

# The downside of technology

Question: What is the difference between science and technology? Answer: Technology is the application of scientific discovery for the benefit of society.

Hah! I sometimes think that while science is the noble study of the natural world, technology is an enterprise that has produced a great many gadgets that have an alarming tendency to fail when most needed. Yes, yes, I know that electricity, cars, trains and mobile phones all have their uses, but there is a problem with technology – the problem of reliability.

In my view, the trouble springs from two main sources. The first is device failure: anything made by humans will likely feature a certain fallibility (think cars on Monday mornings). The other is operator failure: many of us employ familiar devices in a limited fashion, unwilling to take the time to learn how to use them properly.

An obvious example of device failure is the ubiquitous mobile phone. A stunning revolution in telecommunications technology, this device has transformed the world. Well, most of the world. Why do none of the major networks offer coverage in my village? Is it because the village is too small to be cost-efficient? Or because outsiders march in protest against new phone masts? We will probably never know. What we do know is that society now expects us to be contactable on our mobile phones in the evenings – so those living in my village have gone backwards instead of forwards.

Indeed, mobile-phone reception is notoriously unreliable worldwide, from problems of coverage in remote regions to issues of microwave reflection in built-up areas, not to mention what happens when too many users decide to all use the network at the same time. I was intrigued to learn a few years ago that the rescue services consider anybody who relies on a mobile phone for emergency communication to be certifiable.

Another example of device failure is the banknote machine. Some years ago, we invented a gadget that can read banknotes. Or most banknotes. In fact, every user knows that the machine in the car park may or may not accept your tender. If it does not, then you had better hope that there are shops open that can give you change – a clear example of a technology that is not yet reliable.

Finally, there is the humble printer. Perched at the interface between cyberspace and the outside world, the printer is a special case. Most of the time, printers work fine, but every now and then, they go offline for reasons of their own. If you do not believe this, then you have never used a shared printer.

Of course, one could argue that the key word in the last sentence is “shared”, and this brings us neatly to the second problem: operator failure. The issue is a complex one. This little article was written using Microsoft Word, the ubiquitous software package that is relatively easy to use. Or is it? Why does the use of one bullet point set it off into an orgy of unwanted bullet points? How do I switch this annoying feature off? What is it with the incessant capitalization? How do I get rid of the irritating little figure that keeps saying “I think you’re writing a letter”?

Indeed, the “how do I get rid of this?” question is all too common in software. Most packages are simply far too clever (or, possibly, far too clever for me). They offer a vast number of functions that few users will ever require.



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Worse, one cannot switch them off. A simple rule for product designers: if I had wanted these extra features, then I would have asked for them.

Now, some will argue that this is an example of design failure rather operator failure. The program could have been designed with an emphasis on basic functions, rather than including unwanted extras as a default. However, at least part of the problem is that users rarely take the time to learn how to use a package properly. Instead, we confine ourselves to using it in a limited way, vaguely aware that there is probably an easier way of doing things.

Which brings us back to the mobile phone. Students love to use predictive text. But how do you switch this blasted function off? Does anyone over the age of 25 know? God help you if you accidentally switch it on by hitting the wrong key. Even if you do manage to contact the rescue services in an emergency, the text they receive will probably read something like “lkgfk jpgng rttkkywz”.

And then there is digital radio. All over the world, people of a certain age wait patiently for young relatives to visit. Why? Because once lost, digital radio stations can only be re-installed by a well-disposed teenager.

What is the solution to these woes? I suspect the solution to device failure is simply time – technology has progressed at such a pace that the support infrastructure has simply not been able to keep up. Another solution might be an increased emphasis on the Sputnik principle: the simpler the design, the more reliable the device. In the case of operator failure, we need to accept that any device is only as good as the person using it. So out with complex manuals written by someone who has never seen the gadget. In with clear instructions and an emphasis on basic functions. In short, we need to transform “user-friendly” from aspiration to reality.

Finally, none of the above has addressed the technologies society could have done without – jet skis, sport utility vehicles, nuclear weapons and so on. “Something must be done” before we all grow to hate technology...



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