's possible.. So yeah, I think we should be teaching this stuff...