



Designing for Destruction

Isn't anything built to last anymore? **Nick Kettles** examines the scandal of planned technological obsolescence and the global impact of the cult of the landfill designer

Our enormously productive economy demands that we make consumption our way of life, that we convert the buying and use of goods into rituals, that we seek our spiritual satisfaction, our ego satisfaction, in consumption... We need things consumed, burned up, replaced and discarded at an ever accelerating rate.'

Little has changed since retail analyst Victor Lebow made this eloquent paean to our juggernaut, throwaway society in 1955. Just 18 months ago President George Bush responded to fears of a US recession, with a paean of his

own: 'I encourage y'all go shopping more.'

Poetic or not, both statements reveal a fundamental truth: that it is consumption, not production, that powers our economies. It's arguable this has delivered an unprecedented increase in the standard of living, but at what cost?

According to international sustainability expert Annie Leonard, creator of the wonderful film *Story of Stuff* (www.storyofstuff.com) the amount of products that remain in use six months after purchase is a pitiful one per cent. Each year in Europe around seven million tonnes of electronic

waste is generated, and in spite of the new Waste Electrical and Electronic Equipment regulations, much is still finding its way to landfill. Then there's the waste, or 'embedded energy', produced in the production process. Scientists have estimated that producing a single computer chip, weighing but a few grams, requires 1.7kg of fossil fuel and chemical inputs, and 32 litres of water. In *Natural Capitalism*, authors Paul Hawken, Amory Lovins and Hunter Lovins note the manufacture of a single laptop computer requires inputs close to 4,000 times its weight.

And the secret sauce in this orgy of hyper-

consumption? We're dining on? 'Planned obsolescence' – a notion made popular in the 1950s, to describe the theory that many products were and are effectively 'made to break' before the consumer expects them to. Computers that can't be upgraded because in preceding years the shape of components have been changed; disposable razors with indicator strips that tell you to change the blade, even if it's still good; and of course the iPod that Apple openly admits is only designed to last three years, if you're lucky.

Giles Slade, author of *Made to Break*, claims the iPod's lithium batteries begin to lose their peak functionality after a year of use. They are also so small it's too expensive to disassemble them, and in spite of Apple's wholesome in-store recycling program, many of the 40 million sold end up in landfill poisoning the groundwater with lead, mercury, cadmium, chromium, and barium.

So why is it, even though it's now understood up to 80 per cent of the environmental impact of a product is defined at the design stage (a figure backed by the Department for Business, Enterprise & Regulatory Reform), that designers continue to come up with such products? And if they can design a disposable society, why can't they design a sustainable one?

In his book, *Earth in Mind*, David Orr says: 'Designers are incredibly powerful. We have a hand in creating the communications, experiences and artefacts that comprise our world, and we have an increasing influence upon the decisions affecting the quality of life for millions of people.'

'We are increasingly aware that the cumulative effects of our "designs" are harming the planet in ways that may be irreversible. How can we begin to harness the power of design to contribute to the large problems confronting society that have big consequences?'

At face value though, it seems many designers are resigned to remain helpless cogs in the machine; 'fixers' who guarantee a return on capital investment.

One of British graphic designer Jonathan Barnbrook's provocative posters proclaimed that 'designers are falling over each other to kiss corporate ass'. Another designer at Pentagram Design, which builds portable devices and computers for companies such as HP, told *The Wall Street Journal*: 'We joke that we design landfills.'

Still more sinister is the way designers continue to perpetuate 'psychological

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obsolescence', another way of describing products designed to become obsolete in the mind of the consumer, even sooner than the components used to make them will fail.

Was Paul Smith's design house conscious of its role in perpetuating the 18-month life-cycle of mobile phones when it decorated the LG Electronics LV3000S Crystal Edition mobile phone with jewelled crystals over a fabric-wrapped exterior to meet the whims of Korean consumers who view personal electronics as fashion accessories? Or, aware that even if the phone is recycled it might be shipped overseas to somewhere like India and China, where children and the unemployed sift through piles of electronic toxic waste for components they can resell?

Designer Terry Irwin, a former director overseeing 75 designers at agency Metadesign, says: 'Cell phones as fashion accessories are the ultimate contradiction in design: ephemeral products made of "permanent" materials. Ultimately, what is being sold is style and image, which is fleeting. Everyone wants to project the right image and that image needs constant updating.'

In a new, more sustainable world, design and designers have a key role to play. If the Climate Change bill's ambitions to reduce carbon emissions by 60 per cent by 2050 are to be taken seriously then design will have to move beyond being a beauty contest and return to its original purpose: primarily as a problem-solving exercise, in which profit is not the sole determining parameter.

To date, however, it's not been easy for designers to define what they can do within a sustainable framework.

Irwin says that with design embedded

'Designing more efficient engines results in the likelihood vehicles will be driven further, meaning more energy consumption'

within dominant economic and business paradigms, the role of the designers will always be more purveyor of style than architect of meaningful solutions. This often plays into designers' own desires to be cool and win awards, and is compounded by the fact many also consider they should have the same creative license as artists, and therefore can ignore the social, political or ecological responsibility of what they do.

Professor John Wood of Goldsmith College thinks designers are caught in a vicious circle. 'It was inexcusable that the UK Government's 2005 Cox Report on Creativity in Business made no mention of ethics or sustainability,' he says. 'And if industry treats designers like mercenaries, it's hardly surprising that most simply do what they are paid to do. If governments have failed to meet their own dismal targets on greenhouse gases, why should designers shoulder the burden by being more strategic, devious and far-sighted than the so-called experts?'

But John Thackara, author of *In the Bubble: Designing in a Complex World* says ignorance of the bigger picture is no longer a valid excuse: 'Given what we know today, if a designer does not act with sustainability in mind, she acts, by default, against it.'

Short-circuiting planned obsolescence

The most obvious design response to planned and psychological obsolescence is the design of products and systems that allow us to slow down, step out of the rat race and enjoy products that embrace the utilitarian values of the arts and crafts movement of William Morris. This is the impulse at the heart of the downsizing movement.

Carl Honoré, author of *In Praise of Slow*, calls this Slow Design, an antidote to the curse of the here-today, gone-tomorrow culture: 'It's about making objects that carry with them a story of how they were conceived, made and distributed. Slow Design means filling the world with objects that nourish and inspire.'

Beautiful as it may be, however, built-to-last is just one approach to sustainability. Life today

traditional performance-versus-cost design equation, embracing the hidden costs caused by the environmental impact of a product.

Leading figures within the 'design' industry are also beginning to question the idea of what should qualify as good design, and how it should be described.

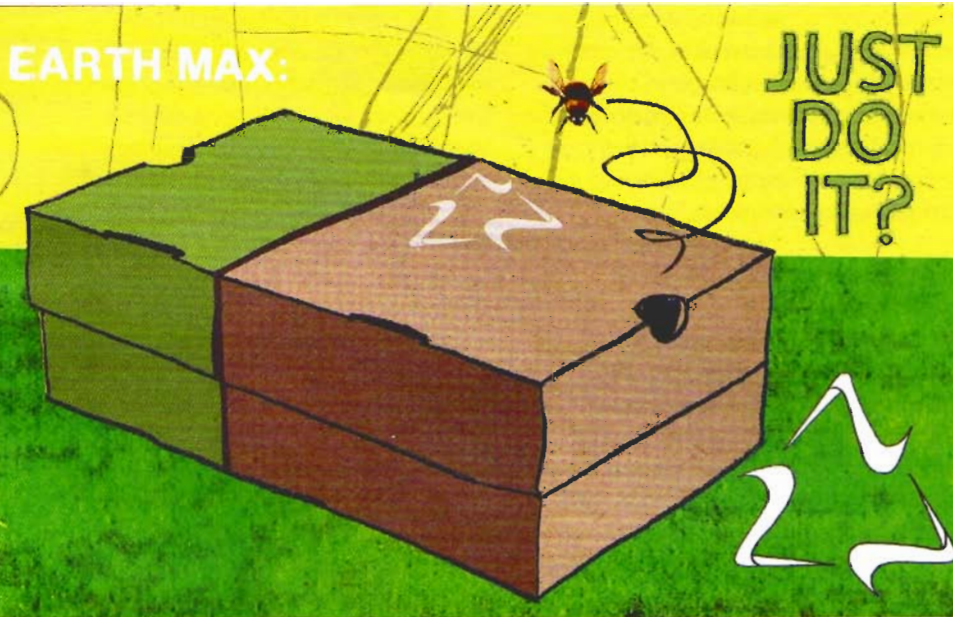
Design Council CEO David Kester, who previously worked at Friends of the Earth, says redefining good design would help drive new patterns of consumer behaviour: 'If we go back to the roots of the Design Council, it was launched to help move the economy beyond the ration-book economy and thrift culture of the Second World War.

'By putting the Design Centre marque on a new product, it encouraged people to dispose of older – but possibly still functional – products, and purchase something new,' says Kester. 'Today we've come full circle, and now we need to play our part in shaping a new market. We are interested in developing a new marque, within the next year, which reframes the notion of "good design". "Works well plus looks good" is an old-world value. Today, "works well and looks good" must be weighed against its impact on people and the planet.'

'Cradle to cradle' theory

In 1965, economist Theodore Levitt's essay 'Exploit the Product Lifecycle' set the foundations for the idea of 'designing for disassembly', or 'green design', by drawing an analogy between Darwinian extinction and technological obsolescence. This idea later bore fruit in William McDonough and Michael Braungart's Hannover Principles, which call for the transformation of human industry through ecologically intelligent design – so called 'cradle to cradle' production techniques, which are not just efficient but essentially waste-free. By contrast, cradle to grave refers to companies only taking responsibility for the disposal of its goods, not necessarily putting its constituent components back into service.

In their book *Cradle to Cradle: Remaking the Way We Make Things*, McDonough and Braungart use a cherry tree as an example, noting how each year it dumps a great pile of fruit and leaves on the ground to rot. This appears wasteful, but all of it actually goes back into nature to be reborn as new trees, bacteria, birds and other parts of the natural ecosystem. Instead of trying to do more with less, McDonough and Braungart say we should try to emulate this natural system. By creating products composed either of technical



is far more complex than a return to prewar values of thrift, utility and resourcefulness, may be able to resolve. As William Morris himself discovered, built-to-last is not always market-friendly – not everyone can afford something that has taken hundred of hours to make by hand.

Moreover, as culture commentator Stephen Bayley points out, it's possible to argue that a Ferrari, which is partly hand-made and aligned with similar values, is less damaging than, say, a hybrid car such as the Toyota Prius: 'Ferraris use less energy to manufacture, and most of the few people who own one only drive 1,000 to 2,000 miles a year. And Ferraris last forever. Once made, they are never scrapped. The Prius, by contrast, (while ingenious) is immensely costly to manufacture and since its batteries are only guaranteed for 60,000 miles, most owners will scrap the cars at that mileage,' he says.

Provocative for Prius owners, to be sure, but as Robert Bryce, author of *Gusher of Lies: The Dangerous Delusions of 'Energy Independence'* underlines, greater energy efficiency alone won't deliver energy salvation. The simple fact is that designing more efficient engines that offer more miles to the gallon results in the

likelihood vehicles will be driven further, and used in a wider range of applications – light aircraft, recreational boats, mowers – all of which means still more energy consumption.

To move beyond the short-term task of fixing what's wrong now, to creating a sustainable society that can last many hundreds of years, requires more than one approach, and the role of designers in helping businesses embrace the notion of extended producer responsibility at a more fundamental level is essential.

Big business must play its part, too, and do more than the piecemeal change of greenwashing tactics designed to prove eco-credentials, such as Coca-Cola's lightweight bottle, B&Q's reusable worktop delivery packs and Ariel's 'Turn to 30' campaign.

We need to close the circle so there are not only consumers who want it, businesses that recognise its competitive advantage, but also designers who can design it, too.

New EU eco-design legislation suggests a trend that may force their hand. The Energy Using Products Directive – which focuses on improving the design of electrical goods' 'stand-by mode' to make them more energy efficient – represents a bold step forward, by enshrining in law an extension of the

nutrients that can be reused or re-purposed with no loss of quality, or biological nutrients, which can be composted or consumed, there is no real death of a product, only its transformation from one birth to another.

Does this mean we can still design more market-friendly products that can go out of style, or be replaced sooner than is needed, if we ensure the material inputs and outputs are 'technical or biological nutrients'? That may be one implication of McDonough and Braungart's work. If Paul Smith Design had been designing LG's LV3000S handset motif with the cradle-to-cradle philosophy in mind, might it not have questioned why the handset cover wasn't made of plant-based starch or some other biodegradable, non-toxic material?

Many companies have already embraced their ideas. Shaw Carpets, have their very own 'Carpet to Carpet™' recycling process, which it claims prevents 300 million pounds of carpet going into landfill every year. In 2005, Fujitsu launched a laptop using a biobased resin – polylactide (PLA). Michael Braungart points to SteelCase office furniture: not only designed for disassembly and remanufacture, but also making use of materials suitable for sealed indoor environments where the air quality can be eight times worse than outdoors.

The embedded energy costs of such initiatives are not well researched and they may, in the end, be revealed to be similar to conventional products. Nevertheless, designing for remanufacture and reuse may prove to be attractive to big business because it can be more profitable than traditional methods. Photocopiers made by remanufacture pioneer Xerox can have up to seven lives, which means seven revenue streams – although, as the Centre for Sustainable Design points out, design for remanufacture and reassembly can require a fundamental redesign of supply lines and factories, which many businesses feel ill-equipped either to envision or implement. To date, remanufacture amounts to around one per cent of the UK's manufacturing output.

What is key to McDonough and Braungart's work, however, is that their ethos invites both

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designers and environmentalists to think of generative solutions to problems. The emphasis moves from focusing on how to reduce, minimise and decrease, to imagining a world where every product, building and service is designed to give something back to the environment and community.

Engage consumers to demand good design

'Securing the Future', the Government's Sustainable Development Strategy that promotes eco-design as a mainstream element of good design practice 'designed-in' at an early stage of the product cycle, notes that consumers don't always put their principles into practice, and consumption patterns are often limited by goods and services available.

John Thackara suggests designers should appeal to people's logic by designing for use, not for ownership, since many of us already lease, rather than purchase, a device as part of a service contract, whether cars, refrigerators, answering machines or photocopiers.

'Power tools are a good example,' he says. 'The average consumer power tool is used for 10 minutes in its entire life – but it takes hundreds of times its own weight to manufacture such an object. Why own one if I can get hold of one when I need it? A product-service system provides me with access to the products, tools, opportunities and capabilities I need to get the job done – namely, power tools for me to use, but not own.'

The bottom line is that if manufacturers retain ownership and therefore responsibility for goods, for maintaining them, it forces them to make goods that are built to last, or built to be re-purposed.

Instead of selling a chair, Michael Braungart says we need to sell 10,000 hours of sitting time; instead of shoes, two years of foot transportation; instead of carpets, floor packaging insurance for defined periods.

However, he adds that we won't engage consumers by calling it sustainable or eco-design. 'Sustainability is about the minimum, about guilt-management, and if you're

spending your time apologising for being on the planet, that's not creative,' he says. 'The notion of sustainability is boring and bland; it's about good design, and design is not good when it's toxic or it stinks. There's no such thing as green design; it's either good or bad.'

An ethical design industry

Among many ideas to future-proof the health of the planet, improving the training and status of the design profession is also essential.

Tom Inns, professor of design at Dundee University agrees: 'There are exceptions, but most design education is focused on creating objects, not the services, systems and experiences associated with a dematerialised future. Our designers are still taught to visualise the tangible, not the intangible; they are taught to negotiate value, but usually only in financial terms. Understanding of other currencies (ethical and ecological values) for negotiating trade-offs during the design process is needed. They are taught little about collaborative design processes that will become increasingly important as the complexity of society's problems increase.'

The Design Council's Design Skills Blueprint, launched in spring 2008, aims to equip existing and future designers with the skills and professional resources they need to keep Britain at the forefront of sustainable design, but many also feel that design should be underpinned by a code of ethics in the same way other professions, such as the medical, legal and architectural professions, are.

Terry Irwin says a code of ethics would guide designers to design in resonance with life principles, not against them: 'We don't have a design process in which ethics is embedded, in which it becomes unthinkable to design in ways that cause harm to anyone, strictly for the sake of profit. Design process and theory should be underpinned by a deep understanding of things such as the carrying capacity of the Earth, the dynamics of ecosystems and self-organisation in living systems. If it were, a more ethical design process would emerge, one in which something such as planned

'Designing for reuse may prove to be attractive to big business. Photocopiers can have up to seven lives and seven revenue streams'

Pictured: Designers should address social and economic issues beyond the developed world



obsolescence would be seen as a pathology rather than a viable business strategy.'

What might such a code of ethics look like? Could it be as simple as 'First do no harm'? Or more comprehensive, along the lines of 'I will not only consider the utility of what I design to the consumer, but also what it can give back to the Earth and its community? I will recognise that just because I can envisage something, doesn't mean it's desirable. I will, wherever possible make it known, visible and clear the "cradle to cradle" costs of the products and systems I design....'

Solving big problems

If the design industry did collectively have more awareness, what would it do? Move from tackling the isolated problem of how to continue fuelling the sophistry of style and the endless desire for the next new thing, and instead become architects of meaningful solutions? Applying their skills and methodologies to tackle problems on a much larger scale?

John Thackara cites food transportation as an example of how designers can solve big problems with large consequences. "Twenty-five per cent of vehicle movements in most European countries are associated with people either shipping food or driving to get it," he says. 'We can frame this big, complicated story as a design opportunity; into a series of individual design tasks people can do something about. For example, rather than complain about food miles, what practical

steps can be taken to increase the growing of food in the city? If it's growing where the people are, you don't have trucks and airplanes going forward and backward.'

By applying so-called 'design thinking' – which, unlike critical thinking, provides a process for 'practical, creative resolution of problems or issues' – designers can help address strategic social and economic challenges, and not just for the developed world of monied consumers. When designers apply the same approach to the 90 per cent of the world population who don't have access to the products and services we take for granted, amazing things can happen.

Last year, in New York, the Cooper-Hewitt National Design Museum's exhibition 'Design for the Other 90 per cent' demonstrated how design can be a dynamic force in

saving and transforming lives in the developing world – design innovations that support responsible, sustainable economic policy; help, rather than exploit, poorer economies; minimise environmental impact; increase social inclusion; improve healthcare at all levels and advance the quality and accessibility of education. The Kenya Ceramic Jiko, for example, a portable charcoal stove created by Rural Technology Enterprises, is designed to reduce fuel consumption by 30 to 50 per cent, saving the consumer money, reducing toxic emissions and resulting in better health for the user. The stove is now used in more than 50 per cent of all urban homes, 16 per cent of rural homes in Kenya and is spreading to neighbouring African countries.

Passive choosers, responsible dreamers

We live in a world where change is something we are usually only willing to embrace when there is a crisis or fear of a crisis. Industrialists and environmentalists alike employ this rubric, and yet, as a motivator, fear sometimes fails to engage people, as it creates both cynicism and ennui.

If the environmental movement wants to avoid the 'post-environmentalist' debate being hijacked by neo-conservative interests then surely it must embrace the aspirational qualities of designers to provide people with a

clear vision of what a sustainable world might look like. Otherwise, what are we saving the planet for?

'I dislike the way the environmental "debate" is too often limited by concepts of defeatism, negativism and even occasionally an embittered vengefulness,' says Stephen Bayley. 'My view of the future is not that we will have to retreat into huts made of dung and wear hemp leggings, but that new, more intelligent criteria about waste will stimulate ever-higher standards of cleaner, more responsible technology.'

Quite. Instead of trying to engage people by scaring the life out of them with a fear of what would happen if a tidal wave wiped out East Anglia, we might instead offer them a vision of how deeply satisfying it would be to live in a more sustainable society, one in which wellbeing wasn't measured by how recently you replaced your mobile phone.

As inherently pragmatic and optimistic beings, and guided by an ethical code, designers have the ability to do this.

John Wood thinks the ultimate role for designers would be to apply the idea of 'meta design' to help governments solve the lack of joined-up policy. 'Design works very differently from rule-based legislation and bureaucratic fiscal policy,' he says. 'Instead of defining and enforcing categories and boundaries, it delivers new benefits, opportunities and behaviours by inviting engagement at the experiential level... and (ultimately) changing the role of voters and consumers from being passive "choosers" to responsible "dreamers".'

Anyone for a political 'design party'? No policies, no personalities, just a distinct methodology to determine the best solutions. It may yet come to pass. **E**

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Additional research by Terry Irwin

Further information

- Centre for Sustainable design
www.cfsd.org.uk
- Attainable Utopias
<http://attainable-utopias.org>
- Designs of the time 2007 (dot 07)
www.dotto7.com
- William McDonough/Hannover Principles
www.mcdonough.com