

20th Century Boys: Pioneering British Design Thinkers

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Abstract: The history of modern British design is often told through well-known design icons such as the Mini, red double decker bus and the mini skirt. While these iconic designs are notable due to their significant contribution they make to the identity of British design, there is another, untold history that has the potential to provide insight into the foundations of contemporary design consultancy and design research. This paper considers the complex interactions between pioneering British design thinkers, manufacturers, consumers and educators as a means of uncovering an alternative history of British design, one that examines the culture of designing (its social history) as well as the artefacts it produced (its material culture). Based on biographical interviews and initial archival research, the paper profiles five pioneering design thinkers – Misha Black, Michael Farr, Bruce Archer, James Pilditch, and Peter Gorb – and discusses their contribution to design across corporate, consultancy, education and research domains.

Keywords: pioneering British design thinkers; legacy; material culture; biographical narratives

Introduction

The history of design in modern Britain is often told through well-known design icons such as the Mini, red double decker bus and the mini skirt (Buckley, 2007). While these iconic designs are notable due to their significant contribution to the identity of British design, there is another, untold and somewhat neglected history that has the potential to provide insight into emergence of the consultant designer and the foundations of design research approaches (Sugg Ryan, 2012).

British design has over the years, been celebrated through “star” designers and the objects they created. With this in mind, design’s past could be considered as both a social history



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(e.g. focusing on those who designed) and as a material culture (e.g. focusing on what they designed). This has, one could argue, prompted a view of design that is understood primarily through the creation and consumption of artefacts.

While there have been efforts to study and communicate the processes of design e.g. the thinking behind the artefacts (for example Gregory, 1966; RIBA, 1967; Lawson, 2006), there is limited work that does so in a more holistic and biographical manner, which brings together the people behind the design, the processes they used and how they worked, life events, and the interactions between. These influential, yet often neglected, stories have shaped design today, and will continue to do so in the future.

The pioneering design thinkers at the centre of our research have contributed to design in Britain across *corporate, consultancy, education* and *research* domains. We propose that they represent an alternative view of British design, which moves beyond the artefact and considers people, process, artefacts and interactions – and importantly, the process of design.

This paper is based on the initial stages of our *Design Pioneers* research project. Based on this first phase of contextual research, the paper will identify five pioneering design thinkers, outlining a brief biography of each. The paper will then define the criteria for pioneering design thinkers, and then go on to describe the outline research methodology with the intention of outlining how the remainder of the research will be conducted. Finally the paper will conclude with a broad discussion of the value of this research and the next steps proposed.

Designing and legacy

Steve Jobs died in 2011; his legacy is Apple. Bill Moggridge died in 2015; his contribution to design is understood through IDEO, and the GRiD Compass. We can attempt to understand the influence these people had on design by looking at the products and organizations they left behind. But what about those important and pioneering design thinkers whose legacy isn't quite as explicit? What about the stories, narratives and interactions behind the tangible objects and outcomes, or indeed those that aren't represented in tangible artefacts? How can we learn from pioneering design thinkers whose work isn't quite as visible?

While the Design Pioneers project is still in its early stages, given the nature of the conference as a forum for discussion and debate, we are keen to share our proposition and early stage research with the design research community to obtain critique and feedback. Design Pioneers aims to explore, understand and synthesize the contribution of those we term *pioneering design thinkers*, and to distil their legacy for contemporary researchers, educators and designers. This paper will provide a summary of the early stages of the research as it stands.

Moving from objects to intangible to experiences

Design practice has long been understood through products and objects, with an emphasis on tangible artefacts and outcomes. This developed into study of the processes and methods of design (Mitchell and Jones, cited in Jones, 1992:ix). Design has since moved into the realm of intangible services and experiences, as well as strategy and policy (see, for example Cooper, Junginger and Lockwood, 2011; Galbraith, 2014; Junginger, 2013). This growing complexity has resulted in attempts to bring clarity and cohesion to design, for example by (re-)defining the disciplines of design, and forming new educational domains which continue to evolve and be repurposed in response to this dynamic and changing context. There have been a number of figureheads which represent these movements in design, which dominate popular culture. For example, William Morris' trademark textiles; Charles Rennie Mackintosh's contribution as a talented polymath, Sir Alec Isogonic' design for the Mini, Mary Quant's mini-skirt, Kenneth Grange's contribution to a British product design aesthetic, and Tim Brown's popularization of design thinking (Brown, 2008). As Buckley (2007) notes, "design in modern Britain is marked by indelible icons" but it has also been shaped by the interactions between designers, manufacturers, retailers and consumers. The stories behind these interactions are less well known. This research is concerned with the untold stories shaped by those who are perhaps less well known to the public, but who made a demonstrable contribution to the professionalization of the consultant designer (in the latter part of the 20th century) (Baynes, 1967; Blake & Blake, 1969) as well as design research techniques that are now commonplace in contemporary design practice (Sugg Ryan, 2012).

We assert that pioneers are needed to move forward any discipline. Design is no exception. While design continues to develop and reimagine itself in the 21st century, the people who shaped key concepts fundamental to progress are not always the ones who receive all of the accolades. This is a tension that we are acutely aware of in this research with Woodham (1983) noting that literature "has tended to favour disproportionately the propagandists" rather than the originators of ground-breaking ideas.

What is a pioneering design thinker?

The contentious phrase in the heading above may be *design thinker*. We aren't positioning this research as a contribution to design thinking per se; it is rather more about those whose design *thinking* was pioneering. We will return to this issue later in the paper but now is perhaps a timely point to elaborate on the key tenant of this paper, the pioneering design thinker.

There are various offerings of the word pioneer. For instance, the Oxford English Dictionary (1989) offers a definition of *pioneer* as someone who may "open up a road or a terrain". Similarly, the Merriam-Webster (2004) dictionary defines a pioneer as "a person who begins or helps develop something new and prepares the way for others to follow".

However, we are not simply concerned simply with pioneering designed artefacts; this research is focused on *pioneering design thinkers*. In the context of this research, we define a pioneering design thinker as someone who:

- Initiated, led or implemented a substantial movement or change in design's social history or material culture;
- Were central to the development of a new process, method, technique or artefact;
- Operated effectively across *corporate, consultancy, education* and *research* domains.

Part of the value (and challenge) of this research is defining and making these complex interactions explicit, and developing an effective research methodology for doing so. Numerous commentators on the history of British design provide a chronological overview that uses key artefacts as the touch points in the narrative (for example Breward & Wood, 2012; Buckley, 2007; Woodham, 2006). While we acknowledge that artefacts are a central aspect of material culture, we contend that any contemporary history of design must go beyond the artefact and embrace the thinking that underpinned its creation and the cultural context it was created within. The methodology proposed for our research acknowledges this position and attempts to move beyond material culture – the creation and consumption of artefacts – as the key source of historical dialogue. Insight into our methodology is provided later in this paper, in the 'Outline Methodology' section.

Who are our Pioneering Design Thinkers?

Based on desk research, initial interviews (n=5), a review of UK design archives and our existing expertise in the field to date, we have selected five pioneering design thinkers to place at the centre of this research. They are i) Misha Black, ii) Michael Farr; iii) Bruce Archer; iv) James Pilditch; and v) Peter Gorb.

The five pioneering design thinkers identified in this paper were selected from criteria developed from a combination of literature and contextual review. We are aware that these pioneering design thinkers are all male – and as such informed the somewhat tongue in cheek title of this paper – we decided that it is appropriate at this stage to base our research on the data generated from our current selection criteria, rather than include a female pioneering design thinker as a tokenistic gesture. As the research progresses and we uncover more about the stories and characters operating at this time, we wholly anticipate being able to robustly evidence the valuable contribution of additional pioneering design thinkers, be they male or female. A rich picture is emerging of complex interactions between pioneers and their contemporaries and the authors have already identified key contributions from female design thinkers despite the lack of robust research evidence. For example, Dorothy Goslett was the Design Research Unit's Business Manager (the Design Research Unit (DRU) was established in 1943 and was one of the best-known design consultancies in Europe in the second half of the 20th century (Blake & Blake, 1969; Woodham, 2006) and contributed to the understanding that designers increasingly needed business acumen as

well as creativity and imagination primarily through her book on Professional Practice for Designers (Goslett, 1961). However, this paper is as much a reflection of the prevailing male chauvinism in the business world in the UK in the 20th century as it is of a snapshot of the research project as it currently stands. As additional research data emerges, the list of pioneering British design thinkers will undoubtedly grow.

Rather than give an in-depth biography of each of the identified pioneering design thinker, we believe it more useful to provide a summary of their key focus and approach, and explore how they meet the criteria we have proposed. It is our expectation that we will uncover more rich insights about their work and life as the research progresses, but provide an overview of key achievements and associated thinking.

Sir Misha Black OBE (1910-1977)

While Misha Black received very little formal training in design he made a significant contribution to design in the British. He worked as an industrial designer, interior designer, exhibition designer and architect and in 1933 he established one of the first design consultancies in the Britain - forming the Industrial Design Partnership (later called the Industrial Design Unit). When the Second World War started, he joined the Ministry of Information and was given the job of principal exhibitions designer. In 1943 he was a founder member of the Design Research Unit (with Milner Grey, Herbert Read and Marcus Brumwell) (Cotton, 2010) which anticipated the wide-scale need for design in the reconstruction of Britain after the Second World War (Julier, 2012) and in its time become one of the most well regarded design consultancies in the UK and Europe (Blake & Blake, 1969).

Shortly after the end of the war, Black designed the 'Britain Can Make It' exhibition, held at the Victoria and Albert Museum. The exhibition was intended to boost morale by promoting the British manufacturing industry that was decimated after the war. Black gained an international reputation when in 1951 he coordinated the 'upstream' section of the Festival of Britain. This exhibit promoted good design as a force for social change – a pioneering concept well ahead of its time – yet one that is commonplace in design today, perhaps exemplified in the notion of social innovation.

Black believed passionately in good design and was an able promoter of its benefits. He was a vocal member of every organisation or committee dealing with design. Black became Professor of Industrial Engineering at the Royal College of Art from 1959 to 1975 (Woodham, 2006) teaching many who would become contemporaries. He was a strong supporter of design research while at the RCA and was a key proponent in the use of research to enhance the contribution to, and role of design in, industry. He is still remembered in the annual Sir Misha Black Memorial Award, given to people for their distinguished contribution to design.

Michael Farr (1924-1993)

Farr's article "Design Management: Why is it needed now?" appeared in *Design* in 1965 (Farr, 1965, cited in Cooper et al, 2011:47) and was a seminal text in putting design on the business radar – calling upon managers to learn how to manage design. Based on extensive experience in practice, the article gave raw yet rich insights into the value of design to business, and drew this together into a clear and precise description of role of the design manager, and argued a compelling case for why businesses need design. Following this Farr published *Design Management* in 1966, widely regarded as the first book on design management and is seen to this day as a milestone in the design and business interface (Cooper & Junginger, 2011).

Farr made it his duty to conduct empirical research on the role of design as a business tool, often using projects conducted by his design practice, which as a result exposed the reality of how businesses used design. He crafted this understanding into a call to managers to make the most of this competitive process of design. Farr was news editor of *The Architect's Journal* from 1951-52, editor of *Design* from 1952-59 and head of the information division of the *Council of Industrial Design* from 1960-61. In 1962 Farr established and became chairman of Michael Farr (Design Integration Ltd), a design management consultancy (Woodham, 2006), and between 1962 and 1975 they were responsible for over 100 worldwide design projects. Design Integration Ltd "flourished in the 1960s but didn't make it beyond the early 1970s, mainly because they were ahead of their time." (Garland, n.d.).

Bruce Archer CBE (1922-2005)

[Leonard] Bruce Archer was an engineering designer and academic credited with helping to transform the process of design in the 1960s and regarded as "a highly influential figure in the design methods movement" (Woodham, 2006). Archer argued that design was not merely a craft-based skill but should be considered a knowledge based discipline in its own right, with rigorous methodology and research principles incorporated into the design process. His initially controversial ideas would become pervasive and influential. From his initial appointment at the Royal College of Art as research fellow within Misha Black's Industrial Design (Engineering) research unit, Archer ascended to head his own Department of Design Research (DDR) for 13 years (1971-84).

Archer was a pioneering design thinker as he gave visibility, credibility and rigour to design research. Archer's innovative methods were first tested on a project in the 1960s to design improved equipment for the National Health Service (NHS). One strand of these studies, Kenneth Agnew's proposal for a hospital bed, culminated in the perfection of Agnew's design through a rigorous testing process and the inclusion of systems-level analysis and evidence-based design. The bed went on to become standard issue across the NHS in the UK from the 1960s.

Archer was pioneering in the way that he gave visibility to design research by demystifying the process and undertaking externally funded research projects that pioneered an

extensive and systematic methodology (Woodham, 2006). He publicised widely through his work in *Design*, the official publication of Council of Industrial Design (which latterly became the Design Council). He published *Systematic Method For Designers* in 1965, and the stages in design research he included are ever present today. Through articles in *Design*, Archer championed concepts which would later be universally understood by designers in now-familiar terms including 'quality assurance' and 'user-centred research'.

James Pilditch CBE (1929-1995)

Pilditch was a master orator considered to be one of the foremost visionaries and evangelists of design Britain has produced. His foresight set the course for the development of the design profession establishing the cornerstones of contemporary design consultancy, giving a voice to the emergent multidisciplinary design industry in the UK (Julier, 2012). Brown (2011) asserts that Pilditch “was the first of his generation to link the specific value of design to economic success ... and became convinced that design was vital to Britain's future growth”.

Pilditch was a tireless campaigner for design's role in business, which he expressed through articles and books including *The Silent Salesman* (1961, about packaging), *Talks About Design* (1976, about design in business) and *I'll be Over in The Morning* (1990, about marketing). His prolific writing and speechmaking set him apart from many of his contemporaries forging his credentials as a pioneering design thinker. He worked energetically persuading business leaders for the first time that design was a valuable tool in improving profits. In response to what he saw as design being a cottage industry in Britain he set up Allied International Designers (later Aidcom) to realise his vision of “marrying creative and analytical skills to make design effective; developing a multi-disciplined team with two- and three-dimensional design skills, marketers and business consultants; and working internationally, learning and transferring experiences and not being financially reliant on one national economy” (Brown, 2011).

Allied International Designers prospered and after 20 years (in 1979) joined the stock market, becoming the first quoted design company. Brown (2011) notes that his stylish speechmaking (delivered with casual aplomb belying hours of careful preparation), and his membership of many governmental and educational committees.

Peter Gorb (1926-2013)

Peter Gorb was regarded as the pioneer of design management through his work at London Business School (LBS) where he ran the Institute of Small Business (Cooper *et al.* 2011). He was among the first to teach design to managers, and published a seminal text *Design Management: Papers from the London Business School* in 1990, based on Design Talks – public lectures on the subject. He was great friends with James Pilditch (Cooper *et al.* 2011), and effortlessly communicated the connection between business, design and management,

and introduced the term *Silent Design* – design undertaken by non-designers - in an influential paper with Angela Dumas (1987).

Gorb was an inspirational teacher who during a highly successful business career as a leader in the Burton Retail Group pioneered design management in stores before moving to academia at LBS. With the help of Charles Handy, he founded the Design Management Unit at LBS, a role which led him to become one of the pioneers of design as an integral part of successful production, not an add on. He was also instrumental in the creation of Education for Capability, a manifesto published by the Royal Society of Arts which argued for vocational skills and training to be accorded the status their value to culture and the economy they deserved.

Pioneering Design Thinkers

Below, we provide a summary of how our selected rosters of pioneering design thinkers meet our criteria. While the below table does not attempt to synthesis whole careers into concise sound bites, we have attempted to underscore key contributions that have contributed pioneering design thinking.

	Black	Farr	Archer	Pilditch	Gorb
Initiated, led or implemented a substantial movement or change in design's social history or material culture	Co-founded one of the first design consultancies in the UK; promoted good design as a force for social change	Embodied the concept of design management and its contribution to industry	Instrumental in the creation design as a knowledge based activity	Led the movement towards aligning the specific value of design to economic success	Advocated the value of practical, vocational education to design and its contribution to business
Were central to the development of a new process, method, technique or artefact	Created a number of iconic designs still around today, e.g. Westminster Street Signs, and designed 'Britain Can Make It' exhibition	Exemplified the role of the design manager and provided the first formal definition of design management	Developed systematic use of design research to enhance the effectiveness of design	Founded Allied International Designers which joined the stock market in 1979, becoming the first quoted design company in the world	Founded the Design Management Unit at London Business School, which led the way of design as "an integral part of successful production, rather than a bolt-on"
Operated effectively across corporate,	An advocate for design he operated across design	Established one of the first design management	Employed systematic design research	Was a passionate and engaging speaker and	Crossed consultancy and education, at

consultancy, education and research domains.	specialisms, e.g. graphics, exhibition, transport, product	consultancies in the world and espoused the role of design as a competitive business tool	methods that led to the development of the Kings Fund Bed, which became the standard NHS hospital bed	writer on design – often translating the benefits of design for corporate audiences	the interface of design and business. Inspired design management as a career for young designers
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Table 1: Pioneering Design Thinkers matrix

It is clear that the above identified pioneering British design thinkers’ represent a snapshot of the potential roster considered for inclusion in such a study. This is an evolving research project and the authors recognise additional pioneers could also include leading thinkers such as Chris Jones (a leading contributor to the design methods movement), Milner Grey, Herbert Read and Marcus Brumwell (founding members of the Design Research Unit alongside Misha Black), Alan Topalian (an advocate for the value of effective use of design in business and leading design management consultant), Naomi Gornick (a leading academic in design management), Dorothy Goslett (as noted an early proponent of the professional practice of designers) and Angela Dumas (design management specialist and co-author of *Silent Design* with Peter Gorb). Even this list omits key thinkers that may meet our criteria for pioneering design thinkers on the premise that there is suitable data available in a form that is suitable to the focus of the project.

Outline methodology

The research methodology for the remainder of the project has been developed in collaboration with experts in design management, design history and anthropology, to ensure our approach is appropriate to the context and to the richness of the data available. We recognise it is crucial to strike a balance between approaching the data with a predetermined strategy and with identified conceptual framework, but making sure that new concepts are given the space to emerge.

Our methodology is geared towards the construction of rich narratives emerging initially from the five selected pioneering British design thinkers and then extending to their contemporaries. We will do this by a) examining the *domains* they worked within and across; b) building a *chronology* of the *time* and *space* they occupied, and c) mapping out the *interactions* between these people, places, and events. To do this we will employ d) archival research which looks at their journals, sketchbooks, notes, archival records and published work, and enrich this with e) primary research such as life-history interviews with their contemporaries, colleagues, family, clients and students. We will also consult with a range of design historians and people influenced by them, to understand a range of broader factors, such as the design processes they employed, their approach to research, their work ethic, the people worked with, the values they held dear, their networks, etc. Our aim is to take a

step back in time and understand how these pioneers thought, as all of which are sadly no longer with us.

A key challenge for our research is the availability of suitable data, be it from primary or secondary research sources, that are able to provide robust evidence that pioneering design thinking was undertaken. Some research subjects have considerable archives that are easily accessible by the public. For example, held by the Royal College of Art, the L. Bruce Archer archive comprises 34 meticulously organized boxes which comprising diaries, correspondence, conference proceedings, memoranda, offprints, lecture notes and other teaching materials. The archive even includes his detailed 'daily logs' that provide description and analysis of his activities. Unfortunately such an archive is the exception to the rule and availability of suitable resources for other pioneering design thinkers is much more problematic.

The value of this research

We contend that this research is valuable for a number of reasons. Firstly, no attempt has been made to distil and synthesize the contributions of these pioneering design thinkers and the value of this contribution to British design – particularly in terms of the professionalization of design consultancy and contemporary design research approaches. As you will have noticed in the brief biographies, all of our proposed pioneering design thinkers are sadly no longer with us. We are now at a point in time where the contemporaries of these pioneering design thinkers are sadly dying, and no attempts have been made to capture, synthesize and articulate their contribution to the design discipline in an accessible way and the complex (inter)relationships surrounding their professional and personal lives.

Secondly, we contend that this research presents an alternative view of British design from both historical and contemporary contexts. This is an alternative view of the British design process' and aims to understand the emergence of key design concepts that we are all familiar with today – such as evidence based user-centred research, systematic design processes, design as a competitive and strategic business tool, and demonstrating the economic value of design in business – were pioneered by passionate, intelligent and creative thinkers.

Finally we believe that this research will be valuable in terms of methodology, as we will be devising a way of conducting historical design research that could be transferrable to digital artefacts. In an age of social media and digital capture where data capture is endless, we contend that there could be false hope that the data is enough, rather than distilling through the legacy. It is our hope that our approaches could help bring new insights beyond data capture, into curatorial strategies, narrative construction and presentation. By having to physically "go" to these archives, and anticipate generating closeness to the data – which could be useful when considering how to curate other sources of data in the future.

Opening up our next steps...

We acknowledge that this research project is in its early stages, and therefore we would like to call upon our peers at this DRS conference to provide critique and feedback on the appeal of this research and its value among the design research community. And beyond. As authors who have presented at many conferences, including DRS conferences, we felt that while our research is more embryonic than we have previously submitted for consideration for conference presentation, we are excited to be able to have a dialogue in the true sense of the 'conference' – a forum for discourse on 'work in progress' rather than completed research. We contend that we have a duty to design and design history to uncover these hidden stories, and to find a way of making these explicit so that they can be understood, enjoyed and celebrated. Now and into the future! It is our hope that our approach to archival research and constructing narratives will be transferrable in the future, when everything is digital and there is a dangerous assumption that digital means capture.

As a final reflection on the Design Pioneers research project and our pioneering design thinkers, we will share with you what some may see as an inconsequential anecdote on one of our pioneering design thinkers uncovered through our initial research interviews (Frayling, 2014).

It's a story about Bruce Archer and his somewhat colorful time in National Service. While Archer may well have covered himself with glory during his time in National Service, our story reflects the tenacity and determination that those who knew him declare. One evening while on guard duty at the main camp gate, Archer's commanding officer turns up wishing to gain entrance back to the camp. The commanding officer has enjoyed a few drinks at the local hostelry and was, shall we say, a little the worse for wear. Unfortunately the commanding officer didn't have the required pass to enter the camp and as such was refused entry. Archer was convinced that his commanding officer was testing him and stood firm and would not allow him to pass. Despite Archer's commanding officer protests and ultimately ordering Archer to let him pass, Archer stuck to his guns. Literally. A scuffle ensued and somehow the commanding officer was shot in the leg... with Archer's weapon. The wound was not life threatening but the commanding officer spent the night in the infirmary. Archer remained on guard duty on the camp gate! While Archer didn't receive any medals for his endeavors, neither was he reprimanded. Archer has a job to do and he was not distracted from his calling. This is powerful evidence that Archer had great tenacity, or what some may see as stubbornness, and is an underlying characteristic of pioneering thinkers, within design and beyond.

As noted earlier, the RCA holds the comprehensive Archer archive but there is not one mention in the archive of the night Archer shot his commanding officer. While this anecdote is humorous, it demonstrates an untold story of just one of our pioneering design thinkers. We contend that these stories must be uncovered and made available for future generations. While not all will be as colorful as this, the pioneering design thinkers made a significant contribution to British design and design research. Their stories must be told.

References

- Baynes, K., (1967) *Industrial Design & The Community*. London, Lund Humphries.
- Blake, J., & Blake, A., (1969). *The Practical Idealists: Twenty-five years of designing for industry*. London, Lund Humphries.
- Blinkhorn, A., (2013). Businessman and former Heath and Hampstead Society chairman Peter Gorb dies. Retrieved from http://www.hamhigh.co.uk/news/businessman_and_former_heath_and_hampstead_society_chairman_peter_gorb_dies_1_3021725
- Brown, B. (2011). Obituary: James Pilditch. Retrieved from <http://www.independent.co.uk/news/people/obituary-james-pilditch-1600569.html>
- Brown, T. (2008). Design thinking. *Harvard business review*, 86(6), 84.
- Beward, C., & Wood, G., (Ed). (2012). *British Design from 1948: Innovation in the Modern Age*. London, V&A Publishing.
- Buckley, C., (2007). *Designing Modern Britain*. UK, Reakiton Books.
- Cooper, R, Junginger, S and Lockwood, T. (Eds) (2011). *The Handbook of Design Management*. London: Bloomsbury.
- Cotton, M., (2010). *Design Research Unit 1942-72*. Netherlands, Koenig Books.
- Exploring 20th Century London (n.d.). Black, Sir Misha. Retrieved from <http://www.20thcenturylondon.org.uk/black-sir-misha>
- Frayling, C., (2005). Bruce Archer. Retrieved from <http://www.theguardian.com/news/2005/jul/11/guardianobituaries.artsobituaries>
- Frayling, C., (personal communication, July 25, 2014)
- Galbraith, J.R., (2014) *Designing Organizations: Strategy, Structure, and Process at the Business Unit and Enterprise Levels*, 3rd edition, Sanfrancisco: Jossey-Bass
- Garland, K. (n.d.). Michael Farr (Design Integration). Retrieved from <http://www.kengarland.co.uk/KGA-graphic-design/michael-farr/>
- Gorb, P., & Dumas, A. (1987). Silent design. *Design studies*, 8(3), 150-156.
- Goslett, D., (1961). *Professional Practice for Designers*. London, Batsford.
- Gregory, S. A., & University of Aston in Birmingham. (1966). *The design method*. London: Butterworths.
- Jones, J.C. (1992). *Design methods*, 2nd edition, Chichester: John Wiliey and Sons
- Julier, G., (2012). 'British Design Consultancy and the Creative Economy'. In Beward, C., & Wood, G., (Ed). (2012). *British Design from 1948: Innovation in the Modern Age*. London, V&A Publishing. pp. 311-323.
- Junginger, S. (2013). Design and innovation in the public sector: Matters of design in policy-making and policy implementation. *Annual Review of Policy Design*, 1(1), 1-11.
- Lawson, B. (2006). *How designers think: The design process demystified*. Oxford: Architectural.
- Merriam-Webster Inc. (2004). Merriam-Webster's collegiate dictionary. Merriam-Webster.*
- The Oxford English Dictionary* (1989). Vol. 2. Oxford: Clarendon Press.
- Pilditch, J. G. C. (1961). *The Silent Salesman. How to Develop Packaging that Sells.[With Plates.]*. Business Publications.
- Pilditch, J. (1976). *Talk about design*. Random House Business.

- Pilditch, J. (1990). *I'll be Over in the Morning: A Practical Guide to Winning Business in Other Countries*. Mercury Books.
- RIBA (1967). Plan of work. London: Royal Institute of British Architects.
- Sugg-Ryan, D., (2012). 'Workshop of the World? Manufacturing the British Product'. In Breward, C., & Wood, G., (Ed). (2012). *British Design from 1948: Innovation in the Modern Age*. London, V&A Publishing. pp. 265-283.
- Woodham, J., (1983). *The Industrial Designer and the Public*. London, Pembridge Press.
- Woodham, J., (2006). *Oxford Dictionary of Modern Design*. Oxford, Oxford University Press.

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