Future, Humans and Technology

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This essay is on technology ethics, more specifically on the question, how we should deal with technological advances. It incorporates two very different views, on the one hand the view by Bill Joy, as presented in his essay “Why the Future Doesn’t Need Us” (Joy 2000), which I call the pessimistic view. On the other hand it looks at the view of John G. Messerly in his essay “I’m glad the future doesn’t need us: a critique of Joy’s pessimistic futurism” (Messerly 2003) that I will call the optimistic view. It is my goal to show that neither view is entirely correct and that instead of going to extremes, we would do better to listen to both sides and find a middle ground that serves our interests best.

I will begin with discussing both points of view. In his essay “Why the future doesn’t need us”, Bill Joy argues, that technological advances, if left unchecked, may come with “unintended consequences”. He bases his argument on a thought experiment, where “computer scientists succeed in developing intelligent machines that can do all things better than human beings can do them”. I will use the term “AI” (artificial intelligence) as substitute for “intelligent machines”. Given the thought experiment, Joy argues, that “the fate of the human race would be at the mercy of the machines”, because “the human race might easily permit itself to drift into a position of such dependence on the machines that it would have no practical choice but to accept all of the machines’ decisions”. We can see this phenomena play out in small scale with modern technology. With online shopping, we permitted ourselves to fall into a position of dependence, because it is more convenient to go online and order precisely what we want, instead of driving to a shop and trying to find what we are looking for. I think, that we can call this a “light dependence” on technology, because in the absence of that technology, our lives wouldn’t be in danger (at least for most of us). Stronger dependency on technology is found in computer technology as such. Imagine a scenario where, due to a solar flare, all electronics went offline for a couple of weeks. In this scenario more than just a little inconvenience is to be

expected. Because much in our lives depends on computer technology, our lives would be (severely) impacted. We would still be able to survive, because we could revert to “the old ways”, but much of our daily comfort would be gone. But if, as Joy postulates, we fall into a dependence on AI, where AI plays a significant role in our lives and takes over many essential tasks, in our infrastructure etc., it becomes clear, that in case of a blackout our dependence on AI would result in catastrophic outcomes.

Joy acknowledges that this is only one possible outcome. The other possibility is the dystopian view that, because “human work (…) will be superfluous”, the “masses” will be at the mercy of the “elite”, which, in the end, will engineer life in a way that it “will most certainly not be free”, instead human beings will be “reduced to the status of domestic animals”. In this, undebatably pessimistic, scenario, AI would not be in complete control, but will be a tool, used by the “elite”, to control the “masses” and thus limiting freedom excessively. I think, that this scenario, just like the one discussed above, is to be taken seriously. To dismiss the possibility of this happening would be reckless, because it would ignore the history of humanity, which seldom shows great respect of the ruling class towards the ruled masses. The bottom line, I think, is that a greater discussion is necessary to decide about the ownership of technology of as great a scope as AI. To envision a future that incorporates AI in a scope as predicted by Joy, would require us to not only develop the technological means, but the social ones too. While this is not the place to defend this theses, I think that the connection between technology and human beings is much closer than we think it is. It goes as far as seeing humans not as “homo sapiens”, but rather as “homo technologicus”, for a lack of a better term. If we take a look at the rapid changes in technology in the recent years and the accompanying changes in human behavior, we can view humans as beings that change themselves by changing their technology. Think about the way modern communication technology changed our lives and the ways we interact with each other, to a point, where, e.g. in modern dating, technology becomes the primary means of (initial) communication, instead of one-on-one talking. If that is the case, we can make it a point to think more careful about the technology we introduce in our lives and, furthermore, we can argue that, if we introduce a technology, we should think about the consequences it has (and could have) on us and ask the follow-up question, how we have to change, to make the technology best serve us, and therefore produce the best possible outcome for our new understanding of ourselves.

Joy concludes his discussion by arguing that in his thought experiment all possibilities “are (…) either undesirable or unachievable or both”. Therefore, he proposes to “limit development of the technologies that

are too dangerous, by limiting our pursuit of certain kinds of knowledge". As already hinted by the discussion above, I don't agree with his conclusion. While I agree that there are dangers on the road ahead, burying our heads in the sand won't deflect them. First off, it seems impossible to me to completely stop either the development or the pursuit of knowledge of AI technology. While some people might adhere to this call, others, I will call them rogue scientists, will continue their studies. If those rogue scientists succeed in their undertaking, they will have all the knowledge, while the rest of the world will be oblivious to the workings of AI, and will thus depend on those rogue scientists. Therefore it would be better if the development and study were open to the public, because technology such as AI, which has a large impact on our lives, should not be developed and studied behind closed doors, but in the open, to allow for independent control, and understanding of the technology.

We can summarize the pessimistic view on technology as the view, that technology can pose a significant threat to humanity and thus should be either strictly controlled in development, or banned completely.

I will now turn to the opposite view. John G. Messerly, in direct response to Joy, in his essay "I'm glad the future doesn't need us: a critique of Joy's pessimistic futurism", argues, that technology might improve our lives, maybe even in a dramatic way, and we should therefore not worry about unintended consequences. Same as Joy, Messerly's core argument concerns the unintended consequences that might result from technology. He argues, that "it is hard to quibble about the existence of unintended consequences", because if "the future is unknown, some consequences are unknown". Because we cannot know about the unintended consequences of any technology, Messerly concludes, that Joy's conclusion to "cease and desist in the research, development, and use of 21st-century technologies" cannot be supported, because he cannot know, that these unintended consequences will occur. Instead, he counters that "it might well be that newer technologies will lead to a safer world".

In what follows, Messerly discusses all of Joy's arguments and refutes them by implicitly relying on his base premise, that the future is unknown, therefore it is not sure what will happen. As technically true that premise is, as unsatisfying it appears to me. Yes, we don't know, what will happen. Yes, "we may increase our survival chances by switching control to more failsafe robots designed and programmed by our minds". Yes, sometimes we "*underestimate* our design abilities". But all these arguments look at the issue from the completely opposite side. What is unsatisfying to me, is the ignorance on potential threats that might emerge. While I don't fully agree with Joy on

all his arguments, I also don't think, that we should dismiss them too easily. After all, there is wisdom to be gained by picturing the worst case scenario, even if it never occurs. To assume that we don't know, therefore we shouldn't assume the worst, but instead assume that things will turn out okay, or even better, is the exact opposite of Joy's argument. Instead Messerly could argue, that we don't know, therefore we cannot know if the consequences will be good or bad. Only because we might have a more optimistic point of view, doesn't mean, that pessimistic scenarios are to be dismissed. The only real conclusion that Messerly can draw from his base premise, that we cannot foresee the future and its consequences, is that we should withhold any opinion on the subject, because if we cannot meaningfully speak about pessimistic outcomes, we cannot meaningfully speak about optimistic ones.

We can summarize the optimistic view on technology as the view that assumes that technology might pose a significant threat to humanity, but because we cannot know for sure, we might as well assume positive outcomes and therefore not limit the development and study of technology.

As optimistic as Messerly is, and as easy as he dismisses Joy's conclusion, that we should stop or limit the development and study of certain technologies, it seems to me as if Messerly doesn't agree with himself. In his essay "How Computer Games Affect CS (and Other) Students' School Performance" (Messerly 2004), Messerly argues, that video games severely impact students' lives due to their addictive nature. He argues, that gaming experience leads to the collapse of one's social life, that gaming seldom offers positive lessons and that games don't round out a contemporary computer science education (Messerly 2004, 31). He concludes his essay with the plea, that "we can only hope (that) gamers begin to recognize that the real world holds much more reward (...), promising more positive experience, knowledge, joy, and love" (Messerly 2004, 31). I think, that we can reconstruct Messerly's argument to fit into the general discussion of this essay.

Video games, I am sure you will agree, are technology. They require computer technology to work, because they are programs and assets that are only possible with computer technology. The intended consequences (i.e. goal) of video games is to entertain people. That some people develop addictive dependencies on video games, is (in most cases) not intended, therefore these addictions are unintended consequences. Therefore, Messerly argues, that it would be better, would students not play video games, because of their unintended consequence of addiction, and instead rely on other means, that is, the "real world". This conclusion leads to me asking two questions: First,

if video games showcase, that technology can have unintended, negative consequences, why should we look at technology in an all positive light? Second, considering the term “real world”, where does it begin and end? I will now try to give answers to that questions.

The first question, if video games showcase, that technology can have unintended, negative consequences, why should we look at technology in an all positive light, seems to me the weak point of Messerly’s argument. It seems to me, that Messerly distinguishes between *types of technology*. Maybe Messerly assumes that there seems to be a category of technology where unintended consequences are more unlikely, or maybe even preferred, and another category, where those unintended consequences are making our lives worse. The issue is, as Messerly says, that we don’t know what the unintended consequences of technology are. Therefore we would have to look at only the intended consequences. Here, we could argue, that video games clearly are examples of bad, unwanted technology, because they served no productive purpose for humans. They “merely” entertain players and remove them from the “real world”. Whereas a chip that is implanted in the brain, to improve its cognitive functioning, is “good” technology, because it enhances humans in a productive way. The deciding factor would be the quality “productiveness” in the technology in question. But who is to say, what that quality is to be and who gets to decide it? That the chip can go bad and cause damage to the brain, or turn into a thought-controlling chip[1], must be irrelevant on that account, because we cannot foresee this (although we can clearly imagine this outcome). Analogous, the same is true for video games. When we design video games, we cannot foresee that some players will become addicted to them. Therefore, we cannot prevent the development of video games on that premise, but rather because the core idea of video games, the intended consequences, seem to be contrary to what we want. But who is to decide, which intended consequences we want to accept? Even today, where technology is not as enhanced as in Joy’s thought experiment, there is next to no (public) discussion on the intended consequences of technology. The question: “Do we want to invite this technology into our lives, together with the intended changes it has on our lives?”, is seldom, if ever, discussed. We would need an instance, a group of people that decides what technology to allow and what technology to forbid. We can imagine a scenario where video games, with their non-productive use, would be

[1] Of course we must not ignore that sometimes the intended consequences of technology include the harm, physically or psychically, of humans, animals or the environment. Some modern video games are designed in a way that enhances their addictive potential to draw players in to spend more money. In that case we can decide, based on intended consequences, that we want to regulate the technology in question.

forbidden, while brain implants would be allowed. But this approach would be dangerous and reckless. Dangerous, because who is to say that the decision that these experts make, are in the interest of the people? And reckless, because ignoring unintended consequences is like a head-first jump into potential shallow water. It is not wise to do. It's like planning an undertaking and ignoring all potential causes of failure. Sure, they may be unlikely, but should we not talk about them? And if we see that the chances of success are more unlikely than the chances of failure, are we wiser in taking the risk, or in taking a step back and rethinking our choices?

The second question, concerning the term "real world", is a tricky one. Messerly argues, that Joy's fear of nanotechnology and the human enhancement project in general, that is, for example, the uploading of the human mind into a computer, or the merge of humans and computers, is unfounded, because human beings are always evolving and in case of standstill, where we stopped our development, many people would prefer death to such a standstill[2]. But if we intervened with "normal" evolution and changed our nature with technological means, wouldn't this be an intervention with the "real world"? What, then, is the "real world", after all? Is it that thing that we were born within, the untouched world? Or is not rather that the "real world" is constantly effected by us, therefore turning into a fluid concept? If video games, that is, a type of technology, seems to take people away from the real world, with all its hardships, joy etc., to a place where these experiences don't exist, why is it, that Messerly seems to openly invite a future, where we change ourselves (and therefore, the "real world") in a way that we lack certain experience, either because we use technology to disable certain emotions (like suffering and pain), or because we become part of a giant supercomputer that, for example, removes all hardship from our lives? How can Messerly argue that it is bad that video games remove one from the "real world", while arguing that in other cases it is not a bad thing at all? On what basis can we decide, with which technology these removals from the "real world" are good, and which are bad ones? And in how far are we willing to stretch our definition of the "real world", to accommodate our technological changes? Video games are, in a way, the ultimate experience of a virtual reality. Any thinkable limitations that are put on us in the "real world" can be lifted by games. In a way, game designers are the gods of their creation. Interestingly, it seems to me that Messerly contradicts himself, when he on the one hand chides video games, because

[2] I don't agree with Messerly on this point, because the idea that technological progress is part of what it means to be human is a relatively recent idea. There was no such concept in earlier times, which leads me to assume that we would (re-)grow accustomed to it. Still, arguing for or against this is not the point of the essay, which is why I leave it aside.

their virtual reality removes players from the “real world”, while on the other hand argues that for the human enhancement project he knows of “no reason (…) to impede our increasing abilities to perfect our bodies, eliminate disease, and prevent deformity”. The human enhancement project, taken to its most extreme form, is similar to the ultimate video games. Humans are being upgraded in a way that presents them with next to no limitations. But we have to ask: Would this still be the “real world”? Would we not loose the meaning of the concept “real world”? And if Messerly argues that in this case it would be a good thing, it seems only reasonably to ask about the differences between “living” in a video game and living as enhanced human being? What would be the difference if we remove all the hardship from life and existed just like in a video game? If we were able to remove any unwanted emotions? If we reverse aging or trick death to live for a long time? If this were the case, how can we draw the line between technologies that change us for better and those that change us for better? How, if not by limiting at least the development of certain technologies, *until we have a better understanding of them*? My point is not to go the pessimistic route and stay at the same place, technology-wise. Rather I propose a view, where we change our view on technology and development as such. Instead of plunging head first into new technology, we should assert the changes it makes on humans as such. Maybe we should change our view on technology to be similar to medicine. Just as medicine helps the body fight of disease, so technology helps humans in various aspects of their lives. While there seems (or should be) no controversy over the fact, that the uncontrolled use of new, insufficient studied, medicine is reckless, we should also come to conclude that the uncontrolled use and distribution of unstudied technology is just as reckless.

Although I spent much of this essay discussing Messerly’s optimistic point of view, I now want to take a step back and briefly discuss both viewpoints from a neutral point of view. It is true that the uncontrolled development of technology might lead to disastrous outcomes. We can - and should - imagine scenarios where technology turns rogue and takes control over our lives. We should imagine it, so that we can implement safety measure and introduce responsible interactions with technology. But we shouldn’t refrain from developing and studying technology altogether. Of course that implies that we should neither be too optimistic nor too pessimistic. We should seek for the middle ground and understand ourselves as a species that creates itself through technology, and not the other way around. We should start a discussion about the changes we would like to make and about the limits we want to impose on us. This is one part of the ethical discussion of technology.

One point that we should always keep in mind, is the goal of tech-

nological advance. Why do we develop and study new technology? Is it an end in itself, or do we strive for a higher goal? One possible, and undeniably important, goal of technological advance seems to me the continuing survival of humanity. Given the fragile state we are in, considering dangers on our planet (for example: climate change and depletion of resources), and dangers from out of space (for example: asteroids, comets and solar flares), we should seek to find ways to extend survival for as long as possible. Technology is our only and best bet. Of course there are dangers on the road ahead. A society that solely relies on technology can find itself in great peril, should the technology stop working. If all our knowledge is concentrated in technology and more and more of our lives are automated and taken over by AI, one blackout is enough to cripple all of life and endanger the survival of humanity. While there are great advantages in advancing technology, we shouldn't forget the old ways, that in case of catastrophes enable us to continue our lives, even if with less comfort than today.

In this essay I looked at two different viewpoints on technological advancement. I discussed Bill Joy's pessimistic view that concludes that we should limit or even prevent the development and study of technology that poses a threat to humanities continued survival. Then I discussed John G. Messerly's optimistic view that argues that, because cannot know what will happen in future, we might as well assume that the best possible outcome is to be expected and that we there don't need to limit or control the development and study of technology. I then went on to look more closely on Messerly's optimistic view and contrasted it with his view on video games. I argued that, because video games are technology and Messerly sees severe problems with the unintended consequences of video games, it is not enough to look at the intended consequences only, instead we should think about possible unintended consequences and think of ways to disarm them. I argued that we should be more critical on which technology to invite into our lives and that we should think about the ways we would have to change to include some new technology into our lives.

References

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