

Monster Soup - Making the Invisible Visible

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When entering the dimly lit interior of the Wellcome Collection with its wooden panelling for the first time, it is easy to get carried away by the plethora of weird and wonderful objects on open display. Exhibited inside glass cabinets these visible but untouchable artefacts take the spectator into the obscure and esoteric world of the 'Medicine Man'. In here, the tools of the medical trade still allow no clear delineation between the functional and the spiritual, between science and art. Grouped loosely around large issues such as 'The Beginning of Life', the heterogenous exhibits seem to stem not just from an other world but from as many other worlds as there are objects. There is one thing though, that they all have in common: their close connection to the human body. All artefacts deal with the visible and invisible threats to our well being. This holds true for the brutal looking forceps and saws displayed in the vitrine 'Metal Instruments', which were used to operate inside the opened human body, as well as for the Peter Pan like wooden figure in the vitrine 'Seeking Help', which served to ward off malevolent spirits before they could do any harm; a metaphysical firewall against invisible threats.

It is probably only now, after having explored the openly displayed tools of treatment and torture, that one might, on closer inspection, have a look inside the closed wooden drawers that are tucked in neatly into the wall, under the same wooden veneer that the whole cabinet of curiosities is embedded in. Hidden from direct sight and protected from the light, a small collection of delicate prints can be discovered here by the curious visitor. One particularly interesting etching in this closet is made by the British caricaturist William Heath, published in 1828 under the title 'Monster Soup'. The illustration depicts a bourgeoisie lady spilling her cup of tea in a state of shock, confronted with microscopic revelations about the quality of the water that presumably was the source for her tea. In a parallel montage the artist shows on the left side of the image what the Thames water is used for, in this case tea, and on the right side what it consists of, a myriad of malevolent life forms that breed and dwell in it; A biosphere usually invisible to the human eye and revealed only through the technology of the microscope. The top caption of the print reads:

‘Microcosm dedicated to the London Water Companies. Brought forth all monstrous, all prodigious things, hydras and organs, and chimeras dire.’ At the bottom, a subtitle states: ‘Monster Soup commonly called Thames Water being a correct representation of that precious stuff doled out to us!’.

The caricature was a reaction to the particularly critical situation in water supply that London was suffering from at the time of publication. Only three years later, the city experienced its first outbreak of cholera. The poignant sarcasm in the captions points to the helplessness and passivity of the people at the receiving end of the water supply. They have to trust the source without being able to see with their own eyes what they have to consume. The citizens are at the mercy of the private suppliers and can only rely on experts from science, or in this case, on a caricaturist, to reveal the invisible threats delivered as a commodity to their homes.

This specific form of revelation that William Heath pursued with his etching almost 200 years ago has a very contemporary counterpart which is only slightly less scary than the contamination of our drinking water. In October 2011, the influential conservative German newspaper Frankfurter Allgemeine Zeitung (FAZ) made a similar move: Over several full pages of its widely read Sunday issue, it printed the source-code of a particular nasty piece of malware, the so called ‘Staatstrojaner’ or ‘State-Trojan’. A tiny piece of software that was designed by a private company, DigiTask GmbH, as a commission for the German federal police in order to infiltrate the computers of suspects. The program not only empowers state organs to record emails and listen to Skype-conversations, it can also send screenshots of the suspects computer to the prosecutors in real time. Furthermore, probably the moment where to drop the cup of tea, it enables whomever has control over the program, to download the whole hard drive and, most importantly, to remotely upload files and even further malware at will. In other words: evidence can be produced and placed wherever and whenever needed without the suspect having the slightest idea of what is going on under the bright and shiny surface of its desktop. The green meadows covering the operating system would show no traces, no footprints of the invaders.

Thanks to the Chaos Computer Club (CCC), a hacker organisation that, in spite of its misleading name stands up for civil rights, constitutionality and privacy of data (Datenschutz), the Staatstrojaner with its wide political implication was brought to daylight. Without this tech-savvy group of geeks and nerds, who are usually seen as outsiders and renegades, even as threats to society, the public would be as oblivious to the state-malware as our tea drinking lady would be to the sprawling life in her teacup without the help of the microscope. Frank Rieger, spokesman of the CCC and one of the hackers who exposed the malware explains the discovery in the FAZ under the descriptive headline: 'Anatomy of a digital pest'. Indeed the parallels between the biological viruses, parasites and worms that live in our bodies and their digital counterparts that infest the nervous system of our personal computers are striking. Or, as Frank Rieger puts it: 'Analyzing malware can be compared to dissecting an unknown species. The idea is to identify individual functions, like eyes, ears, the respiratory system, the cardiovascular system, the intestines or vocal apparatus'. The vivisection of the still fully functional specimen under scrutiny was programmed so recklessly, that not only the police but any knowledgeable hacker could take advantage of the loquacious intruder. Instead of protecting its citizens against harm, the German police had not only broken the law, it eventually rendered its suspects defenceless against all kinds of criminal cyber-attacks.

It is already a peculiar circumstance, that a conservative newspaper teams up with the seemingly 'chaotic' hackers to undeceive the public about the governments use of malware. Even more noteworthy is the editors decision to print the actual code over five full pages. By making it an 'open source' in that way, the FAZ made it readable to everybody, deliberately shocking its readership, while at the same time pointing to a new form of illiteracy that has become a serious problem in our society. We are embedded in code, computers are ubiquitous in our lives, they control our lives, code is law, it is of utter importance. But still, even when it is spread out in the Sunday paper, the vast majority of people has not the slightest idea what these lines mean. They might as well be written in ancient Greek or Latin. 'Quis custodiet ipsos custodes?' Who is

watching the watchmen?. As with the classic form of illiteracy, early schooling in programming languages could, in the long run, contribute a solution to the problem. But still, it will remain highly unrealistic that a majority of the population will be able or willing to keep up with the ever increasing speed and complexity of technological development. There is not much more than the belief that, while we touch the sensitive surfaces of our ubiquitous quasi-magical devices in awe, someone will take care of their integrity and ward off malevolent spirits. Since governments not only in Germany have disqualified themselves of this guarding role it becomes ever more important to promote the ideas of the open-source movement and to support independent groups of experts like the CCC to watch the watchman and to illuminate the secret life of our devices.

After closing the drawer with the 'Monster Soup', when leaving the 'Medicine Man' through the nearby glass door, the visitor finds himself in the exhibition 'Medicine Now'; far from being a dimly lit cabinet, this part of the Wellcome Collection is a brightly light, aseptic representation of the modern day, purely scientific approach to medicine. No magic lurking under the surface here. But in a huge white floor-to-ceiling bookshelf full of white ring binders, the visitor can have a look into his own source-code printed on paper. With its three billion letters in 119 volumes The 'Library of the Human Genome'⁴⁴, points at the future strands of code and hacking.