

# THE MATERIALITY OF DIGITAL UTOPIAS

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The citizen creator of the current age is advertised to be empowered of unprecedented means for transforming the world. This paper will attempt to evaluate the Utopianism of the digital age with reflection on the material circumstances of the hardware expected to realize it.

Can we see in the predilections of our hardware the concretion of the certain social priorities? Can such social priorities be said to invoke ethical models? And if both questions can be taken, can we then infer that ethical values are inscribed in our hardware? If the response to the last question is positive, as I would like to argue, we have a situation where the highly miniaturized, multiplied automated processes of the hardware that makes today's industrial reality run are perpetuating certain moral values, and that these moral values deserve discussion.

The materiality of our contemporary environment is the product of large, to varying degrees global processes involving the collaboration of myriad people, excavating, working, thinking, planning, moving the materials around until they have settled in the forms we can observe here today. The production of the contemporary surface requires collusion, as Bruno Latour put it "An object cannot come into existence if the ranges of interests around the project do not intersect." [1] these overlapping ranges of interests constitute society. Therefore there is a sociology, and an anthropology to the present and it is grounded in the past, and, going further I claim, the physical reality of contemporary objects are, materially inscribed with the social processes by which they were generated.

If our technology is ingrained with, and propagating, social and moral messages, it is important for artists and critics to inscribe themselves there. When Flusser said "true freedom is to turn the accident around and make something, which was very improbable necessary," [2] he was speaking of Dante writing his *Inferno*, how unlikely it was that he wrote it, and how it became historically necessary in retrospect. This is exactly the kind of retrospective necessity we need to generate today. We should not take what has happened (the accident) as necessary, but decide what unlikely thing we wish to have become necessary in future retrospect.

I would maintain that there is, at every moment, the possibility, even the propensity for technology to be different than it has been in the past. Technology, as a human product is the site of a battle for ideological hegemony, thus claims of its neutrality are politically spurious. We could, from today, have a very different world of technical effects and objects, engendering different world-views and sociabilities, if, or course, the "ranges of interests" of enough people involved would intersect to support enough divergent projects.

It would appear that our age is very well disposed to exploring alternative social modes. Instead we have a society which is profoundly conservative, prey to the least threat of insecurity, constantly assailed with threats of various kinds, air and water pollution, distant and immanent wars and terrorism, global environmental disaster, etc. The litany of dangers reformulated endlessly over the course of every day's news feed, engenders an atmosphere of insecurity which cows populations into submission to any

regime which promises to protect them. In other words, despite superficial technological advance, politically we are still living in the 1700s, if not the 1300s. This fact alone casts significant aspersions on the claim of the neutrality of technology.

Let us take, for example, design errors which caused the deaths of (according to the US Congress) [3] over six million people. A holocaust broke out in the late nineties when engineers at Apple, Nokia, and other electronics manufacturers determined to use tantalum in their circuit boards. Tantalum's unique heat-resistant and high-conducting properties allowed the next generation smartphones, games and laptops to be designed thinner and lighter. Nobody asked where these materials would come from. Wars broke out for control of mines in DRC and Zambia, and millions were killed. This was patently a design decision which went wrong. Is the design neutral? Obviously not.

In 2002 the European community decided to ban the use of lead in solder. The project was called ROHS, it came into full effect in 2006. Other, safer alternatives to poisonous lead, such as tin, were available, which would protect tens of thousands of electronics assemblers around the world. No-one asked about where the tin would come from.

World-wide transition to non-lead solder for electronics meant that massive and inexpensive new sources of tin would suddenly have to be found. [4] Suddenly a civil war sprung up in eastern Congo over cassiterite (tin ore) mines, [5] hundreds of thousands were raped and murdered as militias, and sections of national armies, often supported by multinational mining corporations battled for control of the mines. There will be no Nürnberg for the inadvertent bureaucratic criminals, who simply though ignorance generated mass slaughter.

Since the earliest days of our 200-year industrial revolution, and before, back through to our philosophical ancestors in the Greeks and Egyptians, we have a certain tolerance for collateral damage, human exploitation, slavery, indentured labour, in the interest of social progress. We need to see that cruelty as part of the pedigree of our indubitable technological and scientific accomplishments. My point is that we cannot plan, or even envisage a technical utopia that is conveyed on hardware created under intolerable conditions. I deny the neutrality of hardware as I assert its persistence as a record, an archive of the social conditions of its emergence. As Garcia & Sandler concluded in their article about whether human technological enhancement could help resolve social justice problems "We must fix social injustice, the technologies will not do it for us." [6]

The engineers and designers, after all, were just looking for a practical solution for a technical problem, how to get as much heat resistance and electrical efficiency in the smallest space possible. Their negligence can not be abstracted from their competence, we need to take a sociological/anthropologic view of these specialists and attend to what is motivating them to make the decision they did. Following from Latour, Johansen, [7] Traweek, [8] my own field research, and that of others, I claim that the decisions of the engineers were based on their immediate social needs inside their company, ethical concerns about any possible repercussions of their actions were not significantly considered. Their quest for status by having solved the design problem overruled their ethical skepticism. They hide whatever shame they have behind a simplistic notion of progress.

"The various manifestations of socialism destroyed both their peoples and their ecosystems, whereas the powers of the North and West have been able to save their peoples and some of their countrysides by destroying the rest of the world and reducing its peoples to abject poverty. Hence a double tragedy: the former socialist societies think they can solve both their problems by imitating the West; the West

thinks it has escaped both problems and believes it has lessons for others even as it leaves the Earth and its people to die. The West thinks it is the sole possessor of the clever trick that will allow it to keep on winning indefinitely, whereas it has perhaps already lost everything.” [9]

In this quote we have a good critique on how the convergence of political economic agendas between capitalist and former socialist nations after the fall of the Berlin wall was based not on reasonable evaluations and commitment to an empirically superior system, but on self-delusion and false advertising. Industrial globalized capitalism is just one of innumerable possible economic systems for the people of the world, yet it is presented teleologically as a foregone conclusion, meanwhile it requires permanent maintenance of an atmosphere of imminent doom and threat.

If the technicians at Apple or Nokia, (and all the other cellphone producers, and the computer chip producers and the game unit producers, they are all in it together) had been motivated to create technologies which were really beneficial for all humanity right now and not just factoring in the potential deleterious effects of their design decisions as collateral damage, necessary in the war for market dominance, we might have seen the emergence of numerous divergent alternative forms of technology, since the materials needed for the smartphones, video games and computers we have today would have come at too high a price. Technology is not neutral, its values are inscribed in its hardware.

Electronics company technicians could be encouraged to create design solutions which would somehow foster social renewal in the countries where they live, but they are not., instead with all values heavily weighted with concerns over profitability, they allocate general prosperity the role of the greater social good, and export the problematic effects of new, urgent and extreme industrial demand somewhere far away and unknown.

Marshall McLuhan, lauded as the great prophet of the electronic age, always declaimed that he made no prognosis, but rather simply observed what was already happening. New technologies, such as nanochemistry do not bring about any Kuhnian paradigm shift either in scientific practice or in society. "It has never happened that a lab has shut down as a paradigm change in Kuhn's sense occurred. No equipment was thrown out, no people (least of all the clerks who produce the required lab equipment) were fired. The Kuhnian denial of the cumulative growth of knowledge is mistaken with respect to the technical side of science" [10] (On the other hand, a lot of consumer products have become obsolete as they were planned to- on the level of production, techniques have remained the same, only the fashion changes.) The last technical revolution was the first one, starting with the Gutenberg press and the steam engine and exponentially since the photograph. Though we in the elite may experience it as a Motley (ein buntes Gemisch) [11] our age is fundamentally not post-modern but rather hyper modern, with century-old industrial processes still humming along inside, albeit miniaturized.

The period we live in is properly not called post-industrial, but hyper-industrial. The industrial paradigm has not been surpassed. The self-proclaimed revolutions in the sphere of communications still utterly depend on industrial infrastructure. The industrial reality hums imperceptibly on in the background, in factories on the edges of the cities and in the great networks of tankers on the oceans. All this and more are 'assumed prerequisites' for the 'advanced society' in which we exist.

That the electricity which glows this screen-full of hopeful emancipatory meritocratic rhetoric is generated by turbines which have to be built in highly hegemonic systems all the way down, is something I wish to integrate in these very words. We need an epistemology generated from this symbiosis of structure and freedom.

Industrial paradigms persist everywhere in the creation of the hardware on which we generate our software Utopias. Many have heard recently of the sweatshop conditions of Chinese workers who assemble the iPad, how are we to perceive a utopia built on such dispositif? Yes the aspirations of humankind are great, they are also palliatives, rationalizations and apologia for the enormous human sacrifice such aspirations have always required. And after all the sacrifice, how much closer are we to that ideal?

Here I must claim with David Bloor's conservative Wittgenstein that "we don't need the present to contain the future, it is sufficient that it contains the past," [12] the future will be generated out of what we do with our past, not how we prepare or postulate or plan future scenarios. An unprecedentedly variegated technological reality is ready to emerge, will it ever get a chance?

### **References and Notes:**

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