SYNTHESIZING SOLUTIONS: EXPLORING SOCIALIST DESIGN AND ITS MODERN RELEVANCE THROUGH THE MEDIUM OF PLASTICS

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ABSTRACT

Plastic is synonymous with the industrial revolution of the 20th century. However, it has earned a reputation as being hazardous to the environment. It is not the material that is truly a hazard but the way we choose to use it.

An alternative ideology to the utilization of plastics is that of the former Communist German Democratic Republic (GDR). Plastics and design were interlinked with the political discourse and helped shape a breed of frugally innovative designers. Plastic came to be viewed as a valuable commodity for producing products built for durability. Socialist ideology on design overlaps with the current ideology on sustainable design.

The main question addressed is; with the imminent spread of the internet, knowledge is more accessible and less commodified. Infrastructure complementary to socialist design ideologies is now available to a much larger part of the population. Hence, are socialist design ideologies of the past viable choices for sustainable design solutions for a post-capitalist future?

1. INTRODUCTION

Plastic can be viewed as the defining material of the 20th century and the backbone of the manufacturing industry post Second World War. Plastic is one of the most versatile material known to man. It is used in massive range of applications, from toy airplanes to military grade stealth bomber fuselages.

Despite its functionality, plastic has an undesirable reputation as a threat to the wellbeing of our planet. The problem lies not in the material itself, but the way we choose to use it. Plastic polymers can be created and modified in the laboratory as per requirements. Plastic being non-biodegradable, it does not deteriorate for an indefinite duration of time. Herein lies the problem. Why do we use a material that lasts forever to make stuff that we throw away after using once?

A throwaway culture has characterized and underpinned our economies for more than half a century. Too many goods do not last as long as they could – or should – do. Some fail, others become unwanted. Quality is compromised as companies cut costs to remain competitive. Poor design and externalization of costs have caused repair and upgrading to become fringe activities. The hallmark of linear product development is planned obsolescence – the opposite of any attempt to make products last. Products are designed to fail or become too expensive to use after a set period of time. Perceived obsolescence is another factor: Corporations, through advertising, want consumers to believe that products within their home are inferior to those currently on the shelves.

1.1 Capitalism

The emergence of consumer society was neither inevitable nor accidental. Rather it resulted from the convergence of four forces: a body of ideas saying that the earth is ours for the taking; the rise of modern capitalism; technological cleverness and the extraordinary bounty of North America, where the model of mass consumption first took root. Of the 100 largest economies today, 51 of them are corporations.

1.2 Perception of Plastic

In 2011, I travelled across India, trying to understand the role plastic plays in the urban middle- class kitchen. Plastic kitchenware has come to be associated with urban nomads, who prefer it as it as a cheaper option compared to metal or ceramic, that can be disposed of when moving homes.

Even in pop-culture, plastic is perceived as ersatz or fake. English Football club Chelsea FC unexpectedly came into money in the year 2003. Fans of the club began being labeled as 'plastic' fans. The reason for such jibes was the simple fact that they accepted free plastic flags distributed by the club during a game.

1.3 Recycling

Plastic can be recycled. But, in the real world, plastic bumps into limits – limits of a broken economic system, of finite resources, of energy, of human rights, etc. Each time plastic is recycled, it leaves behind a carbon footprint and the fidelity of the material deteriorates. To quote Heather Rogers from her book: Gone Tomorrow: 'The feel good aspect is at the heart of much of the debate about recycling. Is recycling a con that keeps us deluded into feeling like we are helping the planet, while leaving industry free to keep churning out ever more badly designed toxic stuff?'

1.4 Alternatives

A dynamic example of a relationship between Socialism and plastic was found in the former German Democratic Republic (GDR), also known as East Germany. The industrial designers from the Bauhaus movement in the GDR successfully convinced their citizens and government that plastic was a truly socialist material. Market scarcity and ideology converged to make plastic manufacturing a key industry.

2. HISTORICAL OVERVIEW

After the conclusion of the Second World War, the social conditions in Soviet-occupied East Germany were grim. Unlike the Marshall Plan implemented by the USA in Western Europe, East Germany did not receive substantial financial assistance from the Soviets. As a result, people were more concerned with survival than the expectation of a comfortable life. The ruling Sozialistische Einheitspartei Deutschlands (SED) party used propaganda and brutality to keep the masses in check.

In East Germany, the Stalinist system of production was known as tonneideologie (ideology of tons). It was characterized by fulfillment of production quotas to steel, coal or machinery.9 Nikita Khrushchev's ascent to power in the Soviet Union began to transform the Eastern Bloc politically, culturally, and economically. In order for Soviet socialism to succeed; it would have to build a consumer class of citizens without abandoning principles of equal distribution of wealth, abhorrence of individualism and personal accumulation of material goods. Under the shadow of what many termed a 'capitalist economic miracle' in West Germany, planners and party members lumped consumer products together under the rubric "the 100 small things of goods and services".

East Germany was a landlocked country without many natural resources. After the World War 2, it did not possess any colonies to exploit for resources. With a failing economy, the East German Mark had little value on the international market. What East Germans did have, however, was a rich history in applied chemistry. On November 3rd, 1958 a Chemistry Conference was convened by the then SED Secretary Walter Ulbricht to announce a campaign named the Chemistry Programme. This programme would power the consumer turn of East Germany.

The rise of modernist design in East Germany begins with the re-appearance of a number of former Bauhaus disciples. At the time, the state-controlled production sector had no trained designers onboard. The discourses of aesthetics were looking to past German tradition for inspiration. It was hoped that this would establish a German working-class identity that the SED viewed as "authentically" German. The enduring Bauhaus ideology had been that design should reflect the times. The advent of a Socialist state meant that the era of rationality and functionalism had finally been ushered in. At the time plastic was known as an imitative material – used for the production of cheap imitations of older traditional designs and other kitsch. It was the Bauhaus designers who stepped in to alter this perception and stop plastic being wasted on cheap goods.

"The Friendship Pipeline" connecting East Germany with the oilfields of the Soviet Union boosted East Germany's contemporary significance. Locked into the economic network managed by COMECON (the Council for Mutual Economic Assistance), East Germany's factories were to process this material, supplying plastic products for use in industry and domestic consumption throughout the Soviet Bloc. At the same time, oil was, for the Kremlin, a means of propping up the East German economy. A new wave of consumer goods appeared on the shelves of East German shops over the course of the 1960s; bright portable radios, camping and picnic equipment suggested new lifestyle opportunities, whilst colourful wipe-clean furniture and PVC flooring promised an efficient domestic landscape within standard housing. Here was the material evidence of socialist prosperity. Advice and home décor magazines acted as propaganda mouthpieces of the government. Specialist plastic goods shops, Chemie im Heim, KONSUM and 1000 Small Things retailed the latest state- approved designs. Magazines like Guter Rat, Fur Dich and Form + Zweck stressed to its readers the superiority of plastic goods. They also answered reader questions and provided advice on the maintenance of plastic goods.

In the West, overproduction, plummeting cost and ubiquity relegated plastic items to the lowest status in the taste hierarchy of consumer goods. In the GDR, the underproduction of plastic items and a combination of functionalist design and government propaganda made them extremely hot commodities.

Many steps were taken to stabilize the plastic industry over the years with limited success. The crux of the problem was still tonneideologie.

Calculating that x tons of ethylene or phenol would result in y tons of polyethylene or phenol plastics was something that planners could handle. But, calculating then how many y tons of polyethylene would result in z tons of combs, z1 tons of buckets, z2 tons of ice cube trays, z3 tons of toothed gear wheels for radio alarm clocks, and so on, was difficult to the point of being impossible.

The lack of co-ordination led to the waste of precious plastic and sub-standard goods. Due to numerous bottlenecks in production, items would mysteriously appear and disappear from shelves every fortnight. The VVB (Vereinigung Volkseigenebetriebe- Union of People's Own Factories) plastic processing umbrella body during the 1960's could only control 81 of the 312 manufacturing factories (VEB's). The rest were either 'half state' or privately owned, meaning they were free to use plastics however, they wanted. The industry could be described as a symphony without a conductor.

The government were successful in convincing the population that qualities of modern design that adhered to durability, proper use of different types of plastic and ease of use was what made socialist design better than capitalist design. However, they were unable to make these idealistic socialist designs a reality for the people. Socialism did win their 'hearts and minds' but did not live up to its own standards in many cases.

3. DESIGN ANALYSIS

A substantial difference between designs of Western capitalist nations and the Eastern Bloc is that in the Eastern Bloc – the GDR being a good example – the designer assumes a state of material scarcity but an abundance of information about the product and material. The designer and state were willing to make every aspect of their designs visible and accessible to the customer. In the West, factors like carbon footprints and the finite nature of resources were not yet considered relevant. Multiple designers and manufacturers were making the same category of product, trying to outdo one another by using grand superficial styling and making the inner workings of their products a trade secret.

The movement for sustainability in designed products has been gaining momentum in recent times. One aspect of sustainable design that needs more attention is design for longevity. Attention in the sustainability domain has largely been focused on closing the material gap, going from new to recycling and onwards, back to (almost) new again. In the case of production, this has led to a combination of requirements with respect to efficiency and clean processing. During their period of use, sustainable products should consume a minimum amount of energy. Products should be easy to disassemble and use one kind of material for each part, to facilitate shredding and re-generation. A factor that requires greater attention is maintaining the value of a product over time: starting with a strong proposition and nourishing it in order to keep it alive.

These six strategies compiled by researchers at the Delft University to improve the lifespan of products.

3.1 Design for Attachment and Trust

This is the Holy Grail for designers. It is near impossible to design with only this strategy in mind as many complex socio-economic factors beyond the control of the designer influence its success. The re-appearance of GDR designs

in Germany today is termed as Ostalgie (nostalgia from the east). It is not just older former East Germans who are purchasing these products but people from across the country and beyond, even those born after the fall of the Wall. The classic chicken shaped plastic eggcups are even more popular in present day Germany than at the height of the GDR regime.

3.2 Design for Durability

Durability was a hallmark of all GDR products. There is an interesting anecdote from design historian Gunter Hohne, in an interview where he speaks of an incident at the Leipzig Trade Fair: On observing the sturdiness of East German textile, West German buyers turned it down, as they were worried that it would last many years and reduce return customers and income from maintenance. Today brands such as Buy Me Once use this strategy by offering a lifetime warranty on their products.

3.3 Design for Standardization and Compatibility

An iconic example is the stackable porcelain tea set produced for Mitropa for use on GDR railways. Popular modern examples are LEGO and Meccano toys. A rather interesting example is the Ver Bien Para Aprender Mejor in Mexico. It is a series of unbreakable plastic spectacle frames, with easy swap colour options, that are to be distributed free of charge to underprivileged schoolchildren.

3.4 Design for Ease of Maintenance and Repair

A prime example here is the Mokick S50 moped designed by K. C. Dietel and L. Rudolph in 1967. These can still be spotted on the road today. This moped is designed so that an untrained individual could safely open, repair and even customize the vehicles components. I would say that it even fits into the next two categories I will introduce. A modern example would be the Ultimaker series of desktop 3D printers.

3.5 Design for Adaptability and Upgradeability

A modern example would be the recent hype for modular cell phones. The most utopian is the Phonebloks concept by Dave Hakkens. Phonebloks was a speculative work that managed to gauge user demand for modular phones. Phone makers are now attempting to fulfill such demand. The Fairphone, made using ethical raw materials and built for easy repair and disassembly. The most ambitious was Google's project Ara, which attempted to create an ecosystem of modular components by collaborating with a wide range of electronics manufacturers. Their attempt was abandoned in 2016.

One example in this category stands far above the rest in application of this principle: the sinisterly notorious Kalashnikov or AK-47 assault rifle. It was designed in Soviet Russia just after World War 2 and was inducted into the Soviet Red Army. Over 75 million AK-47's have been produced around the world since then, not to mention another hundred million unlicensed versions derived from the original AK-47 design. The design is so simple and effective that, unlicensed, even homemade, versions can be found on the black market across the world, making the AK-47 a favourite weapon among terrorist networks.

4. CONCLUSION

Karl Marx suggests in The Fragment on Machines that once knowledge becomes a productive force in its own right, outweighing the actual labour spent creating a machine, the big question becomes not one of "wages versus profits" but who controls "the power of knowledge". Given what Marxism was to become—a theory of exploitation based on theft of labour time—this is a revolutionary statement. Once you understand that information is physical, that software is a machine, and that storage, bandwidth and processing power are collapsing in price at exponential rates, the value of Marx's thinking becomes clear. We are surrounded by machines that cost nothing and could, if we wanted them to, last forever. In these musings, not published until 1973, Marx imagined information coming to be stored and shared in something called a "general intellect"— the mind of everybody on Earth connected by social knowledge, with every upgrade benefiting everybody. In short, he had imagined something close to the information economy in which we live. Its existence, he wrote, would "blow capitalism sky high" .

If the 20th century was the age of the industrial revolution, the 21st century can be considered the age of technological revolution. The spread of information technology has brought in a whirlwind of change in the way our society operates. First, it has reduced the need for work, blurred the edges between work and free time and loosened the relationship between work and wages. The coming wave of automation, currently stalled because our social infrastructure cannot bear the consequences, will hugely diminish the amount of work needed – not just to subsist but also to provide a decent life for all.

Second, information is corroding the market's ability to form prices correctly. That is because markets are based on scarcity while information is abundant. The system's defense mechanism is to form monopolies – giant tech companies – on a scale not previously seen in the past 200 years. Third, we are seeing the spontaneous rise of collaborative production: goods, services and organisations are appearing that no longer respond to the dictates of the market and the managerial hierarchy. These collectives use network technology to produce goods and services that only work when they are free, or shared.

The latter is of most interest to me as an industrial designer. A major cause of failure of the GDR business

model was the inability to manage the supply and demand of plastic products. With collaborative production, that problem is greatly reduced. Even plastic products, the backbone of the manufacturing industry, can now be produced and recycled at a cottage industry scale. For such collaborative production initiatives that rely on interpersonal relationships to succeed, they would need the state to create the framework. Just as it created the framework for factory labour, sound currencies and free trade in the early 19th century. The physicist Ilya Prigogine put it beautifully. "When a system is far from equilibrium, small islands of coherence have the capacity to shift the entire system". Our priority now should be to develop islands of coherence in our own contexts and connect with other islands when the need arises. It is within this new system or 'new game' as I call it, that I wish to see more designers practicing in.

BIBLIOGRAPHY

1. "AK-47". Wikipedia. Retrieved April 13, 2016 from https://en.wikipedia.org/wiki/AK-47.
2. Bakker, C, Hollander MD, Hinte, EV and Zijlstra, Y. (2014). *Products That Last: Product Design for Circular Business Models*. Delft: TU Delft Library.
3. Crowley, D and Pavitt, J. (2008) *Cold War Modern: Design 1945–1970.* London: V & A.
4. *"Design in der ddr: Karl Clauss Dietel"*. Design in der DDR: Karl Clauss Dietel. Retrieved April 13, 2016 from http://www.stiftung-industrie-alltagskultur.de/index.php?id=80.
5. "*Fairphone 2.*" Retrieved 24 Feb. 2019 from https://shop.fairphone.com/en/.
6. "*Fuseproject"*. Fuseproject. Retrieved April 13, 2016 from http://www.fuseproject.com/work/verbien/augen_optics/?focus=overview.
7. "*Google confirms the end of its modular Project Ara smartphone - The ....*" 2 Sep. 2016. Retrieved 24 Feb. 2019 from https://www.theverge.com/2016/9/2/12775922/google-project-ara-modular-phone-suspended-confirm.
8. *"Home". BuyMeOnce.Com.* Retrieved April 13, 2016 from http://www.buymeonce.com/about.
9. Leonard, A. (2007). *The Story of Stuff with Annie Leonard.* Berkeley, CA: Free Range Studios.
10. Leonard, A and Ariane, C. (2015). *The Story of Stuff: How Our Obsession with Stuff Is Trashing the Planet, Our Communities, and Our Health—and a Vision for Change*. New York: Free Press.
11. Mason, P. *"The End of Capitalism Has Begun".* The Guardian. 2015. Retrieved April 13, 2016 from http://www.theguardian.com/books/2015/jul/17/postcapitalism-end-of-capitalism-begun?CMP=fb_gu.
12. "*Phonebloks*" Retrieved 24 Feb. 2019 from https://phonebloks.com/.
13. "*Precious Plastic*." Precious Plastic. Retrieved December 03, 2018 from https://preciousplastic.com/
14. Thackara.com. *When Value Arises From Relationships, Not From Things.* Retrieved 24 Feb. 2019 from http://thackara.com/notopic/industrial-production-is-not-the-purpose-of-life/
15. Rubin, E. (2008) *Synthetic Socialism: Plastics & Dictatorship in the German Democratic Republic.* Chapel Hill: University of North Carolina Press.
16. "*Ultimaker*" Retrieved 24 Feb. 2019 from https://ultimaker.com/.
17. "*Why Are Chelsea F.C Fans called 'plastic Fans*?"—Quora. Retrieved April 13, 2016 from https://www.quora.com/Why-are-Chelsea-F-C-fans-called-plastic-fans.
18. "*Wohnen in Der DDR: Videos, Fotos, Links | MDR.DE*". Retrieved April 13, 2016 from http://www.mdr.de/damals/archiv/artikel84790.html.