Is Everyday Technology Serious or Fun?

Reflections on Emotional Styles in Product Design

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Product design renders technology accessible and usable in everyday life contexts. The radio set is a characteristic example: a range of design strategies have contributed to the assimilation of radio into people's lifestyles. Such strategies correspond to distinct emotional styles in the interaction between users and technical products. In this essay, I explore the role of different emotional styles in the popularization of the radio. I discuss in particular the playful design approach that emphasizes fun, as opposed to the design approach suggesting scientific progress. Although neglected by design historiography, play-oriented radio design foregrounds the significance of play as a key factor in appropriating technological innovations.

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INTRODUCTION

Twentieth-century designers have employed a variety of strategies to deal with technological consumer products that turn technical elements or components into usable objects for daily life. It may be argued that such design strategies correspond to different emotional styles of interaction between users and technical products. These emotional styles define a framework in which product use takes place, thus they evidently influence users' relationship to technology.

This essay discusses specifically the design of the radio set, a highly popular consumer product, which provides fascinating material for the study of the interaction between technology and design in everyday life. Different design approaches and their role in radio usage as well as the popularization of technology are discussed, with special emphasis on play-oriented design. The essay is meant to have an exploratory character and may serve as a springboard for further study of the correlation and interdependence between product design, technology and of play-oriented design in particular.

The first section of the essay sets the background of the study, by presenting a formal typology of radio designs. The second section focuses on one of the types described, a type demonstrating a fun attitude towards the radio, and discusses its characteristics. The third section comments on the silence of design historiography on playful design and relates this silence to dominant modernist beliefs on technology, science and progress. The fourth section explores the significance of fun and play as a factor in designing technical products for everyday use. The conclusion highlights the implications of play-oriented design for the reception of new technology by the wider public and suggests directions for further research.

TYPOLOGY OF RADIO SETS: CONTINUITY AND RUPTURE IN DESIGN

The human mind craves order and the idea of classification is fundamental to the study of the living world. Taxonomy, the process of categorization based on types, is central to modern science. In biology, taxonomy generates – or at least attempts to generate – comprehensible order to the dizzying multiplicity of living creatures.[1] It reveals existing patterns and makes understanding a possibility. A similar desire to reveal underlying patterns and generate informed understanding has underpinned my earlier research into the design of radio sets, which resulted in the development of a morphological typology of radio forms, consisting of five formal categories in which all radio sets may be classified.[2] More specifically, the five types are:

- *Early Domestic*. This type corresponds to the early period of radio development, in the first decades of the twentieth century, when amateur enthusiasts dominated the new medium. Sets classified in this type consist of an assembly of technical components such as coils and valves.[3] (Figure 1)
- *Classic Domestic*. The radio as a piece of furniture prevailed in the late twenties and throughout the thirties, reflecting the attempt to domesticate the product by following familiar household object typologies. (Figure 2)
- *Modern Domestic*. Plastic was introduced as a radio cabinet material in the mid-thirties and dominated the market after the Second World War until the emergence of transistors. It did so without causing a major break with the formal choices of the previous type. (Figure 3)
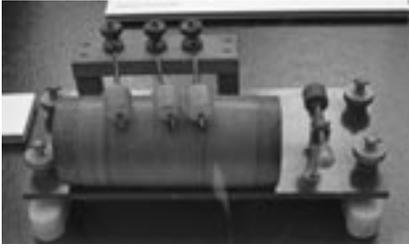
Figure 1. Radio receiver of the Early Domestic type, a crude assembly of components. Manufactured in Greece, 1948. From the collection of G. Panagiotides, presented in the Exhibition on Greek Broadcasting History, Athens, December 2008–January 2009. Photo by author.

Figure 2. Wooden radio of the Classic Domestic type, following furniture standards. Manufactured by Radiomarelli, Italy, 1930s (private collection, Athens). Photo by author.

Figure 3. Radio of the Modern Domestic type, manufactured by Philips, 1960s (private collection, Athens). Photo by author.

- *Modern Portable.* Since the mid-fifties, the emergence of transistors changed the nature of the radio from a static, domestic object to a portable, personal one. Established interface conventions were retained. (Figure 4)
- *Outsider.*[4] Formal inspiration for the Outsider was drawn from a vast range of sources, especially related to nature and popular culture. This typology appears throughout the history of radio. (Figure 5)

As the Early Domestic radio type shows, the very first attempts to give form to this new product exhibited insecurity and treated the object as a

Figure 4. Radio of the Modern Portable type, manufactured by Silver, 1980s (private collection, Athens). Photo by author.

Figure 5. Radio of the Outsider type imitating a cat's head, made in China, early 21st century (private collection, Athens). Photo by author.

scientific instrument that did not require concealment of technical parts or add-on beautification. The three subsequent types (Classic Domestic, Modern Domestic and Modern Portable) dominated radio production and, in a sense, exemplified the increasing diffusion of the radio and the growing familiarity of the wider public with this product. The morphological continuity of these types emphasized their interconnectedness: the study of detailed formal characteristics of radios belonging to these three types has identified a standardized interface pattern, consisting of a dial and two knobs, the right knob used for tuning while the left one for volume control (Figure 6). This abstract visual representation of a dial and two knobs became an icon of the radio as product and function; simplified versions of it may be seen in stylized radio images

Figure 6. The standardized interface clearly exemplified by two wooden radio sets. Exhibition on Greek Broadcasting History, Athens, December 2008–January 2009. Photo by author.

(Figure 7). Diversification applied to the radio cabinet through different styles did not change the basic perception of the interface conventions just described, and even heavily decorated objects easily could be identified as radios.[5] The radio interface pattern was diffused into other categories of technical consumer products, thus establishing morphological models for a wide range of consumer and professional goods.[6] Through such formal models, the radio set influenced everyday-life

Figure 7. A representation of the standardized radio interface, Greek cartoon, 1950s.

Figure 8. Small, portable radio receiver in the form of an airplane. Sold on KLM flights, early 21st century. Photo by author.

perceptions of usability, patterns of technology usage and standards of human-machine interaction. Assessing the contribution of the radio set for the popularization of technology, Anthony Dunne has observed that 'perhaps the radio is the electronic equivalent of the chair.'[7]

The fifth type (Outsider) breaks away from the morphological limitations of the aforementioned types by including radio sets in the form of cartoon figures, Coca-Cola bottles, airplanes, bugs, or other unexpected shapes (Figure 8). This type represents a significant formal rupture from the standardized radio.

THE OUTSIDER TYPE: PLAYFUL RADIOS

Evidence suggests that radios of the Outsider type entered the market at the beginning of the twentieth century and extended into the twenty-first, having proved highly popular. The Outsider type is the only formal type that spans all radio technologies, from crystal sets through valves to transistors. Early examples of this type in crystal-set technology include the postcard set of 1922 (both British and German production), which contained a slider-tuned coil sandwiched between cards and appeared with a variety of picture fronts, as well as the British Felix crystal set of 1923, which represented a popular animated cartoon movie that was tuned by moving the leg.[8] Valve radios were less conducive to a similar design treatment, because of the substantial volume of valves; however, several examples do exist, such as the 1934 five-valve radio from the United States in the form of a globe.[9] The emergence of the transistor and the miniaturization potential that it brought along gave a special boost to Outsider type designs; there is a whole range of radios in the form of bugs, sunglasses, soda bottles, etc.[10] Characteristically, British author Ian McEwan writes in his 2006 novel *Saturday* about 'the plastic radio in the form of a leaping blue dolphin, attached by suckers to the mosaic wall in the shower'.[11]

Because of their unusual forms, these radios may not be easily identified as such or may be tricky to operate, but they are certainly meant to be fun to look at, own, use and carry around. The continuing popularity of such toy-like radios, even though the control buttons are minimal, camouflaged or both, suggests a different conception of user-friendliness. The extra difficulty in using them is compensated by an element of surprise and playfulness.

Radio sets belonging to the Outsider typology manifest a highly emotional treatment of a technological consumer product, where user fun becomes a crucial element.[12] User enjoyment is the key idea behind the creation of these objects as well as the main attraction for consumers. I would argue that these radios express an emotional style that is clearly differentiated from that of radios belonging to the other four types, which emphasize practicality and efficiency. Significantly, the Outsider type approach is not limited to radios but extends to other technical goods, such as telephones (Figure 9).

While the names of the designers of various less 'playful' radios are preserved in the design literature, a fact which emphasizes the authority of the designer and assigns certain radio sets the status of design icons, Outsider type radios reside

Figure 9. Shop window with telephones following the Outsider type logic, London, 2008. Photo by author.

primarily in the grey area of anonymous design; they are often treated as toys or gadgets rather than 'proper' technical consumer products.[13] In European countries, Outsider type radios are marketed primarily in shops selling gadgets and assorted gifts, whereas more 'technical-looking' radios are sold

Figures 10–11. Comic strips showing small, yellow plastic radios in the form of ducks. The radios are represented as being fun and cheap products sold through informal as well as illegal networks. MIKY (Mickey Mouse, Greek edition), issue 2141 (2007), pages 6 and 8, © DISNEY, by courtesy of Christos Terzopoulos and Nea Aktina S.A. Publications (Greece).

alongside other electrical and electronic goods. The toy-like features of the former position them in the realm of popular culture rather than the high-brow world of 'good design' (Figures 10–11).

Admittedly, elements of fun and humour occasionally infiltrate the design mentality and experimentations of big electronics companies, as the example of a Philips radio concept in the form of a stylized Beethoven head indi-cates.[14] However, this is not a typical product by a major electronics cor-poration catering for the consumer market. The dichotomy between 'serious' and 'fun' radios may also be illustrated by museum displays presenting the history of radio exclusively through non toy-like radio sets (Figure 12).[15]

Figure 12. Display related to the history of radio technology, National Museum of Science and Technology, Denmark, 2007. Photo by author.

This distinction be-tween 'high' and 'low' design is challenged by Victor Margolin and his idiosyncratic Museum of Corn-temporary Art, which, as Hannah Higgins points out, embraces the 'joyful, fantastical, unpredictable and living world of play'.[16] Nevertheless, as the next section will show, standard works of design historiography underpin and perpetuate the discrimination between 'high' and 'low' design.

DESIGN HISTORIOGRAPHY: MARGINALISING PLAYFUL RADIOS

Outsider type radios are covered extensively and often glorified in publica-tions aimed primarily at collectors, antique enthusiasts or the wider public.[17] Such bibliographic sources place great emphasis on Outsider type designs, which are often described as 'novelty'.[18] It is however intriguing that Outsider type radios are ignored by many historical accounts of radio design development.

One characteristic example is provided in *Objects of Desire*, Adrian Forty's classic study of design and society from 1750 to 1980, in which he dedicates to 'Wireless Sets' a good part of his chapter on 'Electricity – the Fuel of the Future'[19] and claims that the appearance of wireless sets went through three distinct stages. In the first stage, the sets tended to be rude assemblies of

diodes, capacitors and resistors, a fact that reflected the almost total pre-occupation of both manufacturers and public with the technical properties of the apparatus. This stage corresponds to the aforementioned Early Domestic radio type. The second stage, which according to Forty resulted from the slowing down of technological advance, led manufacturers to compete with each other in terms other than technical innovation. Consequently, they employed the furniture approach to radio cabinet design, which facilitated the assimilation of the unfamiliar medium into people's homes. This stage corresponds to the aforementioned Classic Domestic type. The third stage, according to Forty, employed imagery of technological futurism, such as streamlined forms suggesting speed, and fulfilled the popular idea of radio as a symbol of future progress. This stage corresponds to the Modern Domestic and Modern Portable types. Forty claims:

> The wireless set … provided most people's first experience of owning a piece of modern technology and thus carried great weight as a symbol of scientific progress, putting them in touch with changes that they were told that technology would bring in all areas of life. Because of its great potency as a symbol of what life in the twentieth century would offer, radio became one of the most popular metaphors for the changes that technology would bring about in everyday life. It is hardly possible for us today to appreciate the impact of radio, because we have become so used to technical innovation and the claims made for it.[20]

In this sense, the radios of the Modern Domestic and Modern Portable types, by representing contemporary ideas of modernity, enabled users to express an emotional style quite different from the playfulness of the Outsider type, namely an emotional style founded on conceptions of advanced technology, progress and social status.

Forty also notes that, although '[the radio's] technical development slowed down around 1930, radio continued for the following decade to be the most universal and available symbol of social change based upon technical progress. People still expected radios to move with the times and character-ize the future.'[21] Similarly Jeffrey Meikle acknowledges the emergence of 'a new machine style … recognized by a sensitized public as "modern". … The public indeed desired novelty, but a coherent machine style provided, as well as a sense of security amidst rapid change, a feeling that everything was under control … the public yielded to this vision of harmony and control.'[22]

The widespread indulgence of fantasy, play and technology is described by George Basalla as primarily Western and can be attributed to certain values that gained ascendancy during the Renaissance, namely secularism, the idea of progress and the domination of nature.[23] Radios designed as modern machines symbolizing efficiency and progress may be examined in the light

of 'a designer's belief that the public desired visual confirmation of techno-
logical progress.'[24] Meikle noted that

> increasingly, in the late twenties American designers found harmony in
> the image of the machine with its attributes of speed, efficiency, precision
> and reliability. And as for a moral dimension to design, publicists and
> apologists repeatedly stressed the social benefits of progress, the social
> harmonies possible through intelligent direction of the machine, and the
> fitness of an environment made over in its image. The resulting machine
> aesthetic provided a satisfying rationale for industrial designers … [and]
> an abstract vision of a machine-age world transformed into a place of
> efficient, harmonious living.[25]

In a similar vein, Meikle claims that Le Corbusier's work expresses such
this desire for stasis, for attaining perfect social equilibrium through design,
where society is conceived as a machine for which the designer could provide
'a feeling of calm, order and neatness'. Le Corbusier desired a progression
from the organic to the inorganic, from the natural to the artificial, from the
random uncertainties of life to the reliability of the perfect machine.[26] The
emotions implied were abstracted, controlled, even calculated; they were
expected to elicit user satisfaction through ease of use and good function.
Modernist ambitions of social transformation promoted the idea of libera-
tion through efficiency, an idea still present in the rhetoric of usability.[27]

When the transistor radio appeared, miniaturization of technical com-
ponents became much easier, so designers were offered more freedom, as they
realized that tiny electronic components allowed them to deviate from the
box-like appearance of radios and experiment with a much wider selection of
housings. Yet, although transistor radios stood for the de-domestication and
mobilization of the set as a symbol of youth culture, mainstream radio pro-
duction by big firms did not break radically away from the iconography of
form table-top radios; instead, radio sets simply became smaller. Adrian
Forty suggests that manufacturers 'persisted in making radio sets look as if
they were breaking the frontiers of science. … This self-conscious futurist
symbolism has continued despite the fact that radios are no longer the only
pieces of electronic technology in popular possession.'[28]

In her own discussion of the radio, the historian Penny Sparke emphasizes
the transition from the radio-as-furniture, which expresses a connection to
the past, to the radio as 'a modern machine', which symbolizes the future.[29]
David Attwood follows a similar analysis, with only a passing reference to
'witty – anything goes objects', but his visual material does not support any
discussion of Outsider type, toy-like radios.[30] In a chapter of his book
Industrial Design entitled 'Play, learning, work and leisure', John Heskett
discusses play in connection with children and the history of toys, without,

however, making any connection to adult products with toy-like qualities. His reference to the radio as a leisure product in the same chapter focuses on the radio-as-furniture concept, as well as to the reduction in scale and portability brought by transistors; toy-like radios are not mentioned at all. [31]

Finally, although Forty does not mention toy-like radios as a separate category, he acknowledges the production of radios in the form of light, hand luggage following the popularization of transistors.[32] Rather ordinary-looking radio sets were turned into bag-like fashion accessories, covered by imitation crocodile leather or fur, thus epitomising fashion-consciousness and pleasure rather than technical efficiency. This is an indication that perhaps the importance of scientific and futuristic symbolism has been overplayed. For example, the first radio of many children belonged to the Outsider type ('novelty' sets). It appears unlikely that children or users of trendy, handbag models were particularly preoccupied with scientific imagery and with futuristic or utopian visions.[33] The popularity of radio designs expressing technological visions and ideals is of course indisputable; but at the same time the persistence of the Outsider typology throughout the twentieth century and into the twenty-first should be taken seriously into account. The next section further explores the role of the play element in design.

DESIGN AND TECHNOLOGY: PLAY AS A KEY FACTOR

Toy-like products in general express playfulness, relaxation, and irony; they evoke a spontaneous and straightforward sense of fun. Although they are primarily intended for adults, they encourage playful attitudes otherwise restricted to the realm of childhood. These objects challenge the over-determinacy of more conventional radios in an amusing and often provocative manner; they encourage unintended or unexpected uses, for example as toys or personal accessories rather than as radio receivers. This doesn't mean that radios with less playful designs could not be used (or have not been used) in unpredictable ways or for purposes unintended by the designers; it means that they were less *conducive* to such uses, because of the highly formalized, restrictive interfaces built into their design in the name of usability and efficiency. However, Outsider type radios allow for more individuality and for a wider range of personal experiences; they thus lead to increased complexity.

It may be argued that Outsider type designs are akin to the idea of a gadget, which has a toy-like quality. They are unconventional and challenge standard ideas of function and use. What appears at first sight as user-unfriendliness might not be necessarily negative but might be 'a form of gentle provocation', subverting the idea of user-friendliness itself and

providing an alternative model of interactivity.[34] Thus Outsider type designs allow users to explore different conceptions of aesthetics, function and meaning in technical products for everyday use. Thus, such radios exemplify approaching technology through pleasure and joy, and encourage a playful interaction with technology. Outsider type radios are objects for which the notions of a special past or a better future are irrelevant; such radios are primarily, if not exclusively, about the present. They provide instant gratification by being funny, even bizarre, as well as unpredictable. Technical quality is not so important, whereas higher value is placed upon portability, casual use and fun.

More generally, the area of fun and play holds a central position in culture. The classic work by Johan Huizinga showed the fundamental role of play and playing in human culture. According to him, civilization stems from our inherent tendency towards play; all human activities, including philosophy, poetry and art, may be viewed as manifestations or transformations of our immanent play drive. Through play, each society expresses its interpretation of life and of the world. Huizinga made explicit the connection of play with technologies, including military ones.[35] He also argued that 'the meaning of play is a higher concept than seriousness. Because seriousness seeks to exclude play, while play could very well include seriousness.'[36] In a similar vein, in his seminal essay on intrinsic motivation and human-centred design, Klaus Krippendorff discusses the paradigm shift from object-centred to human-centred research and design, making room for models of human-machine interactions that are derived from the human use of language, conversation and play. He is critical of the fact that leisure, fun and community have come to be seen as either wasteful or dangerously interfering with the rational attainment of technological objectives.[37] As a conference call has suggested,

> the infantilization of play, that is, the historical association of playing with children and non-serious activities, has led to the systematic exclusion of play and fun from 'serious' creative, scientific and technological investigations. While the ludic (i.e., play-related) dimensions of artistic creativity have been variously explored recently in both art works and in scholarly research, the interactions between technological developments and the pleasures described as 'fun', are few and far between.[38]

It is therefore a positive development that the relationship between play and the technologies employed in modern consumer culture is a dynamically emerging and highly promising research area.[39]

Following Brian McVeigh, I would further highlight Outsider type radios as possible manifestations of 'resistance consumption', defined as 'acts of

consumption that counter the dominant, official world view'. He clarifies the concept by stating:

> By 'resistance consumption' I do not mean a conscious, organized and systematic insurrection against the statist and capitalist order. Resistance consumption does not forcibly question, it raises some doubts; it does not directly challenge, it playfully provokes; it does not deride, it humorously mocks; it does not threaten, it ignores; it does not attempt an overthrow, it briefly displaces; it is not insurgent, it is carnivalesque; it does not subvert, it diverts attention (if only temporarily) from the dominant structures; it does not attempt to stage a political revolution, it encourages participation in hedonistic agitation.[40]

Outsider radio designs may also be discussed in relation to McVeigh's juxtaposition of the aesthetics and ethics of official ideology (based on capitalist production), against those of anti-official ideology (representing popular consumption). The first emphasizes production, labour, work and reality, whereas the second stresses consumption, leisure, play and fantasy.[41] This is an area worth further investigation.

Dunne examines more generally the role of various contemporary experimental products, which prompt users to question 'the crude interpretations and explanations offered through the well-mannered and facile metaphors of mainstream design' and challenge the way we experience reality.[42] He notes that: 'Although transparency might improve efficiency and performance, it limits the potential richness of our engagement with the emerging electronic environment and encourages unthinking assimilation of the ideologies embedded in electronic objects.' Instead, the distance between ourselves and the environment of electronic objects might be 'poeticized' to encourage sceptical sensitivity to the values and ideas this environment embodies.[43] In this vein, Dunne proposes the concept of 'parafunctionality', a form of functional estrangement that does, however, encourage an emotional as well as more critical treatment of objects. He explores various experimental objects that express parafunctionality and discusses their subversion of the functionalist style and the enriched interactivity that they provide. This is the realm of the gadget, the opposite of the well-designed object, a curious, original and witty accessory of seemingly dubious purpose but possessing increased emotional potential.[44] Various conceptual objects that Dunne presents and analyses 'promote interaction with "designed" objects that subvert their anticipated uses. In doing so, they challenge the mechanisms that legitimize the conceptual models embodied in the design of the product or system'.[45] Designer Giulio Ceppi also remarks that 'probably the gadget has never been considered, by official design culture, as a result of a design effort, an industrial product capable of revealing interesting technical features or of

influencing peoples' behaviour' and that 'the most important phenomenon
caused by gadget is, however, a psycho-behavioural factor: wonder … The
fact that wonder and surprise are two variables that rarely enter into the
design of industrial objects has induced the development of a clandestine
niche in which such forbidden emotions can be found.[46]

   Although the views expressed by Dunne and Ceppi appear attractive
and thought-provoking, one might be cautious to apply them to the case of
toy-like radios, as the latter do not constitute conceptual or experimental
products but highly popular products in commercial contexts. It would be
an exaggeration to claim (as Ceppi does) that 'wonder and surprise are two
variables that rarely enter into the design of industrial objects', given the
examples of exuberant design celebrating modern technology at World Fairs,
the witty objects of Charles and Ray Eames, the Memphis movement or
Alessi products. [47] Instead, toy-like radios may be considered as examples

of product differentiation, a well-
established strategy within modern
commercial practice. Thus, toy-like
radios may be examined in the con-
text of an inclusive design-historical
scholarship, in which designing tech-
nology as fun may be treated as an
alternative mode of domestication or
appropriation of novel technology
based on wonder and surprise and
also humour and sensory pleasure.
This has been emphasized by Meikle

Figures 13–15. The Panasonic Toot-a-Loop radio (1972) is also known as 'bangle radio', because it was
meant to be worn round the wrist, in addition to being table-top. This model, promoting an unconventional
use of the radio as a portable accessory, is now considered collectable. See http://www.panasonic.eu/design-
museum/ (accessed 24 August 2012).

in his discussion of appropriating modernity; in this process, the role of toys and novelties has been decisive in domesticating frightening aspects of modernity, neutralizing their potential for arousing anxiety and thus rendering them less threatening to the consumer.[48] Outsider radios therefore represent a highly successful design strategy of appropriating technological innovation. (Figures 13–15)

CONCLUSION

Designing a product is very much about the emotions involved in its usage. Different design approaches to technical consumer products represent distinct emotional styles in interacting with technology. The design of such products reflects a society's concerns, priorities, desires, and fears, and generates insights about the role and meaning of technology within everyday life and culture. The case of the radio set presented in this essay is an illuminating example of the relationship between design and technology throughout the twentieth century and into the twenty-first.

By discussing radio design, I have attempted to unravel the ways in which emotions are embedded in the use of technology in everyday life. This essay has particularly focused on radio designs based on fun; such examples suggest that designs inspired by and based on play have contributed to the assimilation of technology in everyday-life contexts. Historically, toy-like radios have presented users with the possibility of using everyday technology in a playful manner, thus creating a novel emotional style of interaction with technical products and expanding their role beyond usability and efficiency.

Despite the marginalization of the playful design approach by design historiography, this approach has exhibited remarkable endurance and has remained valid regardless of technical developments over the decades. The present study suggests that a playful approach to technical objects for everyday use may be essential in facilitating the popularization of technological concepts, in supporting the appropriation of technological innovations, and generally in making technology more accessible and user-friendly.

Play-oriented design of technical products is not limited to radios but extends to other product categories such as telephones, clocks, computers, and various home appliances. The discussion of emotions related to the design of technical products could also expand into professional and specialist technical products, used beyond the household. Additional case studies would further elucidate the topic of playful design for technical products as well as more generally the role of emotions in the appropriation of technology; these issues deserve more attention by researchers and designers alike.

NOTES

1   David Quammen, *The Kiwi's Egg – Charles Darwin and Natural Selection* (London: 2007), 97.

2   Artemis Yagou, 'Shaping Technology for Everyday Use: The Case of Radio Set Design', *The Design Journal*, 5: 1 (March 2002): 2–13. The formal types identified are not strictly defined or mutually exclusive; their limits are often vague and in many cases there is overlap between them.

3   In the U.S. context, valves are usually referred to as "tubes".

4   In my previous work, I used the term 'Independent' here; however, I believe 'Outsider' is a more appropriate term, which I gratefully borrow from Victor Margolin, 'Culture is Everywhere: An Introduction to the Museum of Corn-temporary Art', in Victor Margolin and Patty Carroll, eds., *Culture is Everywhere: The Museum of Corn-temporary Art* (Munich: 2002), 9.

5   It has been observed that, by virtue of design, the passage of radio from a tinkerer or hobbyist medium – requiring technical skills and a special tacit knowledge – to a mass medium for the unskilled was a process where the visual overpowered the aural. This is illustrated in particular by the introduction and elaboration of the station scale, which embodied the visualization of the sound experience, downgraded the hearing experience and consolidated the supremacy of the visual sense. Andreas Fickers, 'Visibly Audible: On the Symbolic Representation and Imagined Construction of the European Broadcast Space in the 1930s', paper presented at Design and Evolution: Design History Society Annual Conference, Delft, 31 August–2 September 2006.

6   Yagou, 'Shaping Technology'. Further research would be necessary to establish how this interface standard first came into being and was gradually diffused beyond radio, as well as whether/in what ways it was driven by technology.

7   Anthony Dunne, *Hertzian Tales – Electronic Products, Aesthetic Experience and Critical Design* (Cambridge, MA, 2008), 40.

8   Robert Hawes, *Radio Art* (London, 1991), 67 and 58 respectively.

9   Ibid., 88.

10 Roger Handy, Maureen Erbe, Aileen Antonier and Henry Blackham, *Made in Japan – Transistor Radios of the 1950s and 1960s* (San Francisco, 1993).

11 Ian McEwan, *Saturday* (London, 2006), 55.

12 In this sense, the Outsider type is more akin to the first type, the Early Domestic type of exposed valves and components, a scientific instrument that also serves as a 'plaything' and a source of great enjoyment for radio amateurs and hobbyists.

13 See: Adrian Forty, *Objects of Desire – Design and Society 1750–1980* (London, 1986); Penny Sparke, *An Introduction to Design & Culture in the Twentieth Century* (London, 1986); as well as Charlotte and Peter Fiell, *Design of the 20th Century* (Cologne, 2001), 49, 169 and 185.

14 David Raizman, *History of Modern Design* (London, 2003), 365–366.

15 A similar approach to the Copenhagen Museum display shown here is encountered at the Deutsches Museum, Munich.

16 Hannah Higgins, 'Curiouser and Curiouser: Looking through the Museum of Corn-temporary Art', in Margolin and Carroll (n. 4 above), 111.

17 Relevant sources: Hawes, *Radio Art* (n. 8 above); Handy, et. al., *Made in Japan* (n. 10 above); Philip Collins, *Radios – The Golden Age* (San Francisco, 1987); Philip Collins, *Radios Redux – Listening in Style* (San Francisco, 1991).

18 Handy, et.al., *Made in Japan* (n. 10 above), 68.

19 Forty, *Objects of Desire* (n. 13 above).

20 Ibid., 200.

21 Ibid., 204.

22 Jeffrey L. Meikle, *Twentieth Century Limited – Industrial Design in America, 1925–1939* (Philadelphia, 2001), 39.

23 George Basalla, *The Evolution of Technology* (Cambridge, UK, 1988), 77.

24 Meikle, *Twentieth Century*, 38.

25 Ibid., 27 and 95.

26 Ibid., 29.

27 Johan Redström, 'Towards User Design? On the Shift from Object to User as the Subject of Design', *Design Studies*, 27 (2006): 125. The idea that designs can be optimized on the basis of knowledge about users has been further developed and extended today to include the notion of fit not only in terms of utility or usability, but also with regards to interpretation, understanding and experience, thus leading to unambiguous communication or user experiences. Here lies the risk of a situation where the use of designs is over-determined and excessively pre-defined, thus leaving no room for unrestrained action and improvization. (Ibid., 129.) The contemporary emphasis on 'designing the user experience' may limit the range of acceptable emotions and lead to restrictive, predetermined modes of use. As Redström points out, 'this is not to say that we cannot use notions of use and users in design, but that we perhaps should take more care how to do so' (Ibid., 136). For related views, see also Ben Matthews, Marcelle Stienstra and Tom Djajadiningrat, 'Emergent Interaction: Creating Spaces for Play', *Design Issues*, 24: 3 (Summer 2008): 58–71.

28 Forty, *Objects of Desire* (n. 13 above), 205.

29 Sparke, *Design & Culture* (n. 13 above), 27–28.

30 David Attwood, *The Radio – An Appreciation* (London, 1997).

31 John Heskett, *Industrial Design* (London, 1987), 164–165.

32 Forty, *Objects of Desire* (n. 13 above), 205.

33 Handy, et.al., *Made in Japan* (n. 10 above), 71.

34 Dunne, *Hertzian Tales* (n. 7 above), 14, 32 and 38.

35 Johan Huizinga, *Man and Play (Homo Ludens)* (Athens, 1989), 73. Translated from the original English edition: *Homo Ludens – A Study of the Play Element in Culture* (London, 1949). Huizinga's ideas are further developed and expanded in Roger Caillois, *Les Jeux et les Hommes* (Paris, 1958), as well as in Maaike Lauwaert, Joseph Wachelder and Johan van de Walle, 'Frustrating Desire – On Repens and Repositio, or the Attractions and Distractions of Digital Games', *Theory, Culture and Society*, 24: 1 (2007): 89–108.

36 Huizinga, *Man and Play*, 73.

37 Klaus Krippendorff, 'Intrinsic Motivation and Human Centered-Design', *Theoretical Issues in Ergonomics Science*, 5: 1 (2004): 43–72.

38 In the same conference call it is observed that the history of technological development has more instances of people enjoying technologies than of those willing to acknowledge or systematically deliberate on such pleasures. The phenomenal development of the game and entertainment industries, primarily driven by various technologies that engender the expanded exploration of embodied pleasures, has highlighted the potential of technologically-driven experiences of fun. Conference call for ISEA 2008, International Symposium on Electronic Arts, 25 July–3 August 2008, Singapore, http://www.isea2008singapore.org/themes/ludic_interfaces.html (accessed 24 August 2012).

39 See, for example, Stefan Poser, 'Nothing More than Play? Playing with Technology as Subject of the Cultural History of Technology' and Joseph Wachelder, 'Toys as Mediators': papers presented in the 34th Annual ICOHTEC Meeting, Copenhagen, 14–18 August 2007, as well as numerous papers presented in the 39th Annual ICOHTEC Meeting, Barcelona, 10–14 July 2012. Poser also presents a useful outline of research and scholarship related to play in his article 'Playing with Technology', ICOHTEC Newsletter 49 [Newsletter of the International Committee for the History of Technology], April 2009, 2–10.

40 Brian McVeigh, *Wearing Ideology: State, Schooling and Self-Presentation in Japan* (Oxford, 2000), 157–8.

41 Ibid., 162.; see Table 6.1.

42 Dunne, *Hertzian Tales* (n. 7 above), 42.

43 Ibid., 43. This might be related to the following quote by distinguished Japanese designer Kenji Ekuan, who assesses the possible advantages of multifunctional, complex objects, as opposed to monofunctional objects which may be used easily and without ambiguity: 'The Western tool is made for a specific purpose, and anyone who uses the proper tool will presumably achieve the same results. The traditional Japanese multi-purpose tool demands, by its sheer versatility, greater creativity and aptitude on the part of the user. One might say that the Western tool is like hardware and the Japanese like software. The one is a mechanical implement that serves a particular purpose but no more than that one purpose, while the other makes greater demands for its user but is capable of an infinite extension of its possible functions according to the powers of the human imagination.' Quoted in Matthias Dietz and Michael Mönninger, *Japanese Design* (Cologne, 1994), 13.

44 Dunne, *Hertzian Tales* (n. 7 above), 46–48.

45 Ibid., 61.

46 Giulio Ceppi, 'Playing with Technology', *Modo*, no. 136 (1991), quoted in Dunne, *Hertzian Tales*, 47–48.

47 The Memphis design group, founded in Milan, Italy, in 1981, became an influential force in design through its unconventional approach and its close ties with popular culture. See Peter Dormer, *Design since 1945* (London, 1993), 27–28; Guy Julier, *The Thames and Hudson Encyclopedia of 20th Century Design and Designers* (London, 1993), 127–128. Also, the series of playful kettles, corkscrews, cruet sets and other domestic equipment produced by the Italian manufacturer Alessi have proven very popular internationally. It should be noted, however, that these are products that do not carry a significant technological component; they are simple hand-tools and therefore only indirectly related to the connection between design and technology. It is also worth pointing out that such products have been condemned as being 'useless, expensive and exclusive', their play value being considered only a marketing trick. See John Heskett, *Design – A Very Short Introduction* (Oxford, 2005), 40.

48 Jeffrey L. Meikle, 'Domesticating Modernity: Ambivalence and Appropriation, 1920–40', in Wendy Kaplan, ed., *Designing Modernity: The Arts of Reform and Persuasion, 1885–1945 – Selections from the Wolfsonian* (New York, 1995), 143–167. Attitudes towards playful product design exhibit, however, national or regional variations, as suggested by Jan Michl, in 'Am I just seeing things – or is the modernist apartheid regime still in place?', where he discusses the continuing dominance of austere modernism in Northern Europe (http://janmichl.com/eng.seeingthings.html, (accessed 24 August 2012). I would formulate the hypothesis that 'novelty' or toy-like designs are not as widely or uniformly acceptable in Europe as in the United States or in the Far East. The plausibility of such a bias requires however further research.