



The question concerning technology

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When it comes to technology, it seems like you can draw up a definite schema of progress across history as a whole, and no-one will disagree with you. On the other hand you might argue that the world gets better in some other way, but you're bound to come up against some contrarian. There are people who want to live back in the 1950s, so you're not going to convince them that social progress is real; but they're not going to pretend that a 50s transistor radio is the pinnacle of Western technology. It's true that we lose some of the technological secrets of the past — everyone knows that we don't *know* how the Egyptians put their pyramids together — but from the modern era onwards (when we decided to pathologically document everything), we can confidently see technology skating across history at a breakneck ascent, from hydraulics and clockwork to integrated circuits.

So the computer is better than an abacus, and a laser is better than a spear. All these things are just tools, and people should have the agency to use them or do away with them whenever they want. This seemed fair enough, and the philosophy worked fine until Artificial Intelligence was considered possible. By that time, the distinction between the person and the tool blurred, and legal clerks around the world started to tremble. It got to the point where people began to question the

idea of human dignity, because the comfortable distinction between the human and the machine was beginning to erode; so the apt response was to destroy the computers while we were ahead of them. So ran the events in the city of St. Donatus, the city that democratically resolved to destroy every last computer in the region some 30 years ago.

Of course, no-one knew whether computers at that time could have ‘understood’ what was commanded of them. What troubled the residents of St. Donatus was precisely that inability to tell, but their intuitions led them to fearful conclusions. To the citizens, the screen of a computer was practically a window into its soul, and its hard-drive was its anatomy. The computer invites these suspicions, because we can see the results of its ‘thinking’, but we can’t see the ‘thinking’ itself. The citizens could hear the computer whir, they could pick apart its circuitry, and they could read its code; but the elusive ‘thinking’ of the machine could not be affirmed, nor denied by anyone. When the news broke out that Scandinavia was employing a computer as an economic advisor in 21–, an impromptu ballot was held for the residents that very evening and the smashing began. It was a fantastic night of violence: cell towers were overturned; phones were crushed like biscuits; computers smashed, and tablets crunched. It wasn’t all destructive though: some months later, the St. Donatians did build one tower to ward off any satellite signals in the area.

The Wikipedia article describes the event as ‘The Great Atavism’. It’s interesting just how infectious the anti-technology zeal had become, because it extended to many other strands of modernity — all the buildings of the 20th century onwards, for instance, had been replaced by stodgy little Georgian houses, and by the end of it the place ended up looking like a Puritan colony from the 18th century.

What may surprise you, however, is that the St. Donatus University managed to keep their Faculty of Technology and Engineering. They were allowed to exist on the condition that they were forbidden from using any materials that did not predate the steam engine. Far from spiralling into anarchy, the researchers either left or complied with the strange rules that were put in place. Now, for instance, technical research teams were conducted to refine pre-industrial tools to their maximum efficiency. They got research grants to perfect a hand-operated plough, and after many years of this pseudo-innovation, it was striking to see how a counter-factual history was forming in the little town — progress without an Industrial Revolution.

For the coding boffins it was more difficult to adapt. Their raw material was fundamentally digital, or so it seemed initially. In the end they came out of the Great Atavism with an unusual task — they could still code, but only on paper.

When I returned to the city after years of absence, I returned to the technology faculty to meet Helen, an old friend of mine who worked on Artificial Intelligence. By the time the Atavism broke out, she'd already received a Doctorate in Computer Science (I, on the other hand, had just dropped out halfway through a sociology major). In any case, despite the limitations of the past three decades, a group of computer scientists, including Helen, were working on an interactive bot that could sustain a five-minute conversation. The letter sent to me promised that not a single mechanical device was used in the process, which astonished me. Helen told me they'd set up the 'machine' (named Paracelsus) in the crypt of the university's rectory, and she invited me to come and have a look, and after a laughable carriage ride and a walk I arrived there a few days thence.

One of the associate professors led me down to the crypt, and she cautioned me that the research team seldom saw visitors. I wasn't too concerned about this, however, because the letter Helen sent me was inviting enough. Once we completed our descent, we passed into the portal leading into the undercroft, and it turned out to be somewhere in between a book archive, a cellar and a bunker. Everything seemed marked by decay: the vaulted ceilings were encased in mould, and the books were bound in ancient leather. The lighting was barely adequate, and the ground, I might add, was pretty much carpeted in scrap paper. Like moles out burrows, the research team emerged out of the bookshelves looking stooped and dishevelled. I was apprehensive, because they looked like they practically lived in there. My initial reserve, however, departed me when we began to talk; and I came to the conclusion that Helen and her teammates were simply fatigued, and the reasons for this became quite clear once I saw the product of their labours.

Helen showed me the 'machine'. Paracelsus was a 250-volume library; a library that was the product of years of anguish and monomania, but all for a five-minute conversation. Helen explained to me, however, that the five-minute mark was a metaphysical one, as it can naturally take hours to trawl through your conversation in real time. Only once you transcribe the conversation in a separate book does it take five minutes (or thereabouts) to read it aloud. With that caveat in mind, I opened Volume 1 and marvelled at the regularity of the handwritten typeface. It was biblically small.

'8-point Garamond, 34 lines and 425 words a page, 250 volumes, 600 pages a book, half a million lines, 63.7 million words,' said Helen. She wasn't smiling. 'We're expert calligraphers now.'

Paracelsus was only fluent in English, so many of his default responses to other languages were various expressions of perplexity, which featured the most in Volumes 49, 67 and 94. He did, however, have some familiarity with Italian and Latin, as well as other foreign words that have entered the English idiom; and the reference list in the index volume gives you an idea of his vocabulary, which deliberately included some errors of his own. (So, for example, if you described Paracelsus as 'tendentious', he would take it as a compliment. You could, however, correct him later on, and he would 'remember' to use it properly afterwards.)

There were, Helen admitted, some loose constraints to the conversation. For a start, you had to open the conversation in an orderly way with some kind of greeting; if you didn't, Paracelsus would express a default feeling of confusion. He wouldn't, for instance, be so eager to talk about trouts at the start of the conversation in volumes 1-14 as he would be in volumes 56-57. Helen told me that these constraints were necessary to prevent an infinite regress of data, and it was a frequent 'quirk' of Paracelsus that at times he would happen to be very enthusiastic to discuss trout in a conversation at one point, but extremely reticent about it at another. This limitation was covered up somewhat by providing Paracelsus with a host of plausible but erratic responses. Inevitably, the trail of your conversation would jump back and forth in between volumes, but this was prepared for: if you, say, had to go from volume 320 to volume 46 in one stroke, there would be an option in volume 46 that ensured that Paracelsus 'remembered' what you talked about in volume 320 and before, plus the time limit considerations of the conversation. So in this situation, it would read (abridged, of course):

Vol 9: If PAR remembers topic AARDVARK
goto p.456, ABACUS goto p.457, ABADDON goto
p.458, ABANDONMENT goto p.459, ABBATOIR
goto p.460.....

Once you were led to the topic (say, ABANDONMENT) that you and Paracelsus had discussed before, you would turn to a page that documents what you previously said about it to inform the rest of the conversation in progress. Much to the chagrin of the research team, this made the coding process a great deal more cluttered, and it directed you to the next volume.

Vol 10: If conversation on ABANDONMENT
proceeded <1:00, goto p.416 l.23, <2:00 goto p.20 l.15,
<3:00 goto p.564 l.21, <4:00 goto p.135 l.24, <5:00
goto p.46 l.34, 5:00> goto p.430 v.250

If you turned to page 564, line 21 of volume 10, you would see a further subdivision of topics.

Vol-10: If conversation on ABANDONMENT is
HISTORICAL goto p.143 l.11, PERSONAL
goto p.46 l.22, EXISTENTIAL goto p.54 l.25, LINGUIS-
TIC goto p.86 l.33, ABUSIVE goto- p.597 l.6

This leads to further subsets of possible interactions, and by the time you recall to Paracelsus what you said before, you haven't even said anything yet — it's just recapitulation. Ultimately, the conversation would snake through hundreds of volumes, and many paths were to be tread in the well-thumbed pages. The question lingered in the back of my mind: Just how many lines of code does it take to write before you start thinking like it?

Helen explained all of Paracelsus' workings to me, but I was getting a clear impression that I wasn't permitted to actually converse with the 'machine'. For as the library grew in

volumes, the less desirable it became to explore it; it sat dormant in that bunker, undisturbed, silently understanding. Paracelsus was forever in a causal loop — he was enmeshed in thousands upon thousands of five-minute sequences, all withheld from the public view, and to open it up now would be a violation, a desecration. It came to down to the simple fact that Paracelsus only thought for himself, nowadays.

Helen and her team, I soon discovered, had finished their project a year ago, and they had not tampered with Paracelsus since. They were no longer receiving funding from the university, and the crypt was simply forgotten, save by a few scholars that took pity on them, providing them with food. Through the campus I could feel a collective sense of guilt and responsibility for the mistake; but no-one knew how to close the project without meting out great suffering to the researchers. No-one in the city could assist them, for that matter.

These people in the crypt were not computer scientists; they were a sacred circle, an order enshrining a mind of paper and leather, and only they could hear its murmurs. To the rest of the world, it remained hermetically sealed. These people were no longer acquaintances of mine; they were techno-Platonists, and in an underground void of symbols and numbers, they thought they saw the truth; for my part, I think they were in the cave, not I.

There is modern technology itself, and there is technology that is lived under; they had abandoned the former, but never thought to do away with the latter.