## FUNCTION AND *GESTALT* (1958)

There are doubtless any number of issues that seem much more pressing than the one I'm going to talk to you about today. For example, there's the pollution of the waterways, or traffic planning, or the problem of land use – preserving open spaces on the one hand versus increasing densification on the other – there's also automation and its impact on social structures and culture.

All these issues are of course extremely urgent. Our material well-being depends to a large extent on resolving them in an appropriate way. And there is a causal connection between this material well-being and the personal freedom of every individual. But still we have to ask: what are we doing with this material well-being both today and in the future? Is maintaining it the sole purpose of our existence? Is the mechanistic, now almost rote preoccupation with preserving our lifestyle – which is often just a sham – sustainable in the long run anyway? Is this any kind of natural state? Or, indeed, how do we define a 'natural state' today, in an age of technology, or tomorrow, in an age of supertechnologies? In other words, not yesterday, on some South Sea island, but today and tomorrow, here in Europe.

Of course this is something we've all applied some thought to. Everyone has already tried in their own way to solve these problems for themselves. For many, one or other of the established religious schemata – the belief in an unknown X – can offer respite and in some cases also aesthetic sustenance. But what once stood as an aesthetic bound up with the practice of religion – as the ideal of aesthetic perfection – has become a thing of the past and cannot be recovered through modernisation or reinterpretation. Times have moved on, and people's expectations and habits have changed.

Since we can only move forwards from the present, and not back, there's little point in pondering how or when, or by which external or internal causes, people became 'decentred' – or perhaps didn't after all, depending on what you mean by 'centre'.

Even so, it's quite obvious that our well-being does not depend purely on our material existence, though this is indisputably the driving force behind most people's lives. However, it is equally indisputable that our material existence only acquires meaning if the life of the mind is given the same kind of weight. This intellectual dimension is readily apparent in the pure sciences and the arts and is most evident, perhaps, in the so-called fine arts and generally in what we like to call *visual culture*. The thing that we call art is only one component of this visual culture, yet it has a considerable impact on our environment. The environment, in turn, has a decisive impact on people's well-being, from which we can conclude that art occupies a key position within our mental and spiritual world, in the sense formulated by Hegel in his aesthetics, namely that art is the form of human expression that speaks of the highest interests of the Spirit.

Hegel's definition might still hold – and perhaps even be more valid than ever. For at the time Hegel was writing, the full possibilities offered by art were not yet apparent. And, reading his writings on aesthetics, it also seems certain that, if he were around today, he would not allow himself to be appropriated as the star witness for so-called socialist realism.

Now, I have maintained that the environment, and the art within it, is of great importance for the human spirit. You will say we've always known that. And yet it seems necessary to emphasise this fact today, given the brouhaha that is gathering around technology. It is being said, quite rightly, that there is a shortage of engineers and technicians to help plan for progress. Great prospects are being held out for the technical professions. There is talk of new educational routes, of all the problems that will be solved by training more technicians. And there is some shock

(not wholly unjustified) at the huge technological advances being made by the superpowers of America and Russia.

But here I have to repeat the question: what is the point of this massive expenditure on technology? I'm hardly a luddite, I simply want to provoke some reflection. What is really going on? Has spending all this money not become something of an end in itself, perhaps (yes, certainly!) making us forget the flip side of the coin? Our environment doesn't just need to be equipped technically, it needs to be *designed*.

The problem is that environmental design is not vital to the export industry. It produces neither nuclear reactors nor calculators, both of which are very important to people. Environmental design is merely intended to create an environment in which people feel well, physically and mentally. There is certainly a purpose behind this. And this purpose is something we should not forget.

In recent years a recognition of the importance of the environment has led to an investigation of more exact ways of approaching its design. Above all, an attempt has been made to define new methods where the designer's personal taste and abilities (or lack of them) would not play as great a role as it has in the past, with more built-in safeguards, as in technology.

In order to get a clearer view of these problems, it is necessary to address questions of aesthetics, function, *gestalt*. Before I move on to the real significance of tonight's theme of function and *gestalt*, I'd like to explain to you what I understand by function, and what in my view is meant by the term *gestalt*.

Although these terms are common, their meaning varies depending on the field in which they are used. There is a conception that the term function, strictly speaking, refers solely to a mathematical function. This has come about because Leibniz, the founder of the mathematical concept of function, discovered, in around 1684, the algebraic functions of differential and integral calculus; that is, the variables whose value depends on the value of another variable. Leibniz's term was then

broadened further in mathematics, to the point where the discipline is now inconceivable without it.

Correspondingly, then, the term function denotes the behaviour of one incidence in relation to another. It describes a correlation. In mathematics this correlation can be expressed in numbers, and for this reason mathematics and logistics represent the ideal field for the purest theory of function.

In its broader, more general sense, however, function means the relation of one thing to another. Therefore, when we speak about fulfilling a function, we are talking about producing something to fulfil a need, or simply fulfilling a function using appropriate means.

Getting to the bottom of the term function, we can see that it in no way has a restrictive sense, but incorporates among other things the mathematical function. The term function is therefore an umbrella term for the relations of things to each other.

This forms the basis for my understanding of the term function, which I've set out briefly as a way of approaching its implications in relation to the term *gestalt*. This conception of function goes beyond that of causation, though I also view causality – the relation of cause and effect – as a part of function. Causation is the basic premise of the theory of function. The relation of cause–effect is in turn the outcome of function. I will come back to this later, when I attempt to define *gestalt*.

By function I therefore understand a relation, for example the relation between material and form (whereby a material's physical properties do not initially need to be taken into account). Functions therefore consist of several relations. They can stand for a number of demands, since in practice 'function' is generally translated into the 'demands made of something'. For example 'the function of an artist in society' or 'the function of a chair' (in relation to the person using it). Or 'the function of traffic planning (*vis à vis* an urban structure). Function always refers to the relation between a minimum of two variables that are dependent on each other.

The mathematical concept of function, as defined by Leibniz, Riemann and Weierstrass, forms the framework for an extended conception of function. This concept is the abstract schema that practice refers back to and that also forms part of the general linguistic use – into which could be ranged, ideally in an orderly correspondence, all uses from 'to function' to 'functionary'.

But that is not the sole purpose of this extrapolation. More pressingly, there is a need to find an objective viewpoint from which to assess certain categories that are otherwise difficult to bring together, particularly within the framework of aesthetics. That viewpoint is the relation of people to things. In this context the focus of interest is not so much the world of things given by nature. Rather, it is the world of man-made things that has to be investigated in order to explain certain phenomena, such as the existence and meaning of artworks. Or the existence of motorised vehicles. Or the existence of electronic calculators. And so on. And not only as isolated phenomena but primarily in terms of their interrelations.

In this connection we can distinguish two different groups of functions.

→ The first one reveals the relations between the object and people as individuals (and as a society).

→ The second one reveals the relations between the components that make up the object and the processes by which it is produced.

To illustrate this point I would like to use a perfectly simple object: an armchair. Its relation to people consists in the fact that it is designed to be sat on. The manner of sitting can vary. Visually this is expressed in its form. But whether or not a chair is good to sit in – comfortably, or for a long time, or whether or not one can relax – none of this is immediately obvious from its appearance. Yet all of these are factors that we designate as functions – as relations between a person and a chair.

Yet even when it's not being used, the armchair still has a visual presence. As such, the relation between man and chair is also an aesthetic one. It has an effect on the

human psyche. Thus its form is also a function, and when it is consciously designed, this aesthetic function has a great impact.

A further relation consists in the price of the chair, its affordability; that is, in whether it fulfils its economic function, which is for it to be purchased. And then there is a final generalising, social function: the chair must be usable by different kinds of people: small ones, tall ones, fat and thin. It must – to refer back to the aesthetic function – also work when produced in large quantities, and not just as a one-off piece. Ultimately its designed form must be able to fulfil its aesthetic function not just in relation to other pieces like it but also in relation to the people who use it and the various other objects in our environment.

That is one side of the story: the relation between people and chairs (which can also be described as the satisfying of a multiplicity of demands).

The second group of functions, covering the relation between the components – material, use, means of production and so forth – is directly dependent on the first group. If we again consider the example of the chair, this means the relations between the possible materials of production – for the frame, the seat, its texture, the texture of the surfaces, etc. And these again relate to the cost of manufacture, which in turn has an effect on the production run. Processes of production–material–price–sales all stand in a causal relation.

In the same way, there are many possible means of production for many possible materials, which again affects the performance of the real function, ie the relation between man and object. The more exact the definition of these functions, the clearer the requirements, then the more unified the result will be. The requirement for this unity or harmony now becomes a cultural requirement, in so far as it is also an aesthetic problem. The result is visibly manifest as form; its unity as *gestalt*.