


Please cite the Published Version

Massey, Anne and Micklethwaite, Paul  (2009) Unsustainability: Towards a New Design History with Reference to British Utility. Design Philosophy Papers, 7 (2). pp. 123-135.

DOI: <https://doi.org/10.2752/144871309x13968682695118>

Publisher: Taylor and Francis

Version: Accepted Version

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Massey, A. & Micklethwaite, P. (2009) Unsustainability: towards a new design history with reference to British Utility'. Design Philosophy Papers, Issue 2, October.
<http://www.desphilosophy.com/dpp/home.html>

Unsustainability: Towards a New Design History

Introduction

Does design history need to be rewritten? Do we need to constantly re-invent disciplines and approaches, negate all previous scholarship because we can assert our own as more credible? This paper argues for a New Design History which does not eschew everything from the original Design History, in the spirit of sustainability. The wardrobe of Design History has some items which deserve thrifty recycling. This paper aims to examine the challenge of sustainability for the discipline of Design History. It then presents evidence for the acknowledgement of sustainability within the history of Design History as a discipline. The paper then takes the British Utility scheme as a case study in the history of sustainability.

Paul Micklethwaite - Design History and the Challenge of Sustainability

Tony Fry makes the case that the discipline of Design History, in common with all dominant disciplines and discourses of design as they currently exist, is implicated in our existing paradigm of unsustainability. For Fry, Design History shares the shallowness of the popular, public design discourse: "The focus of attention goes to iconic structures, objects, images and heroic designers."¹

In contrast to the "more pluralist" discourse of for example Design Studies, Design History on this view decontextualizes design:

.....rather than broadening the view of its object of study so that design is politically, socially and historically contextualized, such history mostly presents design as historically decontextualized. Thus, design is viewed as a particularist concern, grounded in aesthetic or historicist predilections based on connoisseurship, or it is implicated in a popular cultural celebration of kitsch, style or fetishized objects."²

This accusation of decontextualization is ironic if we consider the initial aim of the newly-minted discipline of Design History, as suggested by Walker:

"Design history, it is proposed, shall be the name of a comparatively new intellectual discipline, the purpose of which is to explain design as a social and historical phenomenon."³

Giberti commented that in his early, historical mapping of the emergent field of Design History, Walker consciously: “....downplays the importance of the designer and the designed object as historical subjects, and ... argues that scholars should adopt an approach that is more deeply involved with the social, economic, cultural, and technological contexts of design.”⁴

Yet despite this early intent, Design History is now accused of having mostly considering design, designers, design methods, and design outcomes (products and systems) in a vacuum. Some of Design History’s work is of use to the Design for Sustainability agenda. For example, histories of key designers and theorists who made significant contributions to the sustainability debate should not be dismissed. A full understanding of the work of William Morris and the designer-makers of the Arts & Crafts movement is surely central? Morris’s aspiration to use environmentally friendly materials and production methods have been fully chronicled by design historians, including Linda Parry and Fiona MacCarthy.⁵ The work of those inspired by Morris, including C R Ashbee, the Barnsley brothers and Ernest Gimson, has also been meticulously chronicled by design historians. The work of leading environmentalist and innovative designer, Buckminster Fuller, has also formed part of the Design History purview.⁶ It was, arguably, Victor Papanek, who instigated the Design for Sustainability debate, and his work was fully integrated into the Design History project from the late 1970s onwards. Therefore, Design History does have something to offer Design for Sustainability, if only in simple terms of empirical research.

The discourse of Design for Sustainability may consider the same design outcomes as Design History, but in quite different ways. Rather than focusing on a product’s surface, style, or cultural values, the Sustainable Design discourse looks more deeply at how a product is made, used and disposed of. It has given us the Product Lifecycle as a useful conceptual model for evaluating the environmental and social impacts of a product through all phases of its existence (resource extraction, manufacture, use, disposal), from cradle to grave (or ideally, cradle to cradle), not just the brief phase in which it is bought and then used and/or displayed as a commodity. Fry shows up the inadequacy of the ‘consumption’ metaphor to describe what we actually do with products; we certainly don’t consume them materially in the manner of a natural metabolism.⁷ Interestingly, a similar whole-life analytical framework was proposed in Walker’s earlier critique of Design History, conducted from within the discipline itself, which prefigures Fry’s critique emerging from the sustainability agenda.⁸ This earlier four-part “production-consumption model” was, however, largely under-developed in that text.

Edwin Datschefski reveals ‘the hidden ugliness of an ordinary day’ in these terms.⁹ For any product, “total beauty” comes not simply from a consideration of surface, but from the extent to which it satisfies criteria relating to its production, use and materiality conceived more broadly.

A totally beautiful sustainable product is 100 per cent cyclic, solar and safe. It is also super-efficient in its use of materials and energy and is made by a company that actively seeks fairness for its employees and suppliers.¹⁰

While clearly representing progress in terms of how we evaluate the success or desirability of a product, for Fry this framework doesn't yet go far enough as it is still essentially productionist. The contemporary discourse of sustainability, here discussed in relation to design, is deeply problematized by Fry, as achieving little progress in facing-up to or addressing the path of 'defuturing' on which we are currently set. Fry's conception of design crucially includes the consideration that "whatever is designed and brought into being goes on designing."¹¹ Designed outcomes (products and systems) themselves become active designers of *our* behaviour and interaction with those outcomes, with each other, and with our ecological system. This consideration must be included in any evaluation of design, both as a practice and as manifest in any particular design outcome.

The task thus becomes the designing of the 'object of design' so that it, in turn, can design sustaining 'relations and effects' to which form and function are subordinate.¹²

Considering this, it seems suddenly hopelessly simplistic to focus on the iconicity of a lemon squeezer, or the sculptural-engineering of a steel-framed chair, with any hope of making any contribution whatever to current debates around sustainability (or the notion of 'sustain-ability' developed by Fry). The methods of Design History suddenly seem inadequate for the critical task at hand.

The modern sustainability agenda, in particular as advocated by Fry, therefore provides a starting point for new critical enquiry in the area of Design History. How can we continue to look at the history of design while incorporating a consideration of issues of sustainability? What, and who, is to be celebrated in this new light?

Anne Massey - The Emergence of Design History

We will now seek to demonstrate that the development of the new discipline of Design History did pay attention to issues of sustainability at its start. Design History emerged in the 1970s and 1980s as an important critical voice, both against traditional Art History and connoisseurial histories of the decorative arts. I have chosen to use an autobiographical approach for this part of this paper. Academically, the new biography lends credence to this method of understanding history. Also, theoretically, it now has a level of legitimacy. As geographers Mike Crang and Nigel Thrift have argued:

...the practices of knowledge are bound into a messy entanglement of the knowing and the known. Theory can no longer (openly at least) claim that

the author stands outside what is depicted and that the position of authorship is both exterior and superior – standing not only outside space but also time.¹³

Such an approach also builds on an interest I developed in my book, *Hollywood Beyond the Screen: Design and Material Culture*, which was essentially a feminist reading of popular culture, using my family history as a map.¹⁴ The early part of this paper considers the development of design history from an autobiographical perspective.

Design History emerged during the 1970s as a fledgling discipline, very much in the shadows of the more established, Art History. The impetus for its inception came from teaching art and design students in higher education. The *Coldstream Report* in 1960 had specified that students on such courses should study history and theory for 20% of the time. This meant that the majority of design students were taught within the disciplinary boundaries of traditional Art History, which was not necessarily appropriate for design, for one day a week.

A small group of lecturers in British polytechnics began to explore the possibility of teaching a history of design, which would be more engaging for the design student. Design History also entered the titles of degree programmes, the first being the BA (Hons) History of Modern Art, Design and Film at Newcastle Polytechnic, where I was a student from 1977-80¹⁵. At Newcastle Polytechnic we were taught Design History by feminist architectural historian, Lynne Walker; Pauline Madge, who was an early pioneer of looking at issues of sustainability in design¹⁶ and Catherine McDermott, who has worked extensively in the field of post-war British design. The degree course significantly included art history, film and the historical, political context on an equal footing. This provided a rich mix at a heady time. Margaret Thatcher was in power, it was one of the worst recessions yet. There was widespread unemployment, at least in the north east, as I discovered when I finished my degree and couldn't find work. I went on a *Right To Work* march in Liverpool, organised by the TUC. There was a lot to kick back against in traditional disciplinary discourses. What became known as the New Art History emerged at this point. Centred around the pioneering group at Leeds University, which included Griselda Pollock, Fred Orton and T.J.Clark. Middlesex Polytechnic was also an epicentre for a radical new look at the subject, with leading figures such as Barry Curtis, John A Walker and Lisa Tickner. The launch of *Block* in 1979 heralded a new brand of intellectual enquiry, informed by radical feminism, psychoanalysis and contemporary philosophy. The early work of Tony Fry also featured in *Block*.

By the late 1970s, Design History aspired to establish itself as a new discipline by erecting barriers. It tended to model itself on traditional Art History, and largely not take the New Art History into account.¹⁷ So early Design History was based largely on traditional Art History. The aim was to prove itself as a legitimate area of study. The foil of traditional Art History was too good to drop. This led to a

certain respectability. The *Design History Society* (DHS) was established in 1977, with the establishment of an executive and newsletter, very much like the Association of Art Historians (AAH). The first Design History conference was held at Newcastle Polytechnic in 1975. Entitled *Design 1900-1960: Studies in Design and Popular Culture of the 20th Century*, the conference included papers by Reyner Banham and Adrian Forty. Seriously studying mass produced design with academic seriousness seemed radical at that time, and the need to establish the knowledge base of what the history of design included was an empirical imperative. There was a lot of spade work to be done, as designers had not enjoyed the status of fine artists.

By this point I had completed my PhD on the Independent Group and published some of the results in *Block*¹⁸ with Penny Sparke. I also contributed to the Design History Society's Annual Conference in 1981, later published by the Design Council.¹⁹ However, the key debates at that time were not around sustainability. This was the era of postmodernism, characterised by the Boilerhouse project at the V & A from 1982-7 which included exhibitions such as *Memphis*. Looking back, I realise that my work was situated within this postmodern discourse and sustainability hardly figured. I argued in favour of the Independent Group's relativist aesthetic, which eschewed modernist theories of design. The main objection was that architects such as Le Corbusier argued for an everlasting aesthetic of 'good design' and ignored the ephemeral nature of design and the power of the consumer. This is obviously at odds with the sustainability agenda. I did acknowledge the Group's naïve attitude to new technology in the book that was based on the PhD thesis:

Although difficult to reconcile with the environmental concerns of the late-twentieth century, the Group shared an uncritical appreciation of new technology with the rest of western society. In *Theory and Design in the First Machine Age* Banham described the 1950s as the "Jet Age, the Detergent Decade, the Second Industrial Revolution."²⁰

Therefore, I would argue that the discourse of postmodernism tended to create, if not false, exaggerated, dichotomies between the old and the new.

By the 1980s the discipline of Design History had matured and the landmark *Objects of Desire: Design and Society, 1750-1980* (1986) by Adrian Forty, mentioned by Daniel Miller below, was published, which jettisoned the concept of Design History being about individual designers, but about patterns of consumption in society. John A Walker²¹ and Penny Sparke²² also published seminal books for the discipline, but the issue of sustainability was not high up the agenda. Judy Attfield had made a contribution to Walker's book on 'FORM/female FOLLOWS FUNCTION/male: Feminist Critiques of Design'²³ Although this concentration on the designer has been often criticised, for example, by anthropologist Daniel Miller in *Material Culture and Mass Consumption*:

First, and perhaps most bizarre, is the field entitled design history. As conventionally studied, this is clearly intended to be a form of pseudo art history, in which the task is to locate great individuals such as Raymond Loewy or Norman Bel Geddes and portray them as the creators of modern mass culture.....This approach has recently been subject to an effective critique by Forty (1986), who points out that designers have always been handmaidens to the business interests they serve, and to separate them out as self-determined arbiters of cultural form is even less convincing than in the case of high art which strives for such autonomy.²⁴

However, when faced with looking at the practice of design and its history, how can an account be written? The social, economic and political context is obviously key. However, there needs to be some kind of organising principle or narrative when writing history. My recent book on the interior design of ocean liners argued for an inclusion of designers in design history:

The work is situated within the developing field of the history of interior design, and as such, it considers the work of the designers in the context of the power and ownership of the shipping lines and the developing sense of national identities, the boundaries of social class and the challenge of modernity. The central theme is an exploration of the developing role of the interior designer, from local decorating firm to international designer heroes, which is mapped against the clearly demarcated social hierarchies of liner interior design.²⁵

Coverage of issues of sustainability have crept into Design History writing recently. Prompted by recent developments in the application of sustainability to the practice of design, the 2nd edition of my book, *Interior Design of the 20th Century* included an expanded Chapter 7 on Consumer Culture which accounted for the transition from 1970s green activism to sustainable design.²⁶ Evidence for the burgeoning importance of sustainability for the designer and the design historian came with the third edition of the book, which included a whole new chapter on 'Sustainability in Interior Design' which looked seriously at the issue:

As awareness about issues such as scarce resources and global warming is raised, so government policy in the developed world calls for a more responsible use of precious materials and energy. This has led to a change of emphasis from fashionability to building usage and careful use of resources.²⁷

So, I would argue that Design History does now consider the issue of sustainability, particularly more recent work.

Anne Massey & Paul Micklethwaite - The Utility Scheme

One area of the history of design which has attracted increased attention recently is that of the British wartime Utility scheme. Why is this so relevant for today? The scheme grew out of shortage of resources, whether materials, labour, energy and transport. Therefore, the imperative did not come from furniture makers or clothing manufacturers trying to market and sell their latest designs, or consumers seeking the latest fashionable trend. The impetus was the design needs of a population suffering wartime conditions, so it presents an interesting case study for the consideration of sustainability. The designer and furniture manufacturer, Gordon Russell headed the Design Panel set up by the Board of Trade to select the approved designs: 'I felt that to raise the whole standard of furniture for the mass of people was not a bad war job.'²⁸ The first range was designed by Edwin Clinch and Herbert Cutler and consisted of two bedroom suites, two dining room suites and two easy chairs, largely inspired by the Arts & Crafts and the authentic Windsor Chair. The ladder backed dining chairs in oak were solid and sensible, the easy chair frugal with narrow wooden arms. Exhibited at the Building Centre, London late in 1942, the Chiltern range received a mixed reception. The metropolitan middle class public admired it, but others would have preferred something more decorative and ostentatious.²⁹

The range of furniture was only made available, through a coupon scheme, to newly-weds and those families who had been bombed out of their homes. It was manufactured under license, eventually by 150 firms, in a series of zones, to ensure the most economical use of fuel and materials. The items are numbered to indicate which range they are from and which locality. In 1946 the more upmarket and expensive Cotswold Range was introduced and featured at the Council of Industrial Design's exhibition at the V & A, *Britain Can Make It*. The show's title was based on a British wartime propaganda film, *Britain Can Take It*, and was organised to showcase contemporary British design with an eye to stimulating exports. It featured room settings for a range of social classes, from coal miners to television commentators, and many examples of Utility furniture. Clothing was also rationed during the Second World War with the Utility Clothing Scheme which was introduced in 1941 to make sure that civilian clothing was produced as economically as possible. By 1945 90% of clothing produced commercially was governed by the scheme. Like the Utility Scheme for furniture, the clothing was simple and produced using Fordist principles using the minimum of materials. So design was standardised across the board and controlled centrally by government.

Utility has been accounted for by Design History since the discipline's beginning. An exhibition at the Geffrye Museum in 1974 heralded scholarly research on the subject.³⁰ Later work included J M Woodham and P Maguire's *Design and Cultural Politics in Post-war Britain* which explored the political dimension of Utility.³¹ The tendency for design historians was to focus on the 'good design' element of Utility. This grew out of the postmodern context of the 1980s and 1990s, when the mindset was on discrediting modernism and any patronising

edicts from a white, middle-class, male government. However, by the later 1990s the tide was beginning to turn, particularly with the work of Judy Attfield.

Attfield's work developed into the field of material culture in the 1990s and she briefly discussed sustainability in her landmark book, *Wild Things: The Material Culture of Everyday Life* in relation to the work of Reyner Banham.³² More importantly for our focus on Design History and sustainability, Attfield organised the conference on *Utility reassessed* in 1994 which resulted in the publication of the same name in 1999.³³ Although Attfield hinted at the theme of sustainability in her closing remarks, she did not explore the theme in any depth:

It is significant that today there is a growing fascination with Fitness of a different kind that fuelled the Utility period, but arising out of disillusionment with 1980s 'designer' aesthetics, with the waste and profligacy engendered but unnecessary product clutter, and when industrial design courses are beginning to include units on ethical design practice. But the danger is still there, the enticing fascination with an aesthetic which stands in for the actual sacrifice necessary to effect a change of priorities in a genuinely *social* policy of design.³⁴

The Utility Scheme is worthy of consideration within the context of sustainability, and has recently been incorporated into the latest critical thinking on design practice. For example, Christopher Pett of Pli Design has argued for the connection between the historical Utility Scheme and the contemporary drive for carbon emissions reduction.³⁵ We can perhaps learn from the emphasis on materials efficiency and localised manufacture which characterised furniture production within the Utility Scheme. Manufacturers were able to use only a few materials, and had to use them sparingly, tailoring their designs to fit the limited resources that were available. Localised production was matched by localised consumption, with Utility furniture being both produced and sold on a regional basis.

This model of production and consumption now appeals to us in terms of its efficient materials cycle and low-energy manufacture and distribution. In this respect it seems to anticipate the contemporary 'cradle-to-cradle' design protocol advocated by McDonough and Braungart.³⁶ Fry is however critical of the cradle-to-cradle model as simply contributing to the current system of production and so 'sustaining the unsustainable'. For Fry, even this most advanced of contemporary ecodesign models fails to sufficiently address the underlying problem of what should be designed, and how it will go on designing as an object in the world.³⁷

We should also recall that a design approach characterised by materials rationing created an aesthetic which was not necessarily to consumers' taste. The Utility Scheme was not a big success with British consumers in post-war Britain. A Mass Observation survey of the response to *Britain Can Make It* recorded the resistance of the population to Utility:

The dominant trend is away from Utility. People are searching for something delicate and colourful, which will not remind them of wartime products.³⁸

The emerging consumer culture of the later 1950s and 1960s was at odds with the utilitarianism and uniformity of Utility. Something of its spirit lived on in the work of the Council of Industrial Design, later renamed the Design Council. But stylistic fascism flew in the face of postmodern individuality and consumer power.

However, with raised consciousness of scarce resources and the difficulties of global transport, and the economic strictures of the present 'credit crunch' update to 'global recession' or 'international financial crisis' or similar perhaps the time is now ripe to reconsider Utility as an approach which could inform contemporary design. Perhaps the era of iconoclastic, individual designers and designer chairs is now over. Yet any such call for a 'new austerity' in design is perhaps likely to meet with the same objections as those apparent in the post-war period. Calls for more sustainable ways of living which seem to advocate striving to make do with less are almost always ridiculed. Any attempt to revive the spirit of the Utility Scheme under the rubric of reduction of carbon-emissions, or sustainability more broadly, is thus likely to meet with opposition. Self-imposed austerity is problematic in relation to our heightened notions of individualism and personal choice.

As noted, it may also be questioned if the Utility Scheme offers enough inspiration for a more sustainable contemporary design practice. Tony Fry was quoted earlier as stating "[t]he task thus becomes the designing of the 'object of design' so that it, in turn, can design sustaining 'relations and effects' to which form and function are subordinate."³⁹ Successful examples of this are difficult to find, and it is unclear if the Utility Scheme provides any, yet examples may emerge from similar consideration of further design histories.

Conclusion: the future of Design History

This paper began with Tony Fry's accusation that the discipline of Design History, in common with all dominant disciplines and discourses of design as they currently exist, is implicated in our existing paradigm of unsustainability. We have set out to demonstrate that Design History has a more nuanced lineage than this might suggest. The discipline is a critical one, which does take social, political and economic contexts into account. However, the sustainability debate has not, until recently, featured on the Design History agenda. But this does not mean that we should eschew it as a discipline or field completely. The design historian, John Heskett, suggests that we can usefully reject simplistic histories of design which present '....a neat chronological succession of movements and styles', each superseding all that has gone before. He argues:

The history of design ... can be described more appropriately as a process of layering, in which new developments are added over time to what already exists. This layering, moreover, is not a process of accumulation or aggregation, but a dynamic interaction in which each new innovative stage changes the role, significance, and function of what survives.⁴⁰

Thus we are able to revisit and find much of value in earlier discussions of social organisation, ecology, and design and production offered by Morris, Buckminster-Fuller and Papanek.

Sustainability as an agenda or discourse is sometimes presented in explicitly moral terms. Papanek and Al Gore unashamedly make a moral, rather than simply ethical, case for the striving for a more environmentally and socially sustainable collective way of life. Advocates of sustainability must not fall into the trap of attempting to fix a new dogma whose precepts can not be challenged. Jim Butcher has argued that the drive to engender 'Sustainability Literacy' in university students may undermine the academic tradition of independent, critical inquiry.⁴¹ Sustainability Literacy, he argues, is a moral and behavioural agenda rather than an educational one, and involves universities acting as social engineers to promote 'green thinking'. This risks making sustainability an orthodoxy which cannot be challenged, a situation which would be to the detriment of 'sustainability' itself.

In this paper we therefore argue that Design History, along with all design disciplines more broadly, should follow the sustainability agenda and be remodeled and remade for the future, but not dumped in the landfill site of history. Design History provides some useful tools and resources for our collective pursuit of a way of life capable of being sustained beyond the immediate short-term. A focus on the artifacts of everyday material culture is central to the sustainability debate. Design History has also generated a body of empirical data which we can now interrogate with fresh eyes, informed as we now are by different concerns and priorities than we were in even the immediate past. Design History can therefore help us to formulate a sustainably-designed future.

¹ Tony Fry, *Design Futuring: Sustainability, ethics and new practice*, Oxford, Berg, 2009, p120

² Tony Fry, op cit, p120

³ John A Walker, *Design History and the History of Design*, London, Pluto Press, 1989, p1

⁴ B. Giberti, Review of John A. Walker "Design History and the History of Design" and Peter Dormer "The Meanings of Modern Design", *Design Book Review*, 22, 1991, pp. 53-57. Available at: <http://works.bepress.com/bgiberti/4>

⁵ For example, Fiona MacCarthy's *William Morris: A life for our time*, London, 1994 and Linda Parry (Ed) *William Morris*, catalogue of an exhibition, 'William Morris 1834-1896' at the V & A Museum, London, 1996.

⁶ See, for example, John Heskett, *Industrial Design*, London, Thames & Hudson, 1980 and John McHale, 'Richard Buckminster Fuller', *Architectural Design*, 31 (July 1961) pp290-310.

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- ⁷ Tony Fry, op cit, p192.
- ⁸ John A Walker, op cit.
- ⁹ Datschewski, E., *The Total Beauty of Sustainable Products*, RotoVision, 2001.
- ¹⁰ Ibid, p11
- ¹¹ Tony Fry, op cit, p190
- ¹² Tony Fry, op cit, p188
- ¹³ Mike Crang and Nigel Thrift (eds), *Thinking Space*, Routledge, London, 2000, p3
- ¹⁴ Anne Massey, *Hollywood Beyond the Screen: Design and Material Culture*, Berg, Oxford, 2000.
- ¹⁵ The degree was validated by the CNAAL in 1974.
- ¹⁶ For example, see her articles, 'Design, Ecology, Technology: A Historiographical Review'. *Journal of Design History*. Vol 6. No 3. 1993. pp149-166 and 'Ecological Design: A New Critique' in *Design Issues*, Vol 13, No 2, Summer 1997, pp44-54.
- ¹⁷ A point I made in a review for the Design History News letter in 1987
- ¹⁸ Anne Massey and Penny Sparke, 'The Myth of the Independent Group' in *Block* No 10, 1985, pp48-56.
- ¹⁹ Anne Massey, 'the Independent Group as Design Theorists' in *From Spitfire to Microchip*, Design Council, 1985.
- ²⁰ Anne Massey, *The Independent Group: Modernism and Mass Culture in Britain, 1945-59*, Manchester, Manchester University Press, 1995, pp49-50.
- ²¹ John A. Walker, *Design History and the History of Design*, Pluto Press, London, 1989
- ²² Penny Sparke, *An Introduction to Design and Culture in the Twentieth Century*, London, Allen & Unwin, 1986.
- ²³ John A Walker, op cit, pp199-225.
- ²⁴ Daniel Miller, *Material Culture and Mass Consumption*, Oxford, Blackwell, 1st published 1987, repr 1995, p142
- ²⁵ Anne Wealleans, *Designing Liners: Interior Design Afloat*, Routledge, Abingdon, 2006, p1
- ²⁶ Anne Massey, *Interior Design of the 20th Century*, London, Thames & Hudson, 2001, pp187-193.
- ²⁷ Anne Massey, *Interior Design Since 1900*, London, Thames & Hudson, 2008, p219
- ²⁸ Gordon Russell, as quoted in 'Utility', *Design*, September 1974, p64
- ²⁹ See 'Utility', *Design*, September 1974, p.66
- ³⁰ Geffrye Museum, *Utility Furniture and Fashion 1941-1951*, ILEA, 1974.
- ³¹ J M Woodham and P Maguire (Eds) *Design and Cultural Politics in Post-war Britain*, Leicester University Press, 1997.
- ³² Judy Attfield, *Wild Things: The Material Culture of Everyday Life*, Oxford, Berg, 2000, p246.
- ³³ Judy Attfield, (Ed) *Utility Reassessed: The Role of Ethics in the Practice of Design*, Manchester, Manchester University Press, 1999.
- ³⁴ Judy Attfield (Ed) ibid p.242
- ³⁵ Christopher Pett 'The connection between furniture design for wartime austerity and carbon emissions reduction'. Paper presented at the 6th conference of the 20th Century Furniture Research Group 'Brit Design 1900-2000', High Wycombe, 21 November 2008.
- ³⁶ William McDonough and Michael Braungart *Cradle to Cradle: Remaking the way we make things*, New York, North Point Press, 2002.
- ³⁷ Tony Fry, *Design Futuring: Sustainability, ethics and new practice*, Oxford, Berg, 2009, pp.189-90.
- ³⁸ Unpublished survey by Mass Observation, commissioned by COID, 1946, p.9, Design Council Archives.
- ³⁹ Tony Fry, *Design Futuring: Sustainability, ethics and new practice*, Oxford, Berg, 2009, p.188.
- ⁴⁰ John Heskett *Design: A very short introduction*, Oxford, Oxford University Press, 2005, pp.6-7.
- ⁴¹ Jim Butcher 'Keep the green moral agenda off campus', *Times Higher Educational Supplement*, 17 October 2007.