Chapter 3
Utility and significance

Although design in all its manifestations profoundly influences life on many levels, it does so in diverse ways. Again, it is necessary to find some bedrock of basic explanation in order to create a sense of order from the apparent confusion. A useful tool to this end is a distinction between utility and significance, which is an attempt to clarify the enormous confusion in discussion of design surrounding the term 'function'.

In 1896, in an essay entitled 'Tall Office Building Artistically Considered', the American architect Louis Sullivan wrote: 'It is the pervading law of all things organic, and inorganic, of all things physical and metaphysical, of all things human and all things super-human, of all true manifestations of the head, of the heart, of the soul, that life is recognisable in its expression, that form ever follows function. This is the law.'

These ideas were heavily conditioned by Darwin's theory of evolution with its emphasis on the survival of the fittest. By the late nineteenth century, ideas that the forms of fish or birds had evolved in response to their elements and that animals and plants were closely adapted to their environment were commonplace. In that context, it could be argued, form must indeed follow function, to the extent that the stripes of a zebra or the brilliant plumage of a parrot have a distinct purpose in the immutable laws of survival. Similarly,

Sullivan's concept of function encompassed the use of decoration as an integral element in design.

Sullivan's concept became encapsulated in the dictum 'Form follows function', and became part of the vocabulary of design, although it underwent something of a transformation in the process. Function in design became widely interpreted in terms of practical utility, with the conclusion that how something is made and its intended use should inevitably be expressed in the form. This omitted the role of decoration and how patterns of meaning can be expressed through or attached to forms. In this respect, it is possible to speak of an alternative dictum: 'Form follows fiction'. In other words, in contrast to the world of nature, human life is frequently inspired and motivated by dreams and aspirations rather than just practicality.

As a consequence, the concept of function has been one of the most hotly disputed terms in design. In the early twentieth century, a broad body of ideas, generally grouped under the umbrella term 'functionalism', articulated design concepts that rejected the florid decoration so typical of the nineteenth century. This could mean several things. For some designers, such as Peter Behrens, who was active in Germany in the early years of the twentieth century, classical architecture and design were a source of inspiration. Stripped of decoration, these could yield forms that were clean and geometrical, qualities considered desirable in contrast to the heady repertoire of styles typical of the nineteenth century that had been adopted indiscriminately from every canon and culture of history. In like manner, traditional forms could similarly be simplified and refined, as in the work of W. R. Lethaby and Gordon Russell, contemporaries of Behrens, and heirs to the English Arts and Crafts tradition. Both tendencies could simultaneously claim to be contemporary while still retaining continuity through references to the past.

Another more radical tendency that totally rejected the past was

articulated after the First World War in Europe. It was primarily associated with such figures as Theo van Doesburg, a Dutch theorist and leading member of the De Stijl group, Walter Gropius, the head of the Bauhaus school in Germany, and Le Corbusier in France. They evolved a repertoire of abstract geometric forms that in theory claimed to be the most suitable for the processes of standardized industrial production. Mass-manufacturing techniques, however, were equally capable of turning out complex, decorated forms, and indeed, in production terms, decoration could be advantageous. In the manufacture of plastic casings for radios in the 1930s, for example, heavy presses were used that made it difficult to produce a simple box-like shape. The problem was that, in the pressing, 'flow-lines' could appear as a consequence of the intense pressure applied, which marred large, plain surfaces. It was, therefore, better to use some means of breaking up large planes, by, for example, introducing steps into surfaces, or treatments such as stippling or hatching. The claim for clean, geometric form was in fact more significant as an ideology of the role of design in industrial society, rather than reflecting any innate characteristics of production methods. Instead of geometric form being the most suitable in practical terms, it was instead a powerful metaphor of what form in a mechanized age should ideally be. In this it was only one of several concepts that emerged – similar claims could be made with equal validity for the concept of streamlining, with its organic tear-drop curves and speed lines.

In place of dogmatic assertions that limit consideration of what form is considered permissible, a more inclusive definition of function is needed, which can be opened up by breaking the concept of function into a twofold division: the key concepts of utility and significance.

Utility can be defined as the quality of appropriateness in use. This means it is concerned with how things work, of the degree to which designs serve practical purposes and provide affordances or capabilities (and the consequences when they do not). A simple

example is a professional kitchen knife used to prepare food: its primary utility value is as a cutting tool. In order for it to work effectively, the blade needs to possess material qualities enabling a sharp edge to be maintained and for it to remain stable in use. (A blade that is too thin will wobble when pressure is applied, which not only is inefficient but can be highly dangerous.) The processes of use also require that the knife handle fits comfortably in the hand, providing a good, firm grip. On this level, utility is concerned primarily with efficiency, derived from technological and material factors. However, in use, such efficiency can also be a source of great pleasure. When all the detailed aspects are well integrated, the best kitchen knives become an extension of the senses, with a satisfying sense of rightness, fitting into the hand almost inevitably and giving a fine degree of balance and control. In such terms, efficiency moves into a different level of response and meaning, and, indeed, it is sometimes very difficult to separate utility and significance precisely, since in practice they can be closely interwoven.

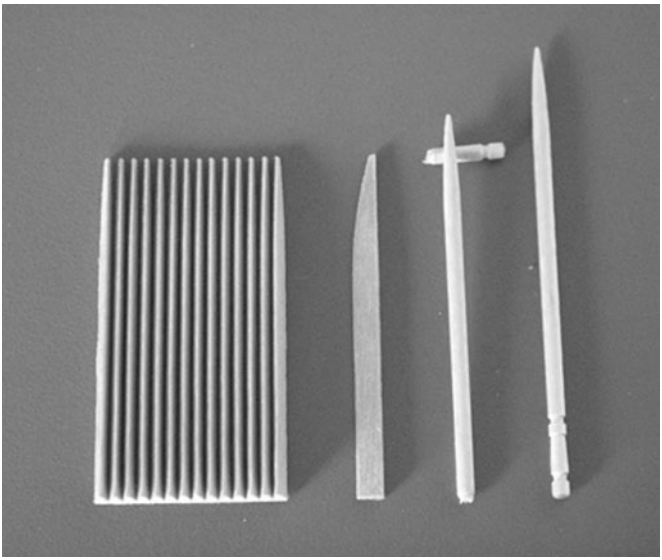
Significance, as a concept in design, explains how forms assume meaning in the ways they are used, or the roles and meaning assigned them, often becoming powerful symbols or icons in patterns of habit and ritual. In contrast to the emphasis on efficiency, significance has more to do with expression and meaning. Two simple examples of wooden toothpicks (and few forms are more basic) can illustrate the distinction between utility and significance, and also the ways in which they frequently overlap.

The first toothpick – or dental stick, as it is marketed – is produced by a Norwegian company, Jordan, a specialist in dental products. Under two inches long, it has a highly effective wedge form for the task of cleaning both teeth and gums, not only after a meal, but as part of an ongoing oral hygiene programme. This tiny object encapsulates a high degree of utility that is carefully designed in great detail for its intended task.

The second example is a traditional Japanese toothpick. Circular in

form and longer by half an inch than the Jordan example, it has only one end sharpened. The other is a bevelled cone, below which are turned incisions around the shaft. The pointed end is clearly concerned with the primary utility of the object, that of removing food caught between teeth, and at first sight the other end might appear to be purely decorative, its form having no readily discernible purpose. An explanation for this form, however, can be found in traditional patterns of dining in Japanese society. This became an expression of sensibility and refinement, with diners kneeling on tatami mats at lacquered tables. The vessels and artefacts used were frequently works of art in their own right, and none more so than the table, which could have exquisite patterns inlaid or painted on its lacquered surface. Laying chopsticks on such fine surfaces while eating was considered indelicate and so chopstick rests (another combination of utility and significance) evolved, enabling chopsticks to be laid down without the part that had been in the mouth coming into contact with the table surface. With the toothpicks, however, the solution was built in. The turned incisions of the toothpick enabled one end to be easily broken off, which could then serve as a rest for the pointed end after use. It demonstrates how even the smallest utilitarian objects are capable of simultaneously embodying values.

It is possible to find designs of many kinds defined solely in terms of utility or significance. Many examples of the former are products related to the performance of professional services, tools with highly specific purposes, such as a hand saw or a lathe, or medical equipment, such as an ultrasound machine. Where information has to perform a highly specific task, as in a railway timetable, the layout and type forms should be clean, simple, and directed wholly to imparting essential facts. A primary condition of utilitarian design is that it must effectively execute or support certain tasks. In contrast, a piece of jewellery, a porcelain figurine, or a frame for a family photograph has no such specific purpose – instead their purpose can be described in terms of contemplative pleasure or



7. Toothpicks

adornment. Whether their meaning stems from the social taste of a particular fashion or age, or an intensely personal evocation of relationship and meaning, their significance is intrinsic and not dependent upon any specific affordance.

In addition, between the poles where utility and significance can be clearly identified as the dominant characteristic, there are innumerable products that unite efficiency and expression in an astonishing range of combinations. A lighting fixture can be on one level a utilitarian means of illumination, but at the same time expressive in sculptural form of a highly individualistic, even idiosyncratic, nature. Tableware, cutlery, and glassware serve specific purposes while dining, but again can be manifested in a huge variety of forms, often with complex decorative patterns. Perhaps the classic example of our age is the automobile, which, besides having the very utilitarian task of carrying people and

8. The symbol of achievement: Rolls-Royce Park Ward 2000

luggage from place to place, has from its early years been an extension of ego and personal lifestyle. Rolls-Royce automobiles, for example, are not only superb examples of technical craftsmanship, but are a symbol of achievement in societies around the globe.

The significance of objects, the precise values imputed to them, however, will often vary considerably between different cultures. In the example of the Japanese toothpick given above, it is important to acknowledge the particular associations with sophisticated courtesy as an expression of Japanese culture. This raises important questions of how cultures evolve patterns of behaviour that become codified as rules or norms, with different cultures expressing values in their own specific way.

Meaning is not necessarily permanently fixed, however, since the significance of products can vary over time and space. A classic example was the Volkswagen Beetle, developed in 1930s Germany on the direct orders of Adolf Hitler, himself a motoring enthusiast. With production of the first prototypes in 1937, by the 'Strength through Joy' section of the German Labour Front, the official

workers' organization, it was promoted as an icon of the achievements of the Nazi Party. When production recommenced on a large scale after the Second World War, the VW was successfully exported to the United States in the 1950s and became a cult object. The design was virtually identical across this period of time, but the significance of the product underwent a remarkable transformation: from an icon of fascism in the 1930s – the 'Strength through Joy car' – to the loveable 'Bug' and hero of Walt Disney's Herbie films in 1960s America. The transformation went further with the redesigned Beetle that appeared in 1997, which also rapidly acquired cult status in the United States.

Basically, concepts of culture can be divided into two broad categories: first, the idea of culture as cultivation, resulting in the acquisition of ideas or faculties expressed in certain styles or behaviour believed to have particular value. A certain hierarchy is involved, in that a concert of classical music is considered more significant than a rock concert, or a piece of sculpture more than a work of industrial design. To some extent, design has begun to be drawn into this sphere, as evident by the number of art museums that have developed collections and held major exhibitions of design. Incorporating design into concepts of exclusivity, often under the term 'decorative art', however, has often more to do with museums' search for contemporary justification than with understanding the role of design in modern life.

The second major concept of culture, and the one underlying this book, is based on a more generalized view of culture as the shared values of a community. In this sense, culture is the distinctive way of life of social groups – the learned behaviour patterns expressed through such aspects, as values, communications, organizations, and artefacts. It encompasses the fabric of everyday life and how it is lived in all its aspects and allows consideration of a broader range of design and its role in people's lives. It has the virtue of including more elite definitions, but as part of a broader range of discussion.

The influence of cultural values, as manifested in interpretations and meanings of designed objects, is felt at many levels. In the past, and continuing to some extent, very different objects for broadly similar functions evolved around the world, resulting in great diversity. If one examines, for example, how food is prepared, in China it is still widely cooked in a wok, compared to a range of specialized pans used in European kitchens. The food prepared in the former is eaten with chopsticks, the latter with an array of often very specialized cutlery. In these and innumerable other ways, the specific forms are the expressions of particular cultural contexts, habits, and values that have evolved in their particularity over time.

Two main levels of difficulty occur in confronting the specific characteristics of time and place. The first arises from the need to conform to existing cultural patterns, to integrate or assimilate in ways that cause no disruption or offence. The second involves navigating unavoidable changes in such patterns, which becomes infinitely more complex.

Problems seem to be fewer and of lesser intensity if products are simple and utilitarian, which minimizes the possibility of cultural conflict. World markets for a vast array of luxury products, such as Hermes leather goods, that are inherently simple even though expensive can be treated in an undifferentiated manner.

The consequences of not acknowledging the power of cultural diversity can be surprising. In the early 1980s a Harvard marketing expert, Theodor Levitt, achieved considerable prominence with his ideas on globalization, among which he argued that differences were lessening and standard products across the globe were the marketing tools of the future. It was perhaps coincidence, but, at the same time, the management of the appliance manufacturer Electrolux became convinced that Europe should become a single market for refrigerator/freezer units, like the USA, where a few large manufacturers make a limited range of designs. A policy introduced in 1983 to push towards this end proved costly, however,

as the divergent cultures of Europe intransigently failed to follow the American pattern. In Northern Europe, for example, people shop weekly and need equal freezer and refrigerator space. Southern Europeans still tend to shop daily in small local markets and need smaller units. The British eat more frozen vegetables than elsewhere in the world and need 60 per cent freezer space. Some want the freezer on top, some on the bottom. Electrolux attempted to streamline operations but seven years later the company still produced 120 basic designs with 1,500 variants and had found it necessary to launch new refrigerators designed to appeal to specific market niches.

Packaging and visual imagery can also be a minefield. The former CEO of Coca-Cola, Roberto Goizueta, recounted that, when his company entered the Chinese market, it was discovered that the phonetic pronunciation of the company name translated as 'Bite the wax tadpole'. The problem was identified before major production began and the ideograms on packaging were sensibly adapted to mean 'Tasty and evoking happiness'.

In another example from East Asia, one of the stranger illustrations of the cultural perils of globalization was a leading brand of toothpaste, marketed for decades under the brand name of 'Darkie'. Its packaging had a cartoon-like illustration of a stereotyped, black-face minstrel with top hat, and teeth gleaming pearly white. In its market of origin nobody apparently found this troublesome, but Colgate-Palmolive's purchase of the Hong Kong manufacturer of this product in 1989 brought unexpected problems at home. A rumour rapidly spread in the USA that the company was selling a racist product and banner-carrying pickets appeared outside its New York headquarters. To appease American critics without destroying a well-known brand in Asia, Colgate-Palmolive sought to redefine the brand name as 'Darlie', with a visual redesign to match. The packaging image was modified to show an elegant man about town of indeterminate ethnic origin, but still in white tie and top hat and with gleaming teeth.

Globalization, however, should not be considered only in terms of problems of adaptation or conformity. Theodor Levitt was indeed partly right in pointing out ways in which trends in technology and communications were linking the globe together and in some respects radically altering notions of culture. The influence of globalization means that culture does not necessarily remain dependent on a specific environment, with everyone adhering to the same broad, homogeneous set of values and beliefs. It raises the possibility of having a culture different from those around us. Cultural multiplicity rather than homogeneity and an emphasis on cultural creation rather than cultural inheritance would appear on many levels to be patterns for the future. Any such transition, however, will not be simple or easy.

The role of design substantially contributes to such developments by creating change in values across national or ethnic boundaries. This can be on the level of products, such as motor cycles and television sets, but probably more powerfully from the constant imagery associated with global television broadcasts and advertising, as with CNN, the configuration of an online interactive site, such as Amazon.com, or the corporate identity of McDonald's or Coca-Cola. Their ubiquity and widespread appeal can create substantial friction and have attracted attacks from divergent sources, among them French nationalism, Russian fascism, and Hindu and Islamic fundamentalism. These all differ in origins and rationale, but have in common a resentment of new patterns of cosmopolitanism presented by the imagery of global design, in the name of protecting cultural identity. It would be a mistake, however, to identify all reactions to globalization with those of extreme groups. Many people are genuinely concerned about the loss of local control and identity to forces that frequently appear remote and not answerable for their actions. The utility of being able to watch new broadcasts from the other side of the world may not compensate for children being profoundly influenced by imagery and behaviour that can appear alien and threatening. Even on a more mundane level, it is easy to give offence. A major

advertising campaign in Japan for an American brand of soap had a man entering the bathroom while his wife was in the bathtub, behaviour that might be thought to express sexual attraction in the USA, but which was considered ill-mannered and unacceptable in Japan.

These reactions cannot be dismissed as the inevitable consequences of change. The role and power of technology are indeed a problem when the ability to communicate simultaneously around the world, a marvellous development by any standards, is regarded as a threat. There are also far too many products and services being placed on world markets in which little or no concern is evident about whether they are comprehensible or usable. An assumption of uniformity in global designs as a basis for solutions can indeed create new problems, when a little forethought could have ensured appropriate adaptation to local conditions.

Obviously, the ability of human beings to create meaningful form spans a very broad spectrum of possibilities. At their most profound level, forms can embody metaphysical significance, going beyond the boundaries of tangible form to become symbols of belief and faith, expressing the deepest beliefs and aspirations of humankind. Nothing in the specific form of totems from Pacific Island tribes or the North American plains, or of statues of Buddha or Shiva, or the Christian cross can even hint at the complexity of the beliefs and values they represent. Yet the significance of such symbols becomes regarded as an objective social fact, understood by all who share the beliefs they symbolize. At the same time, it is also possible for people to invest objects with intense personal meaning that need not conflict with broader patterns of belief in a culture.

In 1981, two Chicago sociologists, Mihaly Csikszentmihalyi and Eugene Rochberg-Halton, published the conclusions of a research project on the role of objects in people's lives, entitled *The Meaning of Things*. They wrote of

> the enormous flexibility with which people can attach meanings to objects, and therefore derive meanings from them. Almost anything can be made to represent a set of meanings. It is not as if the physical characteristics of an object dictated the kind of significations it can convey, although these characteristics often lend themselves certain meanings in preference to others; nor do the symbolic conventions of the culture absolutely decree what meaning can or cannot be obtained from interaction with a particular object. At least potentially, each person can discover and cultivate a network of meanings out of the experiences of his or her own life.

The capacity of people to invest objects with meaning, to become imaginatively involved in creating from an object or communication a sense of significance that can reach far beyond what designers or manufacturers envisage, has not been given much credence in the age of mass production and advertising. All too often the emphasis is on imposing patterns of meaning and conformity from the standpoint of producers. However, this human capacity to invest psychic energy in objects is immensely powerful, with significant ramifications for the study and appreciation of design. In an important sense, it can be argued that the outcomes of design processes, the end result, should not be the central concern of the study and understanding of design, but rather the end result should be considered in terms of an interplay between designers' intentions and users' needs and perceptions. It is at the interface of the two that meaning and significance in design are created. For this reason, subsequent chapters exploring the outcomes of design in more detail will not be organized according to the categories widely used to define professional design practice, such as graphic or industrial design (although it will be necessary to discuss such terms). Instead, the chapters are grouped in terms of generic concepts: objects, communications, environments, systems, and identities, in which the concept of users', as well as designers', response and involvement can be further explored.