

Design for the Real Lifespan: Comparing Two Twentieth-Century Strategies for Social and Economic Sustainability through Life-Cycle Planning

abstract

This paper compares the treatment of duration in two episodes of twentieth-century design history: the emergence of planned obsolescence in the wake of the 1929 financial crisis, and of appropriate technology during the post-WWII decolonization process. These experiences ultimately propose diverging approaches to manufacturing: the former is resource-intensive, and the latter labour-intensive. Yet, they share a common departure point, i.e. the belief in planning policies as the ideal way to administrate scarce resources. Both positions propose to set limits to technology and design in terms of output and product longevity. In this they both are preoccupied with keeping the life cycle of the products of design predictable, manageable, and as a result sustainable from the social and economic perspectives.

keywords

durability, planned obsolescence, appropriate technology, economic transitions, labour

Introduction

Over the latest decades, a number of expressions have been used to refer to products' duration in time. "Longevity" is an encompassing term that refers to a general measure, the length of a product's existence, constantly threatened by the contemporary "Throwaway culture" (Cooper, 2010). One can also speak of the longevity of particular design that does not change or is updated over time. Terms like "endurance" and "durability" more specifically refer to a product's capacity to last or to withstand wear and tear. In economic literature "durability" is a value spoken about in advance, it is projected into the future at the time the good is acquired by the user, in order to calculate the sale price of a product (Schmalensee, 1970; Levinthal, 1989). Ecologists and engineers developed methods to assess the "life cycle" of a product and measure its impact—both in environmental and cost-efficiency terms—throughout the series of changes it undergoes in its life. Finally, the "lifespan" is the length of time for which a thing functions, considered from the perspective of the user. In the introduction to *Eternally Yours*, a book he edited in 1997, the design writer and curator Ed van Hinte argued that products should be entitled to "dignified aging". Despite their subtle differences, these definitions share an understanding of design as something that happens over time, a phenomenon that takes place in the *longue durée*, rather than in the *histoire événementielle* of single passages like the drawing board, or the production chain.

The general premise from a design historical point of view is that the design process includes all passages in the life cycle of an artifact: harvesting of raw materials, conception and actual production, marketing and consumption, repair or improvement, resale, disposal, and after-life. An equivalent approach to material culture was conceived by the archaeologist André Leroi-Gourhan and the historian of science André-Georges Haudricourt, and is known as *Chaîne opératoire*. Despite its name, which is French for

“operational sequence”, all the passages in the life of an artifact are not necessarily linear. This method of artifact reading was originally used to analyze prehistoric stone tools and reconstruct the life story of a found object. In time, the method evolved as a more general approach and its meta-conclusion is that technical acts are also social acts, for cultures and communities are built around shared technologies and products. To look at the interplay of duration and design involves studying the way the question “How long?” was articulated and replied to over time. How long should a product last? How long should manufacturing take? How long should consumers hang on to their goods? These are questions of speed and pace, rather than volume, and this is often the case when we look at the impact of design on the environment (Tonkinwise, 2004).

1. Never Too Young to Die: Making Durables Consumable

The period after the 1929 financial crisis saw the emergence of proposals that advocated regulating the duration of products and buildings as a way to respond to dramatically low consumption levels (Slade, 2009). These proposals used the crisis as a foundation myth, and a vehicle to promote a narrative in which the root of the problem was not overproduction, but underconsumption, with the market too slow at absorbing goods.

Egmont Arens and Roy Sheldon, both employed at the Calkins and Holden advertising agency, published in 1932 a book called *Consumer Engineering: A New Technique for Prosperity*, that included a chapter dedicated to the subject: “Obsolescence: Threat or Opportunity?” The authors argued for a convergence between durables and consumables: “Goods fall into two classes: those that we use, such as motor cars or safety razors, and those that we use up, such as toothpaste or soda biscuits. Consumer engineering must see to it that we use up the kind of goods we now merely use.” (Arens, 1932: 13).

Planned obsolescence as a structural approach to production was more boldly put forward by Bernard London, an Eastern European émigré who had made his fortune on the New York real estate market. In the same year he self-published from his 246 Madison Avenue office a pamphlet in which he argued that the solution to the recession was “planned obsolescence”. The author donated the pamphlet to several North American universities, but this publication was less likely to reach wide readerships and actually have an impact. Nevertheless, its real value is in the bluntness of the arguments used to promote the vision. According to London, obsolescence is a law of nature, and consumers hanging on to old or out-fashioned objects poise a major threat to manufacturing, and with it the whole society:

People everywhere today are disobeying the law of obsolescence. They are using their old cars, their old tires, their old radios and their old clothing much longer than statisticians had expected on the basis of earlier experience (London, 1932: 4-5).

These may seem the words of a fervent proponent of free-market capitalism, but London himself reveals himself in his pamphlet to be in fact in favour of a managed economy, and in the process he inadvertently sheds light on the paradoxical character of this alliance of capitalism and planning: “Chaos must unavoidably flow from an unplanned economic existence”. He proposes the State should assign to any industrially produced objects an “expire date”. Consumers who insisted on using them after the expire date would have to be punished and taxed for using objects that were, in London's words, illegal. A yet worse fate would then await the products themselves, immediately seized by law enforcement

agents and even destroyed in the event of an economic crisis, like a scapegoat, or a sacrifice to offer to some hostile divinity:

I would have the Government assign a lease of life to shoes and homes and machines, to all products of manufacture, mining and agriculture, when they are first created, and they would be sold and used with the term of their existence definitely known by the consumer. After the allotted time had expired, these things would be legally "dead" and would be controlled by the duly appointed governmental agency and destroyed if there is widespread unemployment. (London, 1932: 6)

Limiting the lifespan of a product by law would keep the factories constantly churning out things, without the market being subject to cycles of boom and bust. Manufacturers—to the dismay of environmentalists, and the delight of conspiracy theorists—have since effectively introduced different ways to reduce the life of their products. These include periodic cosmetic or technical updating, or limiting the reliability of materials and hardware parts.

2. Intermediate Technology and Site-Specific Design

Planned obsolescence implies an acceleration in the pace of consumption. On the opposite side of an ideal continuum, there is appropriate technology, an idea emerged during the wave of industrialization that interested several former colonies since the mid-twentieth century. Appropriate Technology advocates small-scale, labour-intensive manufacturing techniques, and subsequently a decrease of the pace of production. The perceived risk for the advocates of Appropriate Technology was to introduce manufacturing models mutated from Europe and North America. Energy-intensive machinery needing fewer workers to produce a large amount of goods, with resulting pollution and unemployment. The perceived problem was specular: mass production was not an issue for advocates of Appropriate Technology, but they feared that manufacturing could be too fast.

Amongst decolonized countries, the example of India is illustrative, for it saw in the very early years of its existence as an independent democracy the direct confrontation of two contrasting visions on technology and industrial culture. These visions were embodied in two early political leaders of the state. Gandhi favoured a labour-intense, low-technological approach iconically represented by the charkha, which became the symbol of his political movement during the years of his internment and that today figures at the centre of the national flag. The charkha is a light and portable spinning-wheel that really allows for mass production only if used by a large number of workers. This vision is closer to the one later articulated and codified as "intermediate technology" in the words of his main proponent, the economic planner Ernst Friedrich Schumacher. On the other hand, Nehru, the first Prime Minister of the country, supported big technology and large-scale design interventions on the environment. Interventions that include the mega-dams projects he considered to be the new temples of the country or the construction of Chandigarh, the new capital of Punjab that was planned and mostly designed by Le Corbusier himself during Nehru's term (1947-1964). The founding of the National Institute of Design in Ahmedabad was largely the result of a report on design training commissioned by the government to the American designers Charles and Ray Eames (Eames, 1994). The government also invited Schumacher to offer his expertise, but his recommendation to rely on Intermediate Technology was ignored (Varma, 2003).

A relatively implicit idea emerging from both the discussion on speeding up consumption (planned obsolescence) and slowing down production (appropriate technology) is that of setting limits as a way of humanizing product lifespan by adjusting it to human times. Ernst Friedrich Schumacher's book *Small is Beautiful* was published in 1973, but its roots stem to the author's involvement as consultant in Burma in 1955, and in India in 1962. Schumacher was an assistant of Keynes's in the years immediately after the end of the Second World War and shared with him a conceptual world in which the state should always be responsible for economic planning. In such a conceptual world it was possible to mobilize the resources needed to make Intermediate Technology function. After his unsuccessful experience in Nehru's India, Schumacher moved back to Britain where in 1966 he founded the Intermediate Technology Development Group. The organization two years later changed its name to Appropriate Technology Development Group and published *Tools for Progress: A Guide to Small-scale Equipment for Rural Development*, a book that functioned both as a manifesto and as a catalogue of products and parts that could be used in developing economies to avoid the problem of surplus working force. The following years saw the foundation of a number of appropriate technology organizations worldwide, with designers implementing its site-specific principles to conceive iconic products such as the Universal Nut Sheller, or the Glowstar solar lantern.

Initially successful in design education, Appropriate Technology lost ground when the developing countries it had originally been conceived for abandoned centralized planning to embrace free-market models. Today some of its iconic products are more expensive than mass-produced ones, because appropriate technology lacks the ability to generate economies of scale and function in a competitive environment (Levinthal, 1989).

Some of its principles, however, have made a return journey to Europe and North America in the form of radical technology and personal fabrication manuals such as *Nomadic Furniture* by James Hennessey and Victor Papanek (1973), *Ken Isaacs's How to Build Your Own Living Structures* (1974), and Enzo Mari's *Proposta per un'autoprogettazione* (1974). More recently, "Slow Technology" (Hallnäs, 2001) promotes tinkering as a way to reflect on the material landscape and the relationship between users and products. The repair and the making movements also move along similar lines, with repair cafe sessions and making fairs functioning as occasions for social exchange as much as attempts to create or repair products. If really implemented, these approaches to making and using things ultimately would have the effect of keeping potential surplus labour occupied, exactly as in the original visions that had engendered post-1929 planned obsolescence and Schumacher's Appropriate Technology.

Conclusion

Design for planned obsolescence and design guided by ideas of appropriate technology make use of the same strategy: self-limiting. In the former case lifespan is curbed in order to maintain employment levels. In the latter, the same objective is attained by relying on labour-intensive technical means that, however sophisticated, are not designed to achieve mass production levels. In both cases, planning as a structural policy is an essential condition. When planned obsolescence and Appropriate Technology are articulated, their embracement of limitations and constraints is presented as a form of planning strategy that keeps design and technology and their products closer to the limitations of human experience. From this point of view, however antithetic at face value, they both mark a

departure point from the demiurgic narrative of unlimited potential of Modernist design, a narrative so aptly encapsulated by Le Corbusier's words "architecture, or revolution".

References

- Arens, E. and Sheldon, R. (1932) *Consumer Engineering: A New Technique for Prosperity*, New York: Harper & Row.
- Cooper, T. (2010) "The Significance of Product Longevity", in Tim Cooper (ed.), *Longer Lasting Products: Alternatives to the Throwaway Society*, Farnham: Gower.
- Day, G and Croxton, S (1993) "Appropriate Technology, Participatory Technology Design, and the Environment", *Journal of Design History* 6, 3, pp 179–183.
- Eames, C. and R. (1994) *The India Report*, Ahmedabad: National Institute of Design.
- Hallnäs, L. and Redström, J. (2001) "Slow Technology—Designing for Reflection", *Personal and ubiquitous computing* 5, pp. 201–212.
- van Hinte, E. (1997) *Eternally Yours: Visions of Product Endurance*, Rotterdam: 010 Publishers.
- Leroi-Gourhan, A. (1993), *Gesture and Speech*, Cambridge, Mass: MIT Press.
- Levinthal, D.A.M. and Purohit, D. (1989) "Durable Goods and Product Obsolescence", *Marketing Science* 8, 1, pp. 35–56.
- London, B. (1932) *Ending the Depression Through Planned Obsolescence*, New York: Bernard London.
- Madge, P. (1997) "Ecological Design: a New Critique", *Design Issues* 13, 2, pp. 44–54.
- Schmalensee, R. (1970) "Regulation and the Durability of Goods", *The Bell Journal of Economics and Management Science* 1, 1, pp. 54–64.
- Slades, G. (2009) *Made to Break: Technology and Obsolescence in America*, Cambridge, Mass: Harvard University Press.
- Tonkinwise, C. (2004) "Is Design Finished? Dematerialisation and Changing Things", *Design Philosophy Papers* 3. Available: desphilosophy.com/dpp/backissue_list/back_issues_list.html [23 Oct 2013].
- Varma, R. (2003) "E.F. Schumacher: Changing the Paradigm of Bigger Is Better" *Bulletin of Science, Technology and Society* 23, 2, pp. 114–124.

