# Can *Stuff* be Morally Good?
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There is a view that scientists are interested in the truth, and that the truth – being some brute property of the universe – is not good or bad; it just *is*. "2+2=4" is simply true. "$E=mc^2$" is also true, waiting for Einstein or anyone else to discover it. "Uranium releases energy when it decays" is also a truth of the universe, and would be true whether we knew it or not. Uranium is not good or bad; it just does what it does. Likewise, it is simply true that, if you put uranium in a particular configuration, you can instigate a runaway fission reaction on demand. This is not good or bad. It just *is*. The person that builds (or pushes) big red buttons – *they* are bad. So somewhere between "2+2=4" and "push this button", something happened. And while it would be convenient if all the moral considerations appeared only at the "push this button" stage, there might be reason to suspect that moral questions arose before then. And if they did, then that might have implications for technologies other than bombs.

People never read the instruction manual. Designers know this. So good designers go to great lengths to communicate how an object is to be used by its form. No one tells you to put an Octopus Card in your wallet; they just make it the same size as your credit card, and leave you to work it out. No one tells you to throw a plastic fork away after you have used it once; they just make it so flimsy that it breaks easily, and leave you to work it out. In light of this intentionality of design, you cannot say, "The object is neutral: it can be used in good ways or bad ways; if you use it in a bad way, it is your fault for using it wrong." No: a disposable fork is *designed* to squander plastic. If you use it in a wasteful way you are using it *right*.

Taking Coke as an example, a single serving of Coke is 175 ml. Standard Coke cans, however, are 350 ml: two servings. The can is designed to be opened and consumed. You cannot re-seal it. You cannot drink one serving and save the rest for later. It is *designed* to make you drink two servings of Coke. A person who drinks an entire can in one sitting is not using the can wrongly; they are using it correctly, exactly as intended by the designer. Given the health impact of sugary drinks, such a design raises moral issues.

Moral issues with design can also arise unintentionally. When a kitchen is well connected to the rest of the house (for example, because the living area is open plan, or because the kitchen is large enough to have multiple activities going on) women (for it is they who tend to be in the kitchen) can be at the centre of the action. They can chat to visitors around the kitchen table, they can interact with the kids, they can be involved in the life of the home. When a kitchen is hidden away from the rest of the house (away from the route between the front door and the living area, behind a door, too small to have more than one person in) women are excluded from the action. People who design houses with layouts that exclude women are not necessarily bad people. They simply don't think through the consequences. It's "just" a kitchen.

It is not just bombs, Coke cans and kitchens. Anything which has been designed for any purpose has the potential of giving rise to a minefield of intended or unintended moral consequences. If we are unaware that this situation even exists, we have a problem. The aim of this workshop series is to awaken people to the fact that these issues exist, and hopefully then to help them navigate their way to create good technologies, and use technologies in good ways.

This is all the more important for creators of technology, as they (literally) make the mould. The first person to make a two-serving drinks can had a lot of freedom. Once other companies followed suit, it was harder to change back. Once vending machines, and drinks holders, and all manner of other accessories have been standardised, it becomes incredibly hard to change to a better design. As innovators, as creators, as the people that do things first, we have a responsibility to do things right.

To get a handle on starting to think about these issues, one question to ask is, "What does the technology serve?" Phrased slightly differently, "What are you optimising the technology for?" These are remarkably general questions that can be applied to almost anything. I will use three areas here to illustrate it.

It is obvious what **medical technology** is optimised for: patient health and longevity. What else *could* you optimise it for?[*] To answer such a rhetorical question, consider Job. He clearly had medical problems. After 42 chapters of wrestling with God he finally declares, "*I know that you can do all things; no purpose of yours can be thwarted. My ears had heard of you, but now my eyes have seen you.*" [Job 42:5.] Job is included in "Wisdom literature" with good reason! His conclusion, though, should possibly not surprise us, as we know that "*suffering produces perseverance; perseverance, character; and character, hope.*" [Rom 4:3-4.] What would have happened if one of Job's friends had, around chapter 4, given Job some Prozac? If, as C.S. Lewis claims, "*Pain is God's megaphone to rouse a deaf world,*" then medical technology provides us with an off switch. In light of this, we should use it with care.

**Industrial technology** is optimised for efficiency. An industrial technology is good if and only if you can use it to turn out widgets faster. It does not matter if the technology is dangerous to operate, dehumanising, or destructive to society and the environment. If it turns out widgets efficiently, it is good. It doesn't even matter if we don't need widgets: being efficient is key, who cares what it is efficient *at*? What would happen if, instead of optimising our machines on the assumption that the goal of human labour is efficiency, we optimised them on the assumption that the primary goal of human labour is the praise of God's Glory. Would that be so bad?

**Phone technology** – indeed, internet technology in general – is optimised for clicks. As a consequence of this, the designer wants to suck the user in, and have their attention totally absorbed by their phone. A phone that pushes your attention away from itself and towards the people around you is a phone that has failed. You may become an uncommunicative zombie, but we are not here to optimise communication, we are here to optimise clicks. By the same token, if reading an article on your phone is in conflict with clicking, clicking wins. This is why there are so many links within any given news article to other related (or unrelated!) content. Phone technology is similarly brutal to your social habits. If being genuinely sociable conflicts with clicking more, genuine sociability must go.

Obviously, if you have information technology optimised to distract you from information; communication devices optimised to inhibit communication; and social platforms optimised to make you unsociable, then something has gone wrong. But there is good news! We *can* do things differently.

There is a view that the consideration of morality, or humanity, or values will curtail what technology, and technology research, can do. In fact the opposite is true. Technology will always be optimised for *something*. By considering morality, or humanity, or values, you open up entire new areas of things to optimise that the rest of the world has apparently never noticed. In a world obsessed with clicks, and page ranks, and ad revenue, whoever would have thought of optimising a communication technology for *communication*?

When someone challenges us, "this technology is not optimised for efficiency [or whatever else is in vogue]," we can fall back on the two standard options of "You are right, I shall fix that," or "You are wrong, maybe you missed how this feature that does exactly that." Alternatively, taking a cue from Paul's exhortation to not be conformed to the patterns of this world, we can notice the third option: "That doesn't matter. There are better and more important things to optimise for than efficiency. Look at this." Then we can make stuff that is *good*.

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[*] OK. Obviously it could be (and often is) optimised for making money. But bear with me here.