



Words and Buildings<sup>\*</sup>  
A Vocabulary of Modern Architecture

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## INTRODUCTION

The architect must be a form-artist; only the art of form leads the way to a new architecture. August Endell, 1897

The paradigm of the architect passed down to us through the modern period is that of the form-giver, the creator of hierarchical and symbolic structures characterized, on the one hand, by their unity of parts and, on the other, by the transparency of form to meaning. Bernard Tschumi, 1987, 207

In the ninety years between the optimistic enthusiasm of August Endell and the cynical scepticism of Bernard Tschumi unrolls the history of 'form', the most important, but also the most difficult concept within the architecture of this century. In a single sentence, Tschumi warns us of several of the problems we shall encounter with it: of its indispensability to modernist discourse; of the supposition that 'form' is what architects create; of the belief that 'form' exists to transmit meaning.

Form is one of the triad of terms ('space' and 'design' are the other two) through which architectural modernism exists. In its dependency on 'form' architecture is not alone – in every other art practice, and in culture in general, 'form' has become an indispensable category, without which whole territories of analysis would remain unknown and be unapproachable. Yet architecture lays claim to particular privilege in matters of 'form', because of its work in physically shaping the material objects and spaces that surround us – a claim that takes us straight away to the central problem of 'form', one that underlies its entire significance within Western thought. There is in 'form' an inherent ambiguity, between its meaning 'shape' on the one hand, and on the other 'idea' or 'essence': one describes the property of things as they are known to the senses, the other as they are known to the mind. In its appropriation of 'form', architecture has, according to one's point of view, either fallen victim to, or taken mischievous advantage of this

inherent confusion. Much of what we shall encounter about 'form' concerns the working out, in the course of an art concerned with making material objects, of the ambiguity between the two senses of the term. The German language (which is where the modern concept of form was principally developed) has a slight advantage over English for thinking about this problem, for where English has only the single word, 'form', German has two, '*Gestalt*' and '*Form*': *Gestalt* generally refers to objects as they are perceived by the senses, whereas *Form* usually implies some degree of abstraction from the concrete particular.<sup>1</sup>

Until the end of the nineteenth century, almost nowhere except within the world of German philosophical aesthetics was 'form' used in architecture in any other sense than to mean simply 'shape' or 'mass', or in other words, than as a description of the sensory properties of buildings. It was the appropriation of its other 'ideal' sense to architecture that the German architect August Endell announced so excitedly in 1897, and whose adventures in the world of architecture we shall be following here. When in the English-speaking world 'form' started to be used in its enlarged, modernist sense around 1930, people frequently had difficulty in accommodating the new concept within their previous understanding of the term: for example, in one of the first English books to attempt to describe the principles of the new architecture, *Modern Architectural Design* (1932), the author, Howard Robertson, wrote: 'The major aesthetic task therefore is to deal interestingly and appropriately with form. It is this preoccupation with basic, what one might call "naked" form, which distinguishes modern architectural design' (20). Robertson knew that form was important, but without quite understanding why, or what it could mean apart from 'shape'. It is still the case that people frequently use 'form' when they mean no more than 'shape', and a useful mental test of the meaning intended is to try

substituting 'shape' or 'mass'.

In addition to the 'form/shape' confusion, there is another more complex problem in understanding 'form' in the vocabulary of architecture in the twentieth century. This problem is that for much of the time, what 'form' itself has been taken to mean has been rather less important than what it does *not* mean. It can be argued that the real significance of 'form' has been its use as an oppositional category to define other values: 'form', this flabby container, has, as we shall see, accommodated itself to an astonishing variety of sometimes quite contradictory concepts, but it has also been used as a defining category against a succession of other values. To anticipate the discussion that follows, it has been opposed variously to: decoration; mass culture; social values; technological experimentation and development; and functionality.

To talk about architecture without using the word 'form' may now seem inconceivable, but let us be clear about one thing: 'form' is merely a device for thought – it is neither a thing, nor a substance. And as a device within everyday architectural speech, its availability is of relatively recent origin, for it has only entered currency within the last century. To those who say that the apparently commonsensical consensus that surrounds its use hardly merits bringing it in for questioning, we can only reply that its very normality is precisely what should make us suspicious of it. Like a virus that invades a cell and becomes part of it, 'form' has entered criticism so completely, overcoming all resistance, to the extent that now we can hardly speak about architecture without it. As the historian David Summers has warned in relation to visual art, 'Form is far from the neutral taxonomic and developmental category it might be thought to be';<sup>2</sup> the same goes for architecture.

#### 'Form' in Antiquity: Plato and Aristotle

What made 'form' such a pliable and versatile concept, so convenient to the purposes of twentieth-century architecture? Part of the explanation for this lies in its long history within Western philosophy, during which it served as the solution to a wide variety of philosophical problems. It is worth looking briefly at the philosophical uses of 'form' before it was appropriated by architecture, both in order to find some of the causes for its attraction, but also because in its various original purposes are revealed the sources of some the confusions in its modern architectural currency.

The principal originator of the concept of 'form' in antiquity was Plato. For Plato, 'forms' provided the

solution to a complex of problems – the nature of substances, the process of physical change, and the perception of things.<sup>3</sup> Against Pythagoras's earlier theory that all things could in essence be described as numbers or ratios of numbers, Plato proposed that geometrical figures, triangles and solids underlay the substance of the world. Plato's argument is developed in the Dialogue of *Timaeus*. There Plato first of all distinguishes between 'that which always is and never becomes' and 'that which is always becoming but never is'. The first is 'apprehensible by intelligence with the aid of reasoning, being eternally the same', the second is the object of sensation; what is unchanging and known only to the mind is the 'form', contrasted with the thing, known to sense. This distinction, fundamental to Plato's thinking, is repeated throughout his philosophy: 'particulars are objects of sight but not of intelligence, while the Forms are the objects of intelligence but not of sight' (*Republic*, §507). In making any thing, argues Plato, the maker follows the 'form', not things already existing (§§27–28). Elsewhere, in the Dialogue of *Cratylus*, he gives as an example a carpenter making a shuttle: 'And suppose the shuttle be broken in the making, will he make another, looking like the broken one? Or will he look to the form according to which he made the other?'. The answer, of course, is to the latter; and Plato continues 'Might not that justly be called the true or ideal shuttle?' (*Dialogues*, vol. 3, §389). From this, it is readily apparent that as far as Plato was concerned, forms were always superior to things made in their resemblance. Returning to *Timaeus*, Plato develops the distinction between the form and the thing as follows:

there exist, first, the unchanging form, uncreated and indestructible, admitting no modification and entering no combination, imperceptible to sight or the other senses, the object of thought; second, that which bears the same name as the form and resembles it, but is sensible, has come into existence ... is apprehended by opinion with the aid of sensation. (§52)

Forms, as objects of thought, find their correspondence in things, which are bounded by surfaces, all of which according to Plato are composed of either one of two types of triangles (§53). In the *Republic*, Plato explains that philosophers, in pursuit of the intelligible forms, start with basic geometric figures, 'though they are not really thinking about them at all, but about the originals which they resemble'. And he continues, 'The figures they draw or model ... they treat as illustrations only, the real subjects of their investigation being invisible except to

the eye of the mind' (§510). By presenting as a series of 'shapes' those features of objects that were the inherently invisible form of things, Plato set up that confusion over the two senses of form with which the modern use of the concept is still entangled, and in no field more than so than architecture.

In Plato's pupil Aristotle, we find a reluctance to make categorical distinctions between forms and things. In general, Aristotle refused to accept that forms had any absolute existence independently of the matter of the objects in which they were found: 'Each thing itself and its essence are one and the same' (*Metaphysics*, §1031b). Although Aristotle used 'form' in a variety of different senses, both referring to shape and to idea, his most inclusive definition, and the one that most comprehensively conveys his thought, is when he says 'By form I mean the essence of each thing and its primary substance' (§1032b). Aristotle's discussion of form has other interesting aspects: thus he conceives the form of things existing in what they are not, or in what they have not yet become. In other words, form may be conceived of as a lack (*Physics* Book II, chapter 1, §193b); and this attraction of two opposites he describes in terms of gender, 'what desires the form is matter, as the female desires the male' (*Physics*, Book I, chapter 9, §192a).

But one should not see Aristotle's notion of 'form' as merely arising out his critique of Plato, and a reluctance to accept the absolute priority to what is always 'imperceptible to the sight or the other senses'; Aristotle's ideas about 'form' arose from his consideration of a different question, the generative process of plants and animals. At the beginning of *On the Parts of Animals*, Aristotle argued that it was wrong to look for the origin of organic things in the process of their development, but that rather one must start by considering their characteristics in their completed, final state, and only then to deal with their evolution. Aristotle justified this by an analogy with building:

the plan of the house, or the house, has this and that form; and because it has this and that form, therefore is its construction carried out in this or that manner. For the process of evolution is for the sake of the thing finally evolved, and not this for the sake of the process.

Plants and animals have their pre-existence not in an idea, but in an actual predecessor in time - 'for man is generated from man; and thus it is the possession of certain characters by the parent that determines the

development of like characters in the child' (§640a). Elsewhere, Aristotle argues that same is true of all processes of material production, for everything must come from something: thus he says 'house comes from house', for no house can exist independent of the material object (*Metaphysics*, §1032b). And even in the case of works of art, which have spontaneous novelty, they have their pre-existing cause in the skills and abilities of a human, sentient artist, and in the identifiable conventions of that particular art. Although 'Art indeed consists in the conception of the result to be produced before its realization in the material' (*Parts of Animals*, §640a), Aristotle sees this 'form' as like the genetic transmission between organic objects, not as an uncreated, indestructible pure object of thought. In the distinction between Plato's 'form' as an unknowable, pre-existing idea, and Aristotle's 'form' as the genetic material produced from the mind of the artist, we have a further cause for modern ambiguity.

Neo-Platonism and the Renaissance

2.

Aristotle's metaphor of building to describe the relationship between form and matter was used by successive philosophers in later antiquity and the Middle Ages though, confusingly, it was most popular with neo-Platonists who adopted it in order to identify the causes and origins of beauty - which was not at all the purpose for which Aristotle had intended it. Thus the third-century AD Alexandrian philosopher Plotinus, in the *Ennead*, to show that beauty lies in the Ideal-Form, asks

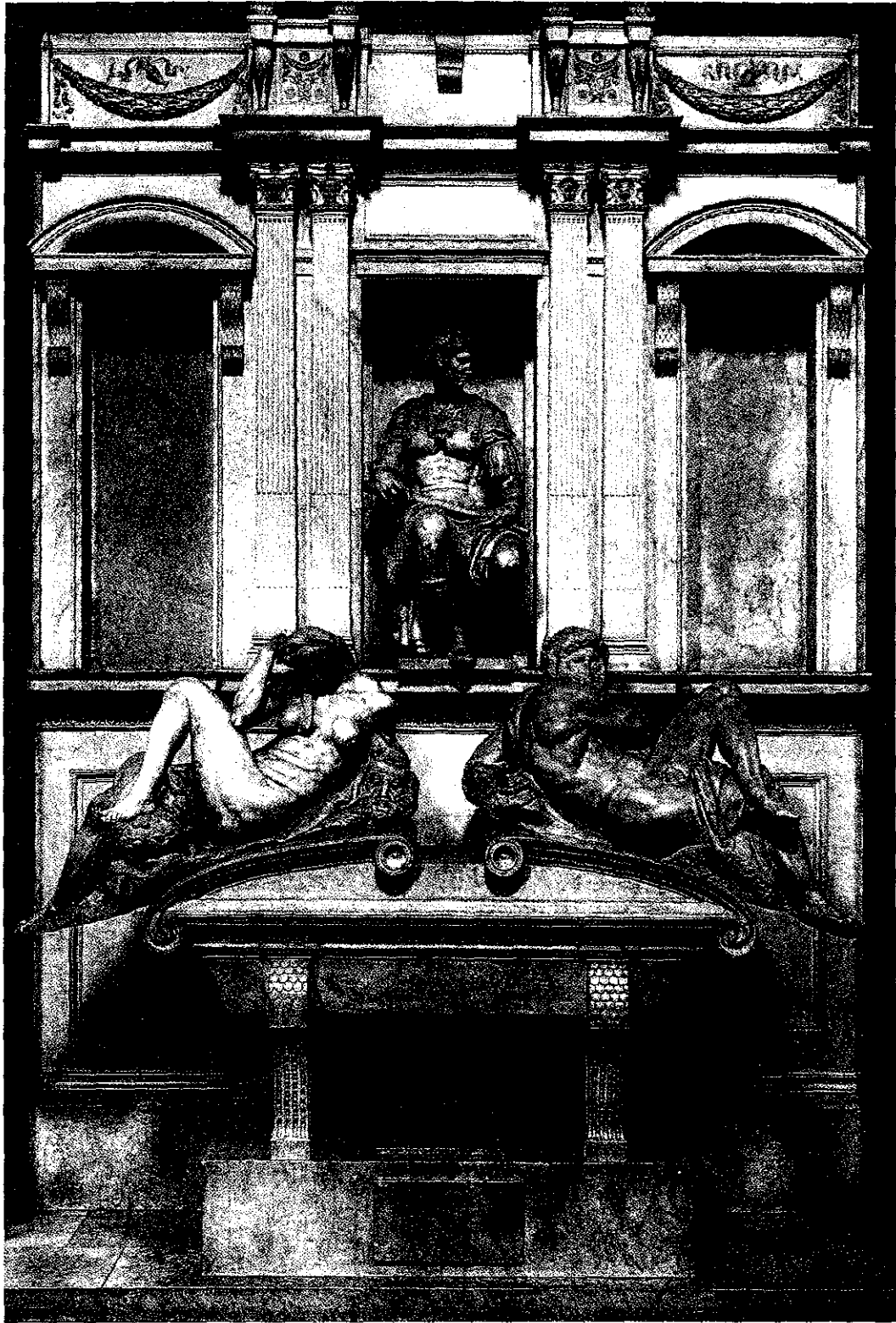
On what principle does the architect, when he finds the house standing before him correspondent with his inner ideal of a house, pronounce it beautiful? Is it not that the house before him, the stones apart, is the inner idea stamped upon the mass of exterior matter, the indivisible exhibited in diversity? (Hofstadter and Kuhns, 144)

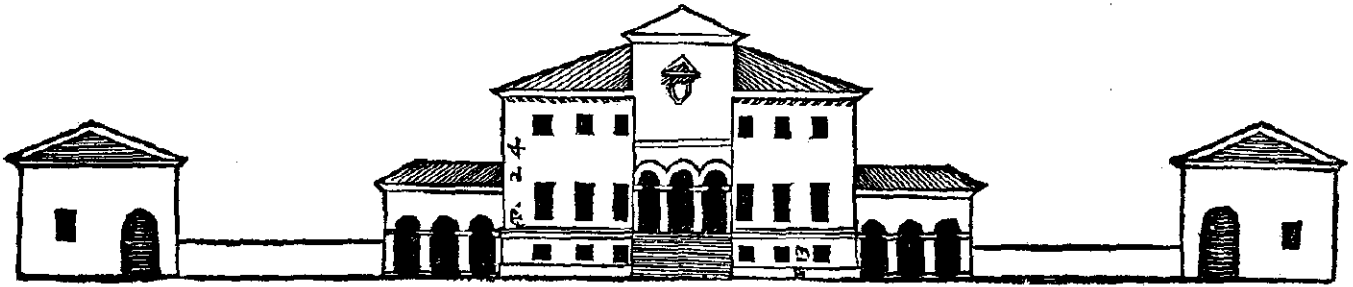
Plotinus's fifteenth-century Florentine translator, the neo-Platonist Marsilio Ficino, outlines a similar argument to identify beauty as in the independence of form from matter:

In the beginning, an architect conceives an idea of the building, like an Idea in the soul. Then he builds, as nearly as possible, the kind of house he has thought out. Who will deny that the house is a body, and that it is very much like the incorporeal idea of the builder in likeness to which it was made? Furthermore, it is

Aristotle's *Metaphysics* 1031b  
1032b

form + matter (idea)





(opposite) Michelangelo, Tomb of Giuliano de' Medici, Medici Chapel, San Lorenzo, Florence, 1531-33. Sculpture, according to Vasari (following Michelangelo), was 'an art which lifts the superfluous from the material, and reduces it to that form which is drawn from the mind of the artist'.

(above) A. Palladio, Villa Godi, Lugo di Vicenza, 1532-42. 'Buildings are esteemed more for their form than their materials': Palladio, like most architects until the modern era, used 'form' as a synonym for 'shape'.

to be judged like the idea more because of a certain incorporeal plan than because of its matter. Therefore, subtract its matter, if you can. You can indeed subtract it in thought, but leave the plan; nothing material or corporeal will remain to you. (Hofstadter and Kuhns, 225)

These and similar conceptions of 'form' deriving from classical philosophy circulated amongst Renaissance humanists during the fifteenth and sixteenth centuries. However, their influence appears to have been insignificant in the day-to-day vocabulary of architecture, where 'form', in so far as it was used at all, was generally only a synonym for shape. Thus Vasari, in his life of Michelangelo, records 'The people of Rome ... were anxious to give some useful, commodious and beautiful form to the Capitol' (1965, 388). The exceptions to this are those Renaissance humanists who were concerned to show that architecture conformed to ancient philosophers' conception of the world, and indeed provided an analogue for its processes. Alberti, in *De Re Aedificatore*, written in the mid-fifteenth century, managed to make use of several of the antique theories of 'form' already mentioned. His well known claim that 'within the form and figure of a building there resides some natural excellence that excites the mind and is immediately recognized by it' (302), is based upon the Pythagorean theory of numbers and arithmetic as the basis of everything. On the other hand, when he says that 'It is quite possible to project whole forms in the mind, without any recourse to the material' (7), this accords with neo-Platonist thought; and Erwin Panofsky interpreted Alberti's distinction between *materia*, the products of nature, and *lineamenti*, 'the products of thought', in the same terms. Panofsky, with a modernist's propensity to see everything in terms of 'form', translated *lineamenti* as 'form', but this is unconvincing, for Alberti's

definition of *lineamenti* has little in common with any notion of form, ancient or modern: Alberti describes *lineamenti* as 'the correct, infallible way of joining and fitting together those lines and angles which define and enclose the surfaces of the building' (7).<sup>4</sup>

The Aristotelian notion of form, as a property of all material things, seems to have featured little in Renaissance architectural thought, though it did appear in relation to sculpture – defined by Vasari as 'an art which lifts the superfluous from the material, and reduces it to that form which is drawn in the mind of the artist' (1878, vol. I, 148); and Michelangelo's view of sculpture as what encloses the artist's idea had, as Panofsky points out, a definite Aristotelian basis.<sup>5</sup> A rare case of a more Aristotelian view of 'form' used relative to architecture occurs when Daniele Barbaro, Palladio's patron, wrote as follows in his commentary on Vitruvius: 'Imprinted in every work raised up from reason and accomplished through drawing is evidence of the artist, of the form and quality that was in his mind; for the artist works first from the mind and symbolizes then the exterior matter after the interior state, especially in architecture' (11).

### Post-Renaissance

In general, it can be said that while the notions of form developed in ancient philosophy were of interest to humanist scholars, they had little impact on the ordinary practice of architecture, or its vocabulary, until the twentieth century. Throughout the sixteenth, seventeenth and eighteenth centuries, and indeed until the twentieth century everywhere except in German-speaking countries, when architects and critics talked about 'form', they almost invariably meant only 'shape'. When Palladio stated that 'buildings are esteemed more for their form than for their materials' (Burns, 209), it does not appear, notwithstanding his association with Daniele Barbaro, that he had anything metaphysical in mind. Nor, for

form = shape (1/1/12)

example, when the French theorist Quatremère de Quincy wrote in 1788 that 'stone, in copying itself, or to put it better, in copying nothing, has offered no form to art', is it likely that he meant more than 'shape'. And when Sir John Soane, in his *Lectures*, said the student 'will learn to appreciate that succession and variety of forms' (591) found in the works of the sixteenth-century Italians, his use of the word was entirely characteristic of English nineteenth-century writers. And even when in 1825 Joseph Gwilt wrote in his introduction to his edition of Sir William Chambers's *Treatise* that 'Form alone fastens on the mind in works of architecture' (76) – although this might sound like a 1920s modernist – he was simply stressing that it was not materials themselves that mattered, but the way they were arranged. Nor, when Viollet-le-Duc announced at the beginning of his *Lectures* (1860) that his purpose was 'to inquire into the reason of every form – for every architectural form has its reason' (vol. 1, 7) should we imagine that he was talking about an abstract concept. Although Viollet referred repeatedly to 'form' in his *Lectures*, his purpose in doing so was to stress its dependence upon the structural principle employed:

form is not the result of caprice ... only the expression of structure ... I cannot give you the rules by which the form [*forme*] is governed, inasmuch as it is the very nature of that form to adapt itself to all the requirements of the structure; give me a structure and I will find you the forms that naturally result from it, but if you change the structure, I must change the forms. (vol. I, 283–84)

The transformation of 'form' into an altogether more vital and dynamic concept started in Germany, in the 1790s, and until the early twentieth century remained almost entirely confined to German-speaking countries. Even there, for most of the nineteenth century, discussion of 'form' was largely restricted to philosophical aesthetics, only in the 1890s becoming widely used by artists and architects in its by then greatly expanded sense. The new interest in 'form' that developed in the 1790s had two distinct aspects, each in their own way important for the subsequent development of the concept. The first emerges from the philosophy of aesthetic perception developed by Kant; the second from the theories of nature and natural generation developed by Goethe.

#### [Kant]

4.

The discipline of philosophical aesthetics in the late eighteenth century took off with the realization that the source of beauty lay not in objects themselves, but in the process by which they were perceived. In the development of this argument, 'form' was to be a key concept, no longer (as it had been throughout antiquity and the Renaissance) a property of things, but exclusively of the seeing of them. The single most important contributor to this new approach was Immanuel Kant, whose *Critique of Judgment* (1790) established 'form' as the basic category for the perception of art. Kant argued that the judgment of beauty belonged to a separate faculty of mind, unconnected to either knowledge (cognition) or emotions (desire). Our ability to make sense of the bewildering variety of sensations presented to us lay in the existence within the mind of constructs of space and of time, and of a faculty of 'form', which Kant described as 'that which so determines the manifold of appearance that it allows of being ordered in certain relations' (*Critique of Pure Reason*, 66). It is important to stress that for Kant, form was different to that aspect of things which is known through sensation – that is *matter*; and *form* is not *matter*. Aesthetic judgment, the perception of what the mind finds pleasing, occurs through its ability to recognize in the external world features that satisfy the internal concept of form. Kant stresses that aesthetic judgments are *only* related to 'form' – 'in a pure judgment of taste the delight in the object is connected with the mere estimate of its form' (*Critique of Judgment*, 146). Everything about an object that brings to mind either knowledge or desire is irrelevant to the pure aesthetic judgment, 'whose determining ground, is ... simply finality of form' (65). And anything that gives rise to charm, or other association, that is to say all contingent properties like colour, or ornament, is superfluous: as Kant puts it, 'In painting, sculpture, and in fact in all the formative arts, in architecture and horticulture, so far as fine arts, the *design* is what is essential. Here it is not what gratifies in sensation, but merely what pleases by its form, that is the fundamental prerequisite for taste' (67). Kant also excludes from aesthetic judgment those aspects of an object that concern its usefulness, since these involve knowledge about what the object does or is, and so belong to cognition, and not to the aesthetic: 'the aesthetic judgment ... brings to our notice no quality of the object, but only the final form in the determination of the powers of representation engaged upon it' (71). Not surprisingly, since it would have undermined his argument that 'forms'

were a property of the beholders' mind, Kant was unspecific about the appearance forms might take in objects – though he did suggest that forms of the regular geometric kind favoured by neo-Platonists are not conducive to aesthetic judgments, for they are presentations of determinate concepts, whereas irregularity, because it is not suggestive of purpose, allows more freedom to the exercise of purely aesthetic judgments (86–88).

The significance of Kant's thought, in the history of 'form', was to establish that 'form' lies in the beholding, not in the thing beheld, and that in so far as the mind recognizes beauty in objects, it is because it sees within them a representation of that form, independent of content or meaning. Kant's contemporaries, the Romantic writers Goethe, Schiller and A. W. Schlegel, while they were enthusiastic about Kant's account of the relationship between the beholder and the object in creating aesthetic experience, felt that his abstract scheme failed to provide a satisfactory account of why we take pleasure in forms, and in the nature of that pleasure. Schiller, in his *On the Aesthetic Education of Man* (1794–95), developed the notion of 'living-forms' to describe what made works of art aesthetically satisfying. Schiller proposed a scheme in which human psychology could be accounted for through two drives – 'form-drive' and 'sense-drive', while a third drive, 'play-drive', allowed each of the two main drives to recognize their opposite, while retaining their integrity. The outward objects to which the play-drive corresponded were 'living-forms'. Schiller explained how these were manifested:

the term beauty is neither extended to cover the whole realm of living things nor is it merely confined to this realm. A block of marble, though it is and remains lifeless, can nevertheless, thanks to the architect or sculptor, become living form [*lebende Gestalt*]; and a human being, though he may live and have form [*Gestalt*], is far from being on that account a living form. As long as we merely think about his form, it is lifeless, a mere abstraction; as long as we merely feel his life, it is formless, a mere impression. Only when his form [*Form*] lives in our feeling and his life takes on form in our understanding, does he become living form. (XV.3)

For Schiller, as for Goethe and Schlegel, the subject of all art was to articulate in such 'living forms' the life we feel within ourselves.

## Goethe

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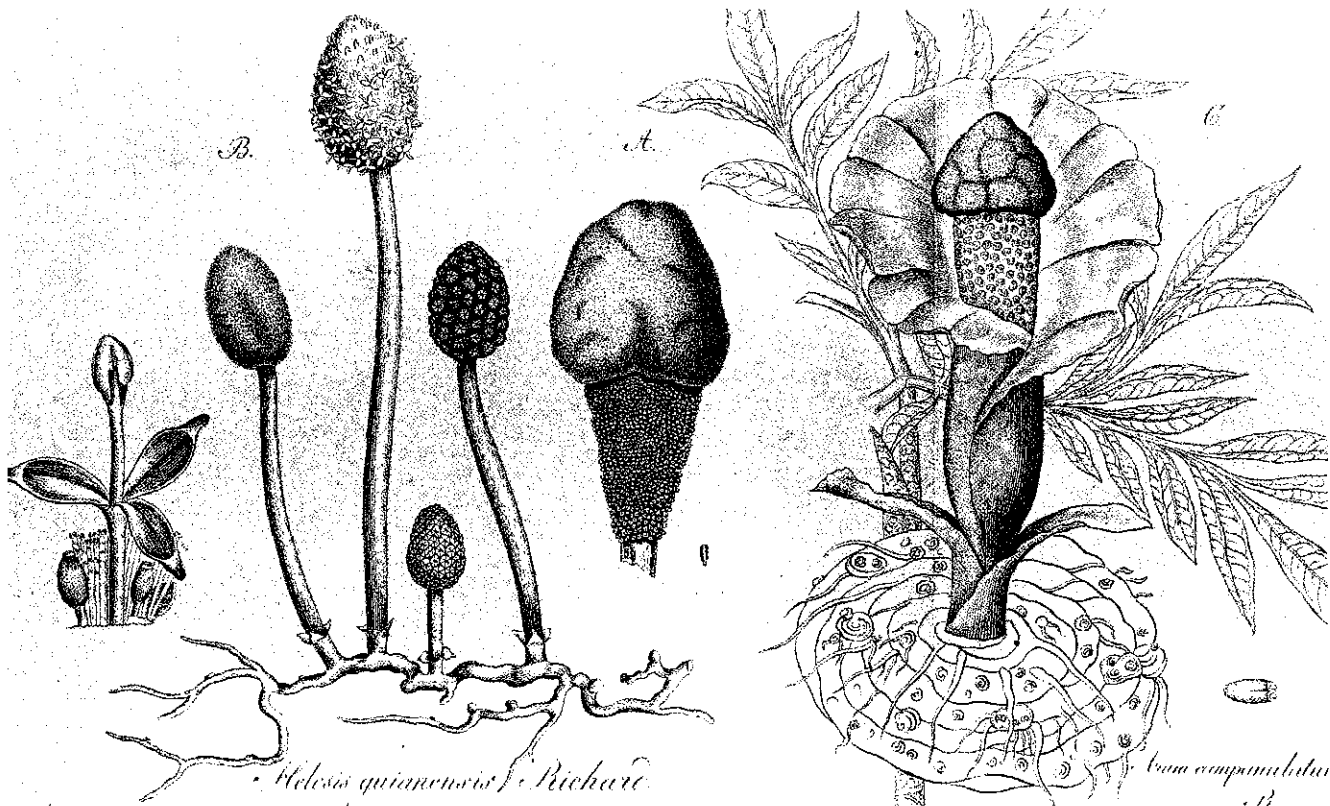
Schiller's concept of 'living form' corresponded closely to the ideas that his friend Goethe was developing about natural science. In his research into the morphology of plants, undertaken from the late 1780s, Goethe wanted – in an essentially Aristotelian quest – to find an original plant, to whose *Urform* all other plants – even those not yet existing – could be related. Goethe's thinking focussed particularly in what he saw as the inadequacy of the methods of biological classification developed by Linnaeus and later Cuvier, methods which essentially categorized plants and animals according to their component parts, as if they were constructed in the same way as man-made artefacts. For Goethe, this system failed because it neither took account of the essential coherence and wholeness of specimens, nor of their quality as vital and living; as he remarked to Schiller, 'there ought to be another method of presenting nature, not in separate pieces, but as living actuality, striving from the whole to the parts' (Magnus, 69). Moreover, the Linnaean system treated natural form as essentially static, neglecting that in nature, as Goethe put it, 'nothing stands still'.<sup>6</sup> The alternative method of classification proposed by Goethe placed all specimens within a series from the simplest to the most complex; from the features common to all specimens, Goethe deduced the existence of an *Urpflanze* (an archetypal original plant), from whose form all other plants might be contrived. As he wrote to Herder in 1787,

The archetypal plant [*Urpflanze*] will be the strangest growth the world has ever seen, and Nature herself shall envy me for it. With such a model, and with the key to it in one's hands, one will be able to contrive an infinite variety of plants. They will be strictly logical plants – in other words, even though they may not actually exist, they could exist. They will not be mere picturesque and imaginative projections. They will be imbued with inner truth and necessity. And the same law will be applicable to all that lives. (*Italian Journey*, 299)

Seen in these terms, the '*Urform*' was a principle of all organic material, in accordance with which all generation took place. And Goethe was at pains to stress that in no sense could the form be considered apart from the inward spirit: as he wrote,

Nature has neither core  
Nor shell,  
But everything at once does spell.





Archetypal plants, from J. W. von Goethe, *Zur Naturwissenschaft*, 1823, vol. 2. Goethe speculated upon the existence of an archetypal, original plant, from which the forms of all other plants might be deduced.

Look to thyself, and thou shalt see  
Whether thou core or shell mayest be.  
(Magnus, 238)

For Goethe and the other Romantics, exactly the same principles of organic form found in nature applied equally to art, and indeed to all products of human culture. The very same concept of *Urform* was adapted by Wilhelm von Humboldt to the study of language, whence in turn it provided an analogy for architecture, in the thinking of Gottfried Semper (see chapter 5, p. 71). The significance of Goethe's theory was to provide a theory of 'form' which acknowledged the ever-changing features of nature – and of art – without positing the existence of an absolute ideal category, known only to thought. One of the clearest, and perhaps one the most influential statements of the Romantics' conception of 'organic form', occurs in Schlegel's *Lectures on Dramatic Art* delivered in 1808–9, and translated into English in 1846:

we must understand the exact meaning of the term form, since most critics, and more especially those who insist on a stiff regularity, interpret it merely in a mechanical, and not in an organical sense. Form is mechanical when, through external force, it is imparted to any material merely as an accidental addition without reference to its quality; as, for example, when we give a particular shape to a soft mass that it may retain the same after its induration. Organical form, again, is innate; it unfolds itself from within, and acquires its determination contemporaneously with the perfect development of the germ. We everywhere discover such forms in nature throughout the whole range of living powers, from the crystallization of salts and minerals to plants and flowers, and from these again to the human body. In the fine arts, as well as in the domain of nature – the supreme artist, all genuine forms are organical, that is determined by the quality of the work. In a word, the form is nothing but a significant exterior,

the speaking physiognomy of each thing, which, as long as it is not disfigured by any destructive accident, gives a true evidence of its hidden essence. (340)

While the Romantics' notion of 'living form' preserved the Kantian idea that form was a property of the beholder as much as of the object, it also threatened the purity of Kant's conception, for form was in danger of becoming, as Schlegel said, a *sign* of something else, of an inner life force. While the Romantics were at pains to preserve the unity between the two concepts through their insistence that it was through the subject's sense of their own psychology that they were able to recognize the living form in the object, a tendency to separate the mental category from the property of objects became apparent in the development of idealist philosophy in early nineteenth-century Germany to which we shall now turn.

### Philosophical Idealism

6

For idealist philosophers, of whom Hegel is the most famous, the appearance of things presented to the senses concealed an Idea that lay within, or beyond – an approach based upon Plato, even if it was also critical of him. The purpose of aesthetics was to reveal that underlying Idea: in art, 'every definite content determines a form [Form] suitable to it' (Hegel, *Aesthetics*, 13). The possible content signified by the form ranged from the character of individual artists, to the character of whole civilizations or epochs. Considered in terms of the practice of art, the idealist attitude towards 'form' is well summarized by a later idealist philosopher, Robert Vischer, in an essay of 1873: 'form', he argues, is the 'surrogate' of Idea, and it is the aim of the artist 'to emancipate this idea' (120).

It will already be apparent how very confusing a concept 'form' had become by the early nineteenth century in Germany: on the one hand, in Kant, exclusively a property of perception; on the other hand, in Goethe, a property of things, recognizable as a 'germ', or genetic principle; and in Hegel, a property above and before things, knowable only to the mind. It is hardly surprising that when architects first started to make use of 'form', all three different senses were easily mixed up. The first architectural writer in whose work 'form' was an important concept, Gottfried Semper, employed it in at least two senses. For Semper, 'the forms of art ... are the necessary outcome of a principle or idea that must have existed before them' (quoted in Ertlinger, 57); or as he put it elsewhere, form is 'the idea becoming visible' (*Der Stil*, trans. Mallgrave, 190) – both of which are purely idealist,

Hegelian statements of the notion of form. On the other hand, his description at the beginning of *Der Stil* of the project as a search for the common *Urform* that underlay the successive transformations of art (see p. 71 above), was clearly indebted to Goethe; as too was his statement in the Prolegomenon to show not 'the *making* of artistic form, but its *becoming*' (183).

### Formalism

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If 'form' was already a confusing concept in the early nineteenth century, what happened to it later in the century made it even more so. From the 1830s, German philosophical aesthetics was divided between two schools, one generally referred to as idealist, concerned with the signification of forms;<sup>7</sup> the other, formalist, concentrating upon the mode of perception of forms devoid of suprasensory meaning. Common to both, but with an utterly different meaning to each, lay the single term 'form'. Within the field of philosophy, formalism was the more dominant school for most of the century. The leading post-Kantian was J. F. Herbart, whose contribution to aesthetics was, as Mallgrave and Ikonomou put it, to argue that 'the meaning of a work of art is superfluous because each work consists, in essence, of a set of unique relations of form, composed by the artist with craft and intention' (10). Herbart defined aesthetics in terms of the psychological reception of the elementary relations of lines, tones, planes and colour, and much of his work was devoted to psychological aspects of this process; and indeed, his work contributed as much to the early development of psychology as it did to aesthetics. One of Herbart's better-known disciples was the Swiss pedagogue Friedrich Froebel, whose 'gifts' (see ill. p. 158), sets of progressively more complex colourless, geometrically shaped bricks, provided an object lesson in the process of Herbartian formalist aesthetics – the bricks are 'pure forms' from which the young child learns of what the world is made. The legend that the presentation of a set of Froebel bricks guided the young Frank Lloyd Wright's future choice of career provides an unexpectedly direct connection between Kant's aesthetics and modern architecture.<sup>8</sup>

Herbart's aesthetics were developed by other philosophers in the second half of the nineteenth century, principally by Robert Zimmermann, who developed an extensive 'science of form', which concentrated particularly on the relationships perceived between forms, rather than the forms themselves. Something of the potential for the application of formalist aesthetics to architecture was realized in an essay by the architect



Froebel Gift no. IV, c. 1890: 'Pure forms'. The philosopher Herbart's idea that forms exist independently of meaning was developed into a pedagogical system by the Swiss educationalist Friedrich Froebel, whose 'gifts' – sets of plain wooden bricks – provided the child with instruction by stages in the elements of which the world is supposedly made.

Adolf Göller, 'What is the Cause of the Perpetual Style Change in Architecture?' (1887), in which Göller proposed that 'Architecture ... is the true *art of visible pure form*' (198). Göller defined the beauty of form as 'an inherently pleasurable, meaningless play of lines or of light and shade' (195); 'form delights the spectator even without there being any content' (*Aesthetik*, 6). Unlike painting or sculpture, 'architecture offers us systems of abstract, geometrical lines without the images of concrete things that we encounter in life. In viewing architectural works, we therefore lack the latent ideas or memories that invariably and necessarily come to mind with painting and sculpture. It follows that architectural forms mean

nothing to natural reason' ('Style Change', 196). This surprising view, anticipating the development of abstract, non-objective art and suggesting that its origin lay in architecture, was possible because of Göller's rigid, Kantian exclusion from 'form' of anything that signified a content.

Göller's essay was unusual, and from the 1870s, what reanimated the potentially arid formalist approach to aesthetics was the recovery of the earlier, Romantic notion of 'living form' to create the more scientific concept of 'empathy'. The basis of this, that works of art hold interest for us because of our ability to see in them the sensations that we know from our own bodies, was first

made explicit by the philosopher Hermann Lotze, in 1856: 'no form is so unyielding that our imagination cannot project its life into it' (I, 584). Taken up by the philosopher Robert Vischer, empathy was first related to architecture in an important and influential, though entirely speculative, essay of 1873, 'On the Optical Sense of Form'. Applied to architecture, empathy was to be fruitful in enriching the concept of 'form' in the 1890s. Although it was widely taken up, the two writers with most influence on its subsequent use (and not just in architecture, but in all the arts) were the art historian Heinrich Wölfflin and the sculptor Adolf Hildebrand. We shall now consider in more detail what these two had to say about 'form'.

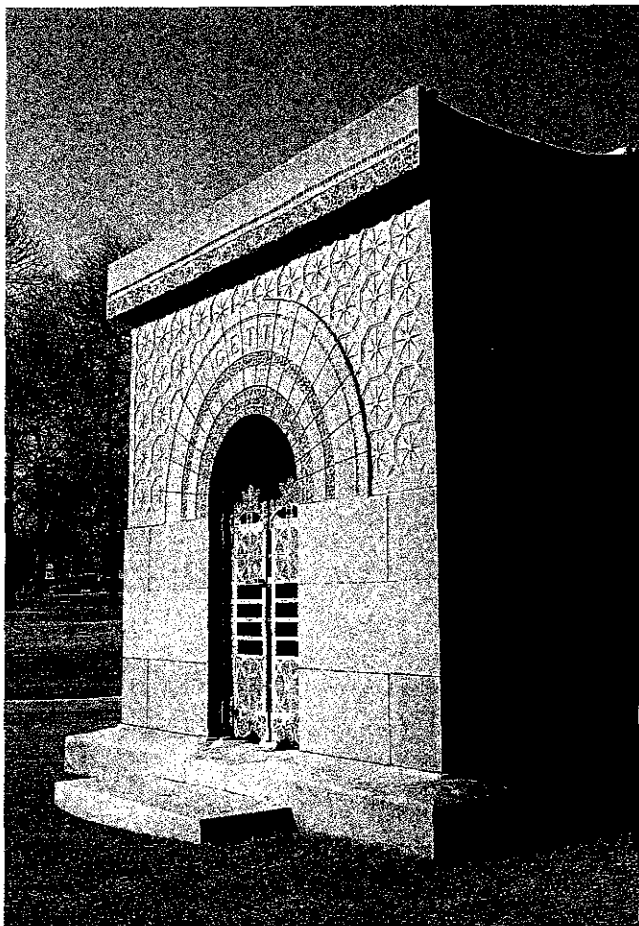
Wölfflin <sup>8</sup>  
 Wölfflin's doctoral thesis, 'Prolegomena to a Psychology of Architecture', was presented in 1886 (although not published until the 1930s), and states particularly clearly the conception of form contained in his later and well known books, *Renaissance and Baroque* (1889) and *Principles of Art History* (1915). The opening question of the 'Prolegomena' is how is it that forms of architecture can express a mood or emotion? Wölfflin's answer was in the principle of empathy – 'Physical forms express a character only because we ourselves possess a body' (151); for 'Our own bodily organization is the form through which we apprehend everything physical' (157–58). Having established a correspondence between the sense of our own body and of the work of architecture, Wölfflin turns to an account of architecture in which the conception of 'form' is clearly indebted to Goethe and the Romantics (the source he acknowledges is Schopenhauer):

What holds us upright and prevents a formless collapse? It is the opposing force that we may call will, life, or whatever. I call it force of form [*Formkraft*]. *The opposition between matter and force of form*, which sets the entire organic world in motion, is the principal theme of architecture.... We assume that in everything there is a will that struggles to become form and has to overcome the resistance of a formless matter. (159)

He continues, emphasizing in a manner reminiscent of Aristotle, the coexistence of form and matter: 'form is not wrapped around matter as something extraneous but works its way out of matter as an immanent will. Matter and form are inseparable' (160). A number of interesting

observations follow from this proposition. First of all, it allows him to see ornament not – as most modernists were to do – as what is antagonistic to form, but rather as 'the expression of excessive force of form' (179). Secondly, there are his comments on 'modern' (i.e., Renaissance and post-Renaissance) architecture: 'The modern spirit characteristically prefers the architectural form to work its way out of the material with some effort; it does not look for a conclusion so much as for a process of becoming: a gradual victory of form' (178). Thirdly, and perhaps most importantly, he acknowledged that if 'form' belongs primarily to the viewer's perception, then historical changes in architecture are to be understood primarily in terms of changes in the mode of vision – in other words, that vision has *its* history as well as architecture. This proposition, which follows naturally from Kant's aesthetics, was to present something of a problem in the subsequent modernist use of the concept of form, for it undermined the argument that new forms were the necessary outcome of new material conditions; and it also called into question the widespread supposition – for example in the teaching of the Bauhaus – that in dealing with form one was dealing with a timeless, universal category. This fundamental difficulty may be one of the reasons why, as we shall see, there was little interest in the further development of 'form' after the 1920s.

Hildebrand <sup>9</sup>  
 Adolf Hildebrand's essay *The Problem of Form in the Fine Arts* (1893), although principally about sculpture, has some important things to say about architecture, and as it was widely read in avant-garde circles in the early part of the twentieth century, appears to have had some influence on architectural thinking. The book is directed against 'impressionism', against the view that the subject of art consists in the appearance of things. Hildebrand starts by distinguishing between 'form' and appearance: things present themselves in a multitude of changing appearances, none of which reveals the form, which can only be perceived by the mind. 'The idea of form is the sum total that we have extracted by comparing appearances' (227–28). The sense of form is gained by the kinaesthetic experience, the real or imagined movement necessary to interpret the appearance things present to the eye. Developing out of this argument, Hildebrand has one profoundly original observation, and one which shifted the entire conception of 'form' in architecture, and that is that the 'form' in architecture is *space*; in architecture, he says 'space itself, in the sense of inherent form, becomes effective form for the eye' (269). Although the concept of



Getty tomb, Graceland cemetery, Chicago, L. Sullivan, 1890. Forms, in Louis Sullivan's remarkably perceptive summary of their purpose in architectural discourse, 'stand for relationships between the immaterial and the material, between the subjective and the objective'.

'spatial form' had certainly been used before (see Wölfflin, 'Prolegomena', 154), it is to Hildebrand, as well as to the aesthetic philosopher August Schmarsow, that we owe the proposition that 'form' in architecture is to be identified primarily through the experience of space. Schmarsow presented a more developed version of this theme in a lecture given the same year as Hildebrand's book. In 'The Essence of Architectural Creation' (1893) Schmarsow argued that the particularity of architecture lies in the fact that the viewer's empathetic sense is directed not to its masses, but into its space. Schmarsow proposes a direct equivalence between architectural space and the body's form:

The intuited form of space, which surrounds us wherever we may be and which we then always erect around ourselves and consider more necessary than the form of our own body, consists of the residues of sensory experience to which the muscular sensations of our body, the sensitivity of our skin, and the structure of our body all contribute. As soon as we have learned to experience ourselves and ourselves alone as the centre of this space, whose co-ordinates intersect in us, we have found the precious kernel ... on which the architectural creation is based. (286-87)

Schmarsow subsequently elaborated this argument, and as a contribution to the meaning of 'form' relative to architecture, it was fundamental to both Paul Frankl's *Principles of Architectural History* (1914), and to the aesthetics of modern architecture. For example, in 1921, H. Sorgel in *Architektur-Aesthetik* wrote, in what was by then a fairly unoriginal remark, "The 'problem of form' in architecture must be transposed into a 'problem of space'" (Neumeyer, 171).

We might at this point take stock of what, by about 1900, 'form' had been used to mean. There are at least four sets of opposing ideas:

- (i) 'form' as a property of the seeing of objects (Kant), or of the objects themselves;
- (ii) 'form' as a 'germ', a generative principle contained within organic matter, or works of art (Goethe); or as an 'idea' preceding the thing (Hegel);
- (iii) 'form' as the end of art, and entire subject of art, as Göller had proposed; or as merely the sign, through which an idea or force was revealed;
- (iv) 'form' in works of architecture presented by their mass; or by their space.

Loaded down as it was with the burden of representing some of the major divisions of thought in nineteenth-century aesthetics, it is hardly surprising that the term lacked clarity when it started to be widely used in architectural vocabulary in the twentieth century. Indeed, as we shall see, in its ambiguity lay part of its appeal.

So far, we have considered the later development of 'form' only within the German-speaking world. Its entry, in its newly enlarged sense, into the English-language vocabulary of architecture occurred in the United States, where the Vienna-trained architect Leopold Eidlitz, in his book *The Nature and Function of Art* (1881), was the first to present an essentially Hegelian view of 'form' to an American audience. Eidlitz's attitude to form can be summed up in his statement, 'Forms in architectural art are the expressions of ideas in matter' (307). Eidlitz's book precedes the much better-known and quite unique discourse on 'form' by Louis Sullivan in *Kindergarten Chats*, numbers 12, 13 and 14 (1901). These essays, usually read for Sullivan's views on 'function', are even more interesting for what he says about 'form'. To quote a characteristic passage:

Form in everything and anything, everywhere and at every instant. According to their nature, their function, some forms are definite, some indefinite; some are nebulous, others concrete and sharp; some symmetrical, others purely rhythmical. Some are abstract, others material. Some appeal to the eye, some to the ear, some to the touch, some to the sense of smell ... But all, without fail, stand for relationships between the immaterial and the material, between the subjective and the objective – between the Infinite Spirit and the finite mind. (45)

Even from this passage, it will be clear that Sullivan was primarily inspired by the 'organic form' of the German Romantics, of Goethe and Schiller, and their view that in this lay the correspondence between nature and art. As an expression of their relevance to architecture, *Kindergarten Chats* cannot be equalled, at any date or in any other language.

#### 'Form' within twentieth-century modernism.

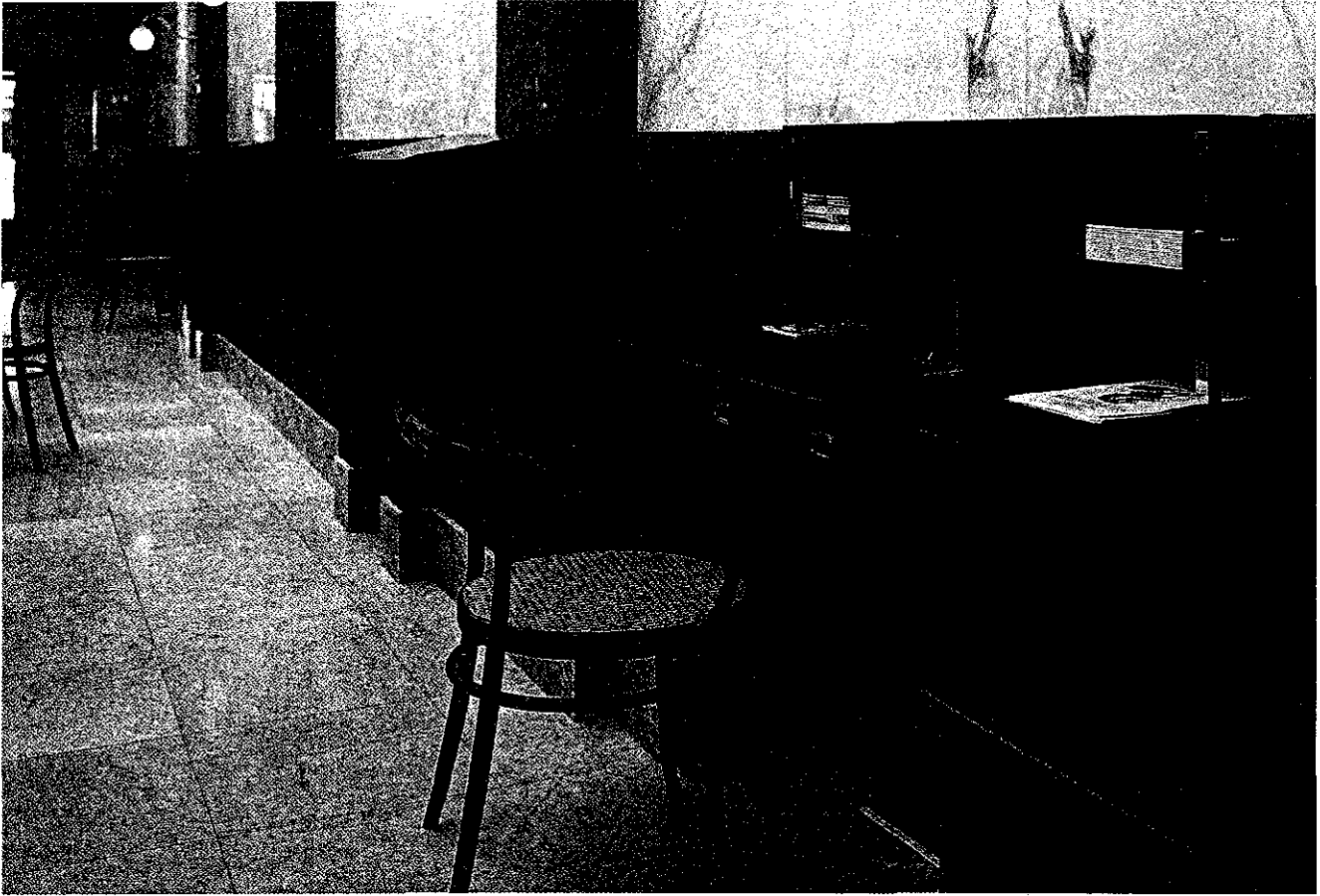
Architectural modernism adopted 'form' and made it its cardinal term for various reasons: (1) it was not a metaphor (if its biological derivation was overlooked); (2) it implied that the true substance of architecture lay

beyond the immediately perceptible world of the senses; (3) it connected the mental apparatus of aesthetic perception with the material world; and (4) it gave to architects a description for that part of their work over which they held exclusive and unequivocal control. None of these factors describe what 'form' actually meant in modernist discourse, and to find this out, we must look at the various oppositions in which it was used.

Form as resistance to ornament. This is the first and probably most familiar use of 'form' within modernism, as a means of describing, and validating, that aspect of architecture which is *not* ornament. This sense is made clear for example by the German critic Adolf Behne, writing in the 1920s: 'The concept of "form" does not deal with accessories, decoration, taste or style ... but with the consequences arising from a building's ability to be an enduring structure' (137). The main source of the anti-decoration concept of form lay in the polemics against Secession artists and designers in Vienna in the 1890s, evolved most famously by Adolf Loos. Although his essay 'Ornament and Crime' of 1908 is the best-known expression of this point of view, it is important to understand that Loos was able to reach the position advanced in this essay through the already existing propositions about 'form'. In an earlier article, 'The Principle of Cladding' (1898), Loos had written 'Every material possesses its own language of forms, and none may lay claim for itself to the forms of another material. For forms have been constituted out of the applicability and methods of production of materials' (66). Loos was here attacking the simulation of one material in another, characteristic of Secession work. The notion that each material has its own forms is directly derived from Semper, and one might find its origin in a sentence such as the following from *Der Stil*: 'Every material conditions its own particular manner of formation by the properties that distinguish it from other materials and that demand a technical treatment appropriate to it' (§61, 258). However, Loos's rendering of Semper's idea about the relation between form and materials is rather reductive, and suggests a literal determination of Form by Material that Semper had been keen to avoid; for Semper, all forms were the outcome of an idea or artistic motive, which was simply modified by the particular material in which it was worked. While Loos removed all mention of 'Idea', the underlying conception of form which he is employing nonetheless remains idealist, and allows him to argue that there is a 'form' which is inherent to material, and which is endangered, or destroyed by decoration. Loos set the

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Interior, ZentralSparkasse, Mariahilf-Neubau, Vienna, Adolf Loos, 1914.

precedent for twentieth-century modernism's use of 'form' as resistance to those despicable tendencies, the ornamental and the decorative.

*Form as antidote to mass culture.* In a long speech entitled 'Where Do We Stand?' delivered at the 1911 Congress of the Deutsche Werkbund, the architect and critic Hermann Muthesius drew two specific oppositions, between 'form' and 'barbarism', and 'form' and 'Impressionism'. Muthesius spoke as follows:

What we are pleased to call culture is unthinkable without a compromising respect for form; and formlessness is just another name for philistinism. Form is a higher intellectual need in the same way that cleanliness is a higher physical need, because the sight of crude forms will cause a really cultivated

person something resembling bodily pain and the same uncomfortable sensation that is produced by dirt and foul smells.

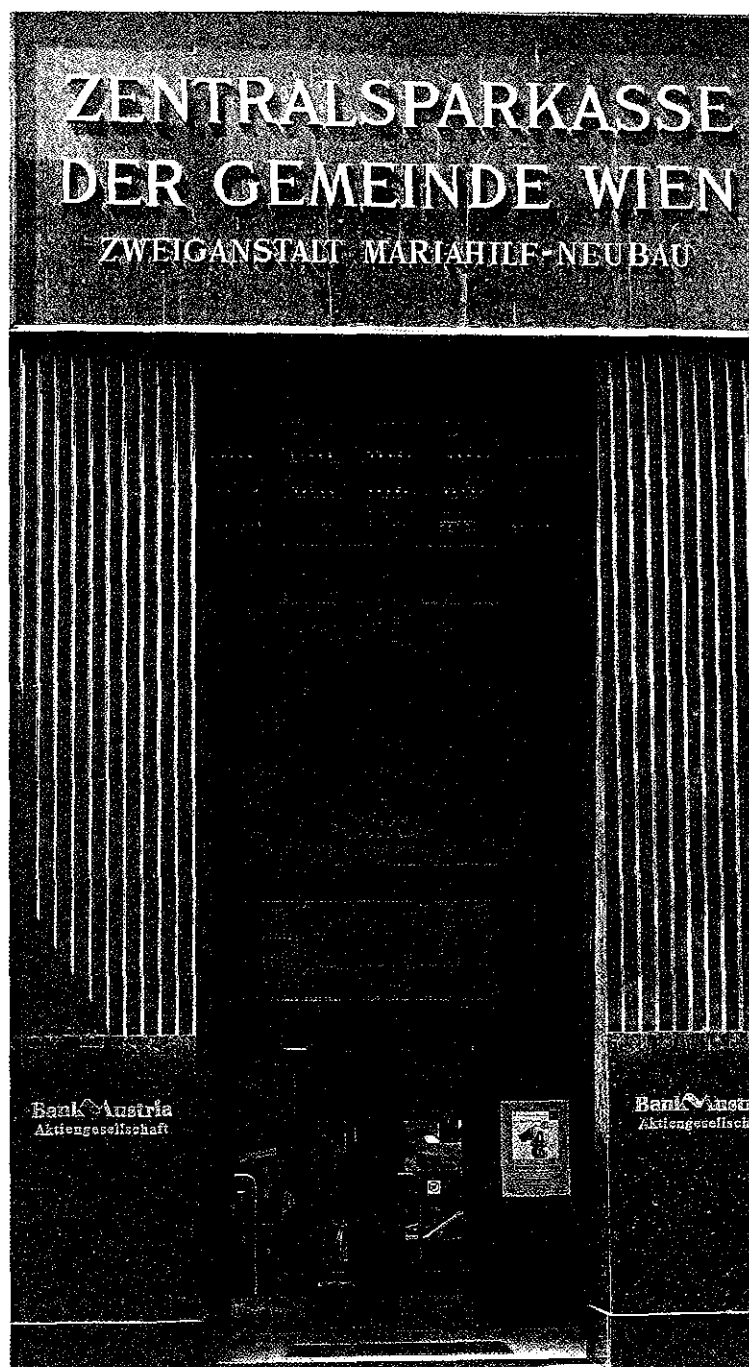
While this may sound not unlike Adolf Loos's objections to ornament, in fact Muthesius's object of attack was very different. As Frederic Schwartz has shown, in pre-1914 Germany, 'culture' was a central and much discussed concept in the developing discourse of resistance to the alienating effects of capitalism.<sup>9</sup> 'Form' therefore was, amongst other things, a guarantee against the soullessness of modern economic life. Muthesius returned to this later in the speech with his attack upon 'Impressionism':

It is evident that the ephemeral is incompatible with the true essence of architecture ... The present impressionistic attitude towards art in a sense is unfavourable to its development. Impressionism is

conceivable in painting, literature, sculpture and to some extent perhaps even music, but in architecture it does not bear thinking about. The few individualistic attempts already tried out by some architects to illustrate what might be an impressionistic manner are simply horrifying.

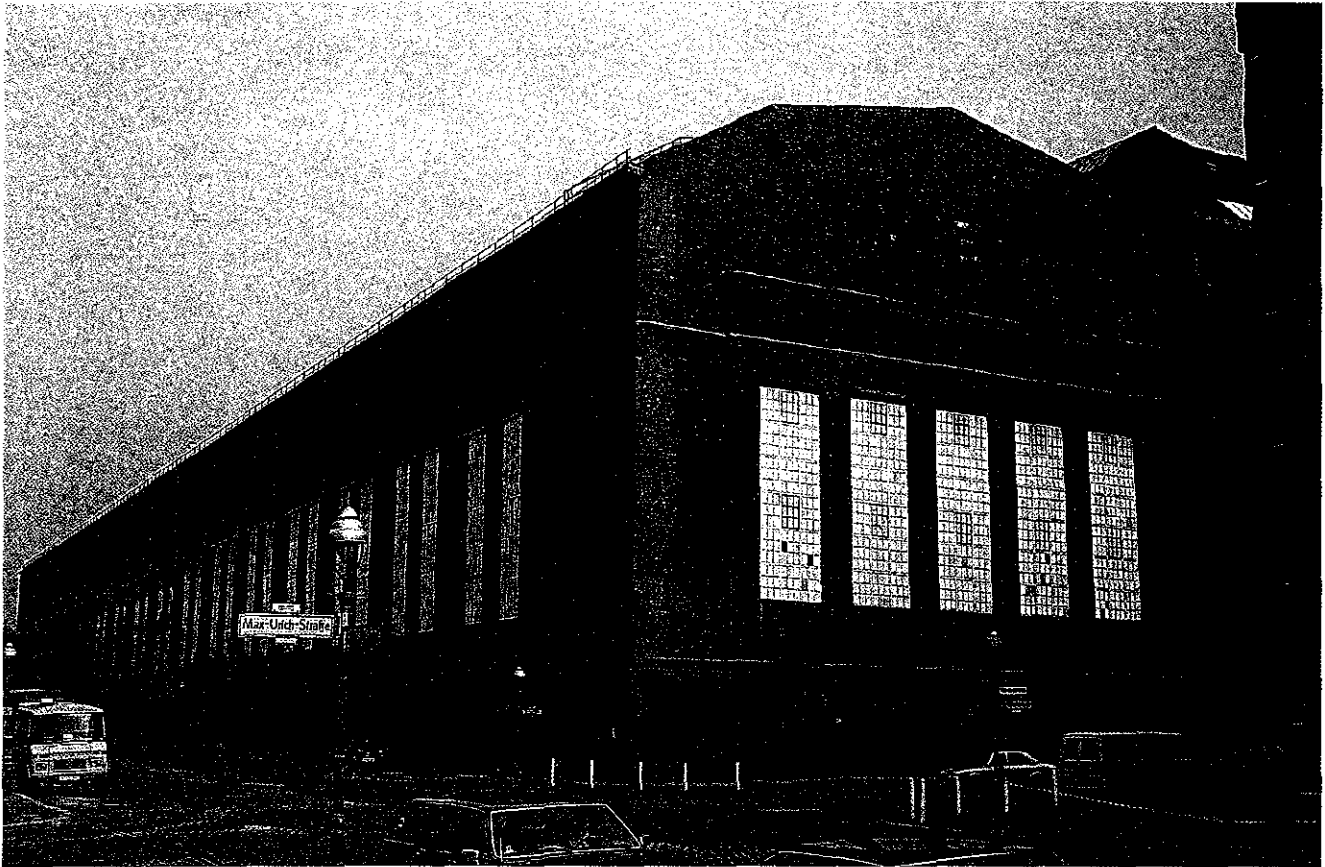
While this is an explicit attack upon Art Nouveau, as Schwartz points out, the reference to 'Impressionism', in the context of the Werkbund, refers to a discourse about the relationship between art and the market, and described both a social condition and art's response to it. Impressionism describes both the effects of *laissez-faire* – social atomization, individualism, and the indifference of those who sell goods to their production or their quality – and also the characteristics of the goods themselves, which betrayed signs of over-stimulated, nervous activity. Evidently 'form', as far as Muthesius was concerned, was not simply the means of achieving modernity, but also had the power to resist its worst aspects.<sup>10</sup> Later in the speech, Muthesius continued: 'The recovery of a feeling for architectural form is the first condition in all the arts nowadays .... It is all a matter of restoring order and rigour in our modes of expression, and the outward sign can only be good form'. Seen in these terms, 'form' is what redeems modern industry from its own worst excesses, and restores it to culture. This conception of 'form' was to be important to modernists in Germany in the 1920s; an English manifestation was Herbert Read's *Art and Industry* (1934). That such ideas could be accommodated around the concept of form was made possible by the notion of 'form' set up by Hegel, and mediated to late nineteenth-century architects by Semper.

Muthesius's exhortations to 'form' as the main theme of architecture presented certain pedagogical problems which manifested themselves in the 1920s, for how was the student to learn the principles of what had no material existence, but was a purely metaphysical category? This task was the theme of the educational programme developed at the Bauhaus under Walter Gropius's direction, and Gropius's many pronouncements on the subject attempted to explain how a student was to learn what, by definition, could not be taught: as Gropius put it in 1923, 'The objective of all creative effort in the visual arts is to give form to space. But what is space, how can it be understood and given a form?' (120). When it came to learning the principles of form, Gropius explained, the student 'is given the mental equipment with which to shape his own ideas of form' (123). Quite how such an individualistic process would lead to the



Entrance, Zentralsparkasse, Mariahilf-Neubau, Vienna, Adolf Loos, 1914. 'Forms have been constituted out of the applicability and methods of production of materials.' For Loos, 'form' was primarily a means of resistance to the decorative and ornamental excess of his contemporaries.





AEG large machine factory, Voltastrasse, Berlin-Wedding, P. Behrens, 1912.  
 'Culture is unthinkable without a compromising respect for form; and formlessness is just another name for philistinism': to Behrens and his Werkbund contemporaries, 'form' was an antidote to the superficiality and soullessness of the mass culture created by capitalism.

creation of the property that was meant to convey the supra-individual, collective nature of architecture, Gropius did not explain, and he later resorted to a more straightforward materialist explanation of where forms were to come from: 'by resolute consideration of modern production methods, constructions, and materials, forms will evolve that are often unusual and surprising' (1926, 95). At the Bauhaus's Russian equivalent, the Vkhutemas, concerned with the same problem, Moisei Ginzburg adopted a more speculative view: Ginzburg referred to

the basic danger of **CANONIZATION** of certain forms, of their becoming fixed elements of the architect's vocabulary. Constructivism is **LEADING** the **BATTLE** against this phenomenon, and studies these basic elements of architecture as something **CONTINUOUSLY CHANGING** in connection with the changing preconditions of the form-making situation. **IT NEVER ADMITS** therefore the **FIXITY** OF FORMS. *Form is an unknown, 'x', which is always evaluated anew by the architect.*

Interest in 'form' as the means of resisting the effects of mass culture and of urbanization have been recurrent throughout the twentieth century. For example, writing in 1960, the American urbanist Kevin Lynch, concerned with the lack of intelligibility of contemporary American cities, wrote 'we must learn to see hidden forms in the vast sprawl of our cities' (12). He took this up again when he considered the means of making the city's image more evident, in an argument which gains much of its effect from the confusion between form as invisible idea, and as physical shape: 'the objective here is to uncover the role of form itself. It is taken for granted that in actual design form should be used to reinforce meaning, and not to negate it' (46).

*Form versus social values.* In the early 1920s 'form', so highly valued within the Deutsche Werkbund, began to be treated with great suspicion by certain German architects. Mies van der Rohe, then a member of the G group in Berlin, wrote as follows in 1923:

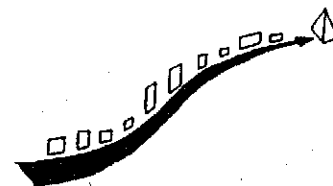
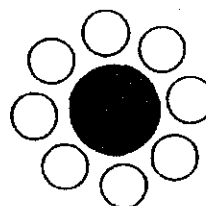
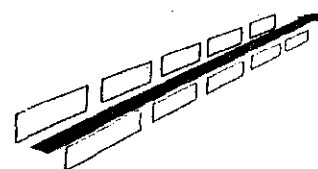
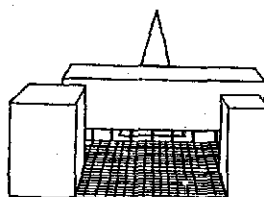
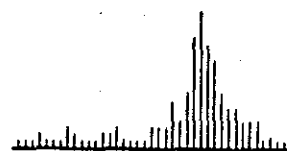
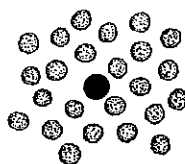
We know no forms, only building problems.

Form is not the goal but the result of our work.

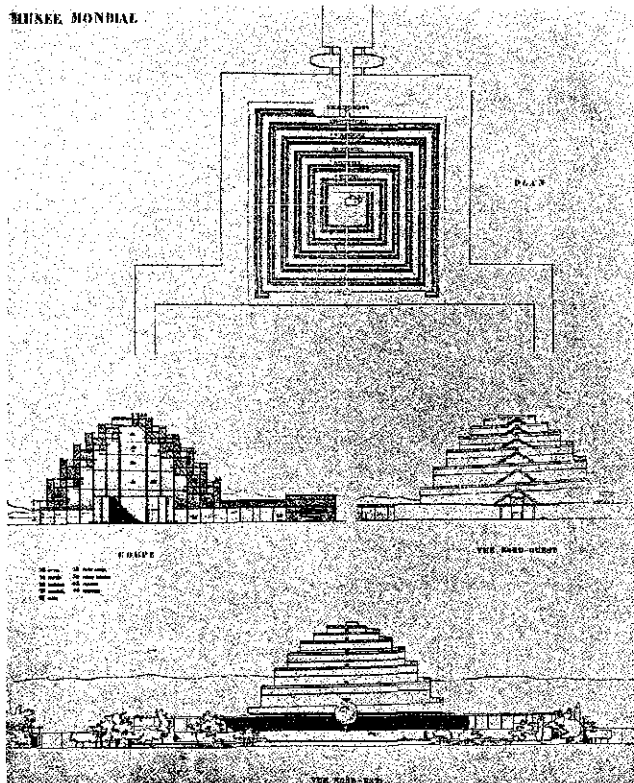
There is no form in and for itself. ... Form as goal is formalism; and that we reject. Nor do we strive for a style.

Even the will to style is formalism. (Neumeyer, 242)

For so-called 'functionalist' architects, amongst whom Mies van der Rohe included himself in the early 1920s, the end was, as the critic Adolf Behne put it, to 'arrive at a negation of form' (123). What underlay this was a complete rejection of the nineteenth-century Kantian tradition in which utility was excluded from the aesthetic in architecture: as a product of philosophical aesthetics, 'form' had no place in the scheme of those architects who saw architecture as purely the application of technology to social ends. Indeed the rejection of form was one of the clearest and most explicit ways of affirming their attachment to the view of architecture as committed to social purpose. And from this point on to draw attention to an architect's concern with 'form' has always been a way of simultaneously signalling their neglect of social questions. This occurs particularly in the pejorative use of the word 'formalist', as in the Czech critic Karel Teige's 1929 attack on Le Corbusier's Mundaneum project, which 'in its obvious historicism ... shows the non-viability of architecture thought of as art. It shows the failure of Le Corbusier's aesthetic and formalistic theories ...' (89). In recent times, 'form' has regularly



'Form Qualities of the City': nine diagrams from Kevin Lynch's *The Image of the City*, 1961. Reading from top left: 'singularity or figure-background clarity'; 'form simplicity'; 'motion awareness'; 'time series'; 'visual scope'; 'continuity'; 'dominance'; 'clarity of joint'; 'directional differentiation'. 'We must learn to see hidden forms in the vast sprawl of our cities': to Lynch and other urbanists, 'form' was the property that would overcome the alienation of modern cities – and it was the task of the urban designer to discover and reveal 'form'.



Le Corbusier, Mundaneum Project, 1928–29. The Mundaneum project attracted notoriety on account of its dominant pyramid form, which was taken to indicate the neglect of social content.

been used to imply a neglect of social concerns, as for example when Diane Ghirardo writes: ‘Perhaps the fundamental continuity between Modernist and Postmodernist architects derives from the reassertion of the power of form, and hence the primacy of design, to the exclusion of other strategies for improving cities and living conditions’ (27).

Even in the 1920s, the critic Adolf Behne tried in his book *The Modern Functional Building* to nullify this particular polarity, introducing the surprisingly novel idea that ‘form is an eminently social matter’; in this attempt to rescue the concept of form from what he saw as the ultimate dissolution of form by the functionalists, Behne’s argument that what he described as ‘romantic functionalism’ – in effect the application of a Schlegel-like notion that the form of each building is the working out of its particular inner purpose – would lead only to solutions that were entirely individual and specific to their own particular circumstances, and which, lacking any general significance, would lead ultimately to anarchy. But if each building were considered not individually, but as part of the collective sum total of all buildings, it must conform to certain generally valid principles. It was the consciousness of these general principles that Behne described as ‘form’. As well as recalling the socially redemptive power of form contained in Muthesius’s 1911 formulation, Behne’s idea, particularly in its binary opposition between the pursuit of individuality and of a socialized whole, owed a good deal to the sociologist Georg Simmel, for whom the very possibility of the study of society had rested upon the coexistence of ‘forms of socialization’ with the actual social life experienced by individuals. Behne might have had in mind an essay like Simmel’s ‘Subjective Culture’ of 1908, where Simmel had argued that while truly great works of art might be distinguished by the individual spirituality of their creator, such works were of little value from the point of view of *culture*, and that the more a work gained in cultural significance, the less apparent was the individuality of its creator. Behne proposed that ‘form’ in architecture corresponded to ‘forms’ in society. As he put it,

Form is nothing more than the consequence of establishing a relationship between human beings. For the isolated and unique figure in nature there is no problem of form. ... The problem of form arises when an overview is demanded. Form is the prerequisite under which an overview becomes possible. Form is an eminently social matter. Anyone



'Horseshoe Siedlung', Berlin-Britz, Martin Wagner and Bruno Taut, 1925-26.  
 'Form is an eminently social matter': the critic Adolf Behne attempted to reverse the prejudice against 'form' as inherently asocial by suggesting that 'form' was the means by which individuals would acquire consciousness of the collective nature of the society to which they belonged.

who recognizes the right of society recognizes the right of form. ... Anyone who sees a form in humanity, a pattern articulated in time and space, approaches the house with formal requirements, in which case 'formal' is not to be confused with 'decorative'. (137)

Behne's idea enjoyed some currency amongst the proponents of the New Architecture in Germany in the late 1920s: we find his contemporary, the architect Bruno Taut, making the same connection, in reverse, when he writes 'Architecture will thus become the creator of new social forms' (7). The idea reappears some time later, in 1955, used by the Smithsons, when writing about housing: 'Each form is an active force, it creates the

community, it is life itself made manifest'. The notion that architectural forms are equivalent to social forms (whether they derive out of, or themselves constitute social forms, is left ambiguous in the Smithsons' text) was the single most important new sense of 'form' to emerge out of modernism -- and is one that has been the most problematic and controversial.

*Form versus Functionalism.* At the time that Simmel was promoting sociology as a science of 'forms', similar things were happening in other disciplines outside the visual arts. The field within which 'form' was to have most significance, with the most far-reaching effects, was linguistics. In the nineteenth century the study of language had already benefitted from Goethe's theory of form that

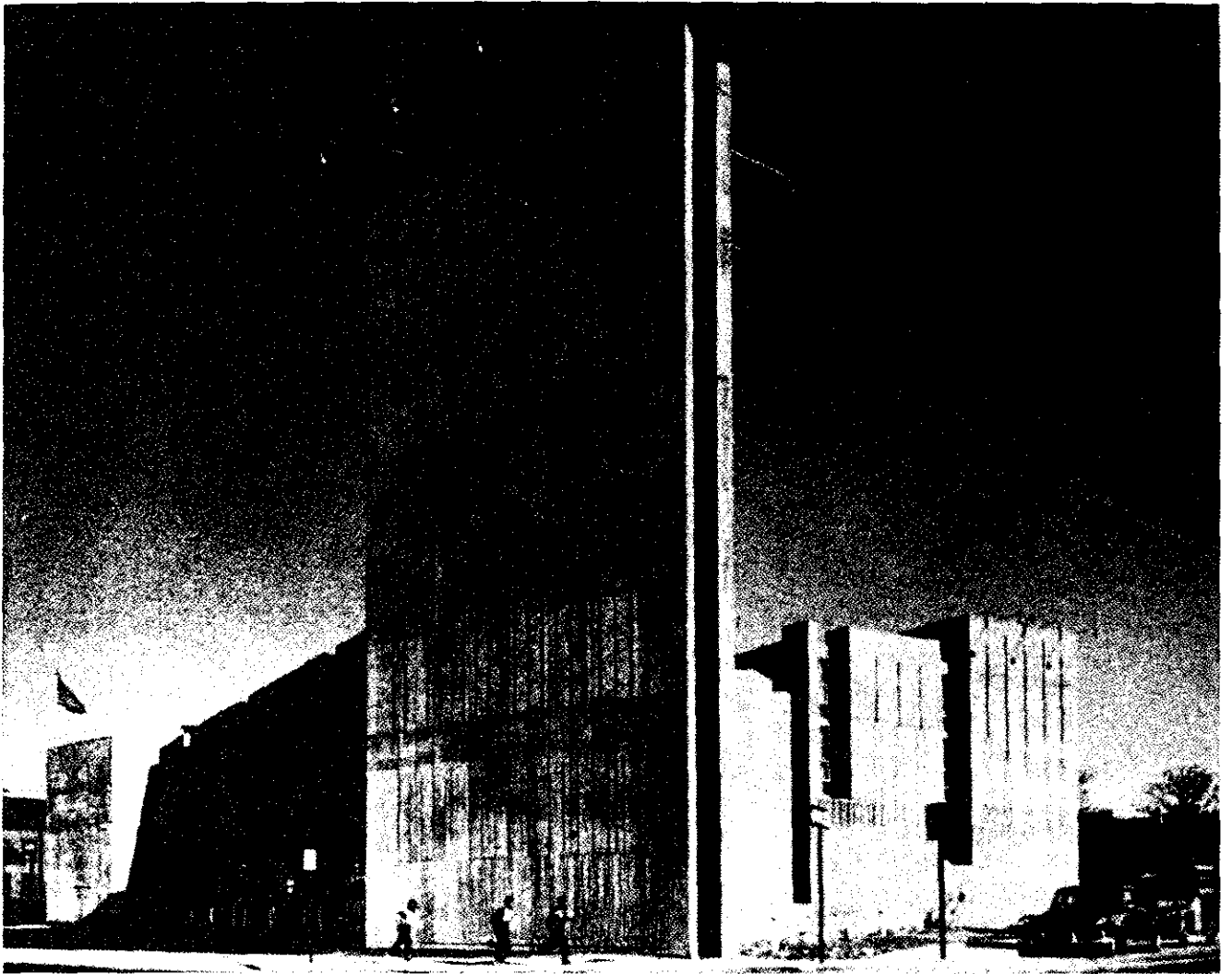
had influenced Humboldt's *On Language* (1836). In the early twentieth century, the importance of 'form' in linguistics was to be asserted again by Ferdinand de Saussure, in lectures given in 1911, and later published as *Course in General Linguistics*, in which he famously formulated the principle 'that language is a form and not a substance' (122). The significance of this proposition for the development of linguistics, and of structuralist thinking in anthropology and literary criticism, is well known; its influence upon architecture was not felt until later, in the 1960s, when it provided the means to attack functionalism, then regarded as the dominant and least satisfactory aspect of architectural modernism.

For a circle of Dutch architects, of whom Aldo van Eyck and Herman Hertzberger are the best known, and for the Italian architect Aldo Rossi, Saussure's proposition that language was a form, not a substance, was fundamental, as was the notion that the meanings of language were arbitrary. In resisting the reductiveness of functionalism, the notion that forms in architecture existed prior to, and independently of any specific purpose to which they might be put, or meaning that might be attached to them, was of particular significance. Rossi formulated this argument primarily in terms of 'types' – though the distinction between 'form' and 'type' was not particularly clear, and indeed he used the terms interchangeably. Thus for example, in the introduction to the Portuguese edition of *The Architecture of the City* in 1971, Rossi wrote 'the presence of form, of architecture, predominates over questions of functional organization. ... Form is absolutely indifferent to organization precisely when it exists as typological form' (174). The stress upon the fundamentally non-physical, and linguistic sense of 'form' is made clear by Herman Hertzberger in a recent interview: 'I am a little tired of people who try to link forms to signs, because then you get into the meanings of forms. I don't think forms have a meaning' (38).

In the American architect Peter Eisenman's twenty-year crusade against functionalism, 'form' has again been the instrument of attack. Against orthodox modernist thinking, exemplified by Le Corbusier's statement that 'A work can only affect us emotionally and touch our sensibility if its form has been dictated by a genuine purpose' (1925a), Eisenman has repeatedly asserted that there is no correlation between form and function, nor between form and meaning. As Eisenman put it, 'one way of producing an environment which can accept or give a more precise and richer meaning than at present, is to understand the nature of the structure of form itself, as opposed to the relationship of form to function or of

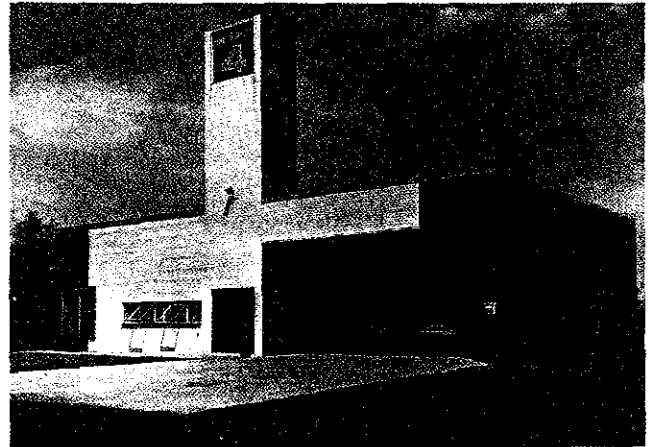
form to meaning' (1975, 15). Eisenman's single-minded pursuit of 'the structure of form' has a surprising similarity to Frank Lloyd Wright's views about form earlier in the century. Eisenman's belief that there exists 'an unarticulated universe of form which remains to be excavated' (1982, 40) is curiously similar to Frank Lloyd Wright's view that 'in the stony bonework of the Earth, ... there sleep forms and styles enough for all the ages, for all of Man' (1928, *Collected Writings*, vol. 1, 275). Although Wright believed that all the forms of architecture lay hidden in nature, whereas Eisenman believes that they are to be found within the processes of architecture, both share the view that forms are already in existence, only awaiting discovery by the artist. Both, in common with a great many other architects, seem to have lost sight of the fact that 'form' is no more than a device of thought, that can hardly have a determinate existence prior to thought.

*Form versus meaning.* In Hertzberger and in Eisenman 105 we have already seen 'form' validated in order to expel questions of meaning from the architect's domain. A corresponding, but converse argument, that too much attention to form had destroyed interest in meaning, was put most famously by the American architect Robert Venturi. Introducing the second edition of his *Complexity and Contradiction in Architecture*, Venturi wrote that 'In the early '60's ... form was king in architectural thought, and most architects focused without question on aspects of form' (14). For Venturi, this meant that architects had neglected meaning and signification. His second book, *Learning from Las Vegas* (1972), written with Denise Scott Brown, 'a treatise on symbolism in architecture' (xiv), was intended to address this state of affairs. Against what they called 'Heroic and Original' modern architecture, in which 'the creation of architectural form was to be a logical process, free from images of past experience, determined solely by program and structure' (7), and whose 'total image derives from ... purely architectural qualities transmitted through abstract form' (129), the authors proposed 'Ugly and Ordinary' architecture. With its assortment of references to conventional roadside constructions, in 'Ugly and Ordinary' architecture, the 'elements act as symbols as well as expressive architectural abstractions'; as well as representing ordinariness symbolically and stylistically, they are enriching 'because they add a layer of literary meaning' (130). The modernist obsession with form, resulting in what Venturi and Scott Brown called 'ducks', denied attention to meaning.



(above) Central Fire Station, New Haven, Connecticut, Earl P. Carlin, 1959–62.

(right) Fire Station no. 4, Columbus, Indiana, Venturi and Rauch, 1965–67. Venturi, in his stand against modernist 'form', compared the New Haven fire station, 'whose image derives from... architectural qualities transmitted through abstract forms', to his own 'Ugly and Ordinary' Columbus fire house, whose image comes from the 'conventions of roadside architecture' – false facade, banality, familiarity of the components, and the sign.



*Form versus 'reality'*. Modern art, and particularly 106  
 abstraction, had a direct relationship with theories of 'form' developed in late nineteenth-century Germany: Hildebrand's essay of 1893, and the writings of the historians Riegl, Worringer, and Wölfflin in Germany, or of the critics Clive Bell and Roger Fry in Britain, all contributed to the generally understood significance of

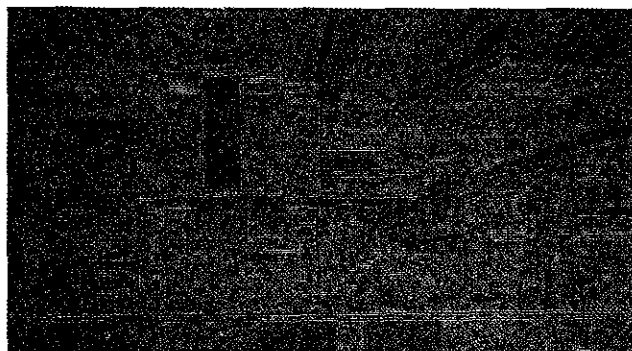
'form' as the pure substance of modernist art. However, against this, there has always been some resistance: in 1918–19 the Dadaists, Tristan Tzara and others, were promoting chaos, disorder and lack of form as the qualities of art; this interest continued amongst the Surrealists, and was best expressed by the French critic Georges Bataille, whose 'Critical Dictionary' in 1929 included an entry on 'L'Informe', the 'Formless', a category that celebrates meaninglessness, 'a term that serves to bring things down in the world... What it designates has no rights in any sense and gets itself squashed everywhere, like a spider or an earthworm'. Against philosophy, which wants everything to have form, 'affirming that the universe resembles nothing and is only *formless* amounts to saying that the universe is something like a spider or spit'.

An anti-form movement emerged again in France in the 1950s amongst the Situationists. Here its purpose was not aesthetic, but an opposition to the process of reification, of the tendency of capitalist culture to turn ideas and relationships into things whose fixity obscures reality, a process in which 'form' is variously both cause and symptom. In a generally inexplicit way, the Situationists were resistant to 'form'; in so far as there could be a Situationist architecture at all, this presented a paradox, and part of the interest of the work of the Dutch artist/architect Constant Nieuwenhuys was to try to conceive architecture which had no form, but which dealt with 'reality' without distorting it or fixing it so that it became an obstacle to the freedom to live out one's life. The Situationists' general condemnation of the world of appearances took, in architecture, the guise of proposals for an architecture which was ephemeral, transient, ludic, and lacking in any determinate form. In his utopian city 'New Babylon', Constant proposed a city not of static elements, but of 'ambience', in which 'the rapid change of the look of a space by ephemeral elements' would count for more than any permanent structure (Ockman, 315). There was a strong current of interest in the inexplicit anti-form tendencies of the Situationists during the 1960s and 1970s, manifested particularly in the work of the Archigram group, and in the earlier writings and work of the architect Bernard Tschumi.

While the question of a 'formless' architecture will no doubt continue to interest people, it nevertheless depends upon the prior existence of a concept of 'form'; formless architecture is not one in which 'form' is non-existent.

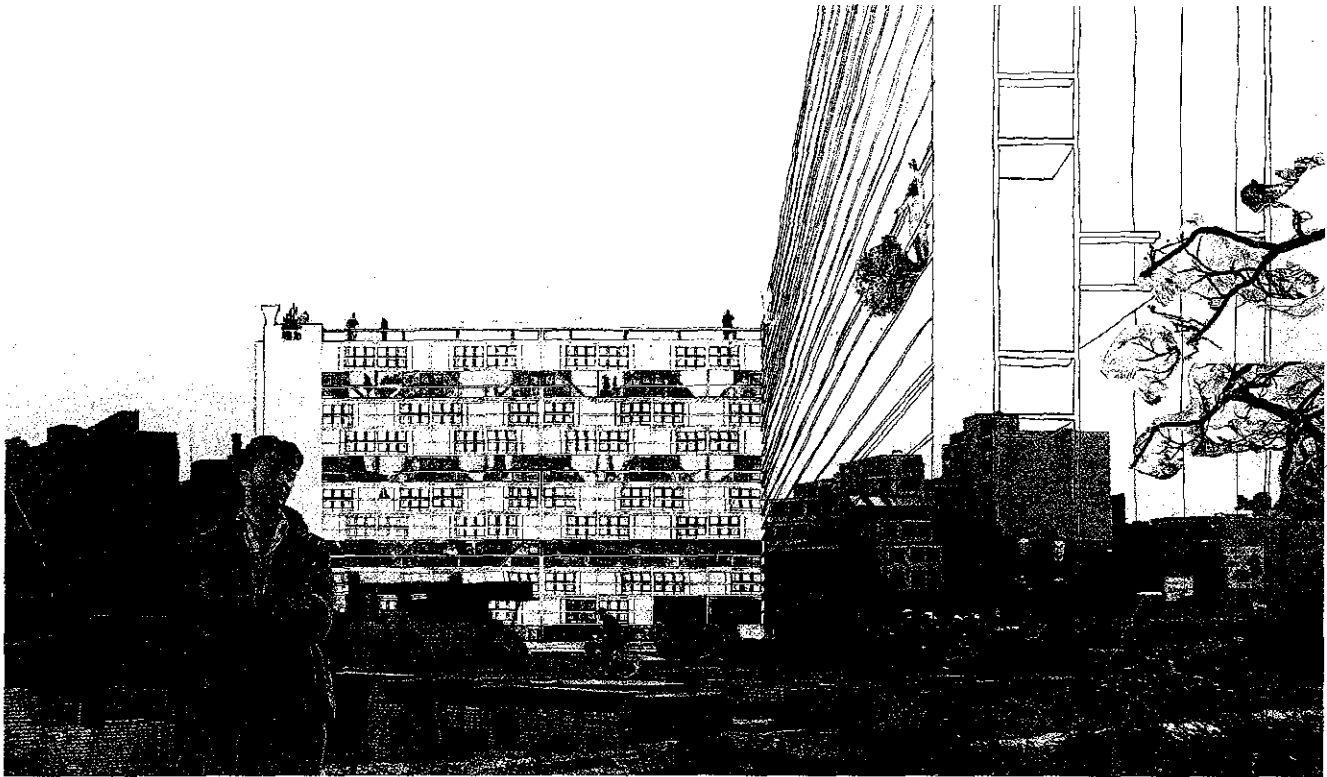
### *Form versus technical or environmental considerations.* 10.7

The opposition between 'form' and 'structure' or 'technique' originated in the nineteenth century with Viollet-le-Duc. As Viollet put it in his *Lectures*, 'all architecture proceeds from structure, and the first condition at which it should aim is to make the outward form accord with that structure' (vol. 2, 3); the error of the Renaissance was that 'Form was then the leading consideration; principles were no longer regarded, and structural system there was none' (vol. 2, 2). This particular polarity of 'form' is a familiar one within architectural modernism. An example occurs in the writing of the historian and critic Reyner Banham in the late 1950s and 1960s. Banham's resistance to 'form' combined various tendencies – Situationist sentiments, the aformalism of certain visual artists, and a strong element of technological rationalism; one of his first pieces with an anti-form theme was his 1955 article 'The New Brutalism', where the quality he singled out in Alison and Peter Smithson's Golden Lane Competition entry (see ill. p. 172) was 'its determination to create a coherent visual image by non-formal means, emphasizing visible circulation, identifiable units of habitation, and fully validating the presence of human beings as part of the total image'; while of the same architects' Sheffield University Competition design, 'aformalism becomes as positive a force in its composition as it does in a painting by Burri or Pollock' (359). But Banham's hostility to 'form' was to be connected principally with an enthusiasm for technological innovation: the lesson he drew from the work of Buckminster Fuller in particular was that a purely technical approach to issues of



Cedric Price, Fun Palace, key drawing, 1964. 'Formless' architecture, of indeterminate volume, and capable of endless change and rearrangement.

(opposite) Constant, 'New Babylon', drawing, 1961. Constant, a one-time member of the Situationist International, in his 'New Babylon' developed between 1959 and 1966, investigated a city without 'form'.



Competition entry, for Golden Lane, City of London, Alison and Peter Smithson, collage, 1952. Reyner Banham – an outspoken critic of ‘form’ – in 1955 singled out the Smithsons’ Golden Lane project as creating ‘a coherent visual image by non-formal means’.

whether it has been so successful an aid to thought about the different problems confronting architecture in the twentieth century is more doubtful. To take one in particular – the relationship of buildings to the social life in and around them – it might be said to have had disastrous consequences through its part in sustaining the belief in architectural determinism. The premise of this, the ‘form-function’ paradigm, in which it is alleged that the *form* of inanimate things directly influences human behaviour, is, as Bill Hillier points out, absurd, and a violation of common sense (1996, 379); and as he argues, the confusion and misconceptions surrounding this whole subject arise in part from the misapplication of ‘form’ to a problem for which it was not originally devised.

In a sense, ‘form’ is a concept that has outlived its usefulness. People talk *of* form all the time, but they rarely talk *about* it; as a term it has become frozen, no longer in active development, and with little curiosity as to what purposes it might serve. Ask this question, and it may lose some of its seeming naturalness and neutrality.

1 For discussion of the difference between these two words, see Schiller, *On the Aesthetic Education of Man*, edited and translated by Elizabeth M. Wilkinson and L. A. Willoughby, Oxford, Clarendon Press, 1967, 308–10.

2 David Summers, ‘Form and Gender’, in Bryson, Holly and Moxey (eds), *Visual Culture. Images and Interpretations*, Hanover, New Hampshire, 1994, 406.

3 See Popper, ‘The Nature of Philosophical Problems’, in *Conjectures and Refutations*, 1963, 66–96.

4 Panofsky, *Idea*, 1968, 209. See Alberti, *On the Art of Building in Ten Books*, 1988, ‘Lineaments’, 422–23.

5 See Panofsky, *Idea*, 1968, 115–21.

6 Fink, *Goethe’s History of Science*, 1991, 88–89; see also Magnus, *Goethe as a Scientist*, 1906, especially chapters 4 and 5; and Chomsky, *Cartesian Linguistics*, 1966, 23–24.

7 See the Introduction to Mallgrave and Ikononou, *Empathy, Form and Space*, 1994, 1–85, for a full account of this subject.

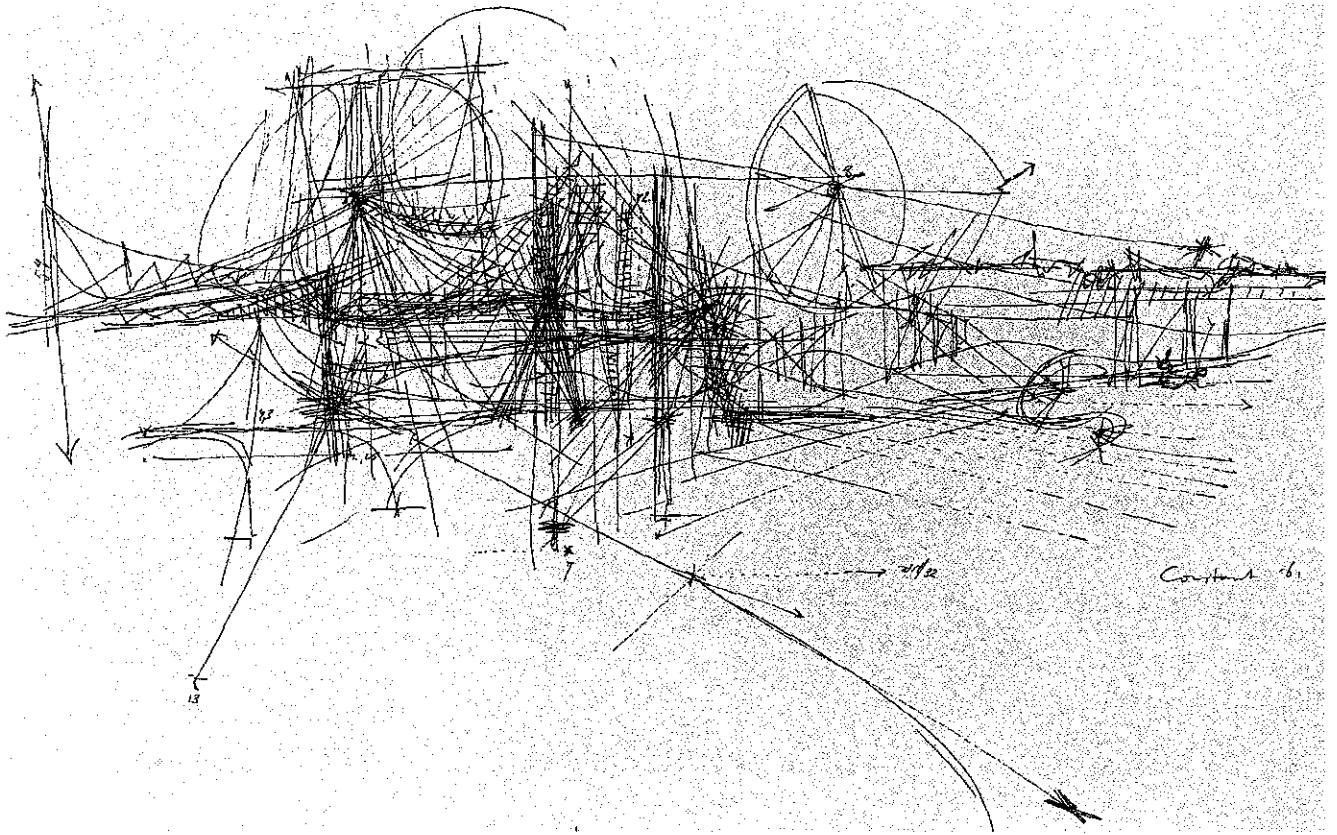
8 See Levine, *Frank Lloyd Wright*, 437, note 5, for references to this topic.

9 Schwartz, *The Werkbund*, 1996, 15–16.

10 Schwartz, *The Werkbund*, 1996, 91–95.

11 See, for example, Colquhoun, ‘Plateau Beaubourg’, in *Essays in Architectural Criticism*, 1981.





construction might lead to results that would be unrecognizable as architecture. Of Fuller's Dymaxion House he remarked – approvingly – ‘the formal qualities ... are not remarkable’ (1960, 326), and it was distinguished instead by the adaptation of aircraft construction techniques to building, and its innovative use of mechanical services. Banham's belief that the future of architecture lay with technology, with its inherent indifference to ‘form’, underlies his 1969 book *The Architecture of the Well-Tempered Environment* (see especially 21ff). Something of this approach appears in the work of Banham's friend Cedric Price, whose ‘Fun Palace’ project of 1964, described by its promoter Joan Littlewood as ‘a University of the Streets’, was a structure with an indeterminate form, capable of endless rearrangement. Price explained: ‘The complex itself, having no doorways, enables one to choose one's own route and degree of involvement with the activities. Although the framework will remain a constant size, the total volume in use may vary, thus presenting a changing scene even to the frequent user’. The Fun Palace

was a blend of Situationism, providing ever-changing opportunities for encountering and reproducing everyday life after one's individual desires, combined with an application of the most up-to-date technological systems, through which it was to be realized. A similar unlikely combination of Situationist liberation with a fascination for high technology occurred in the work of Archigram in the 1960s. However the most prominent essay in this idiom of ludic formlessness, the Centre Pompidou in Paris (1971–77), disappointed its critics by reverting to strongly architectural conventions of mass and volume, reminiscent of the American work of Mies van der Rohe.<sup>11</sup>

What will happen to ‘form’? That it is not a permanent or timeless category of architectural discourse is clear. Developed in the nineteenth century as a solution to certain specific problems – in particular the nature of aesthetic perception, and the processes of natural morphology – ‘form’ was an extraordinarily productive concept both for these and many related fields. But

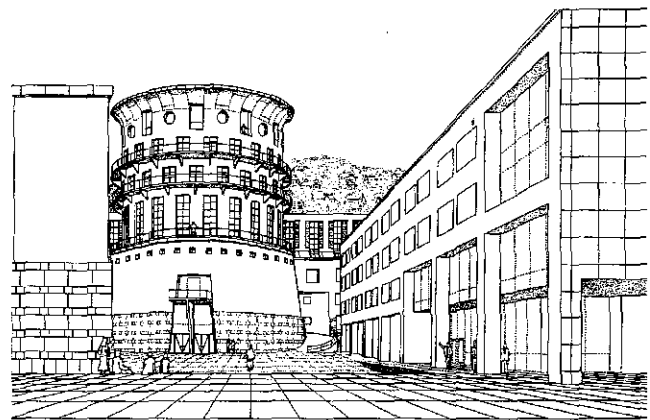
## Formal

As the adjective of 'form', 'formal' has all the complications of 'form' – and some more. 'Formal' is regularly used with the intention of giving emphasis to the specifically 'architectural' properties in works of architecture; but as the nouns with which it is generally linked – 'order', 'design', 'structure', 'vocabulary' – are themselves so ambiguous, the confusion is compounded. For example, 'Boston is probably quite different from many American cities, where areas of formal order have little character' (Lynch, 1960, 22); or the press release for Frank Gehry's Vitra Museum: 'A consistent, albeit differentiated, formal vocabulary ties the various pieces together' (quoted in Maxwell, 1993, 109).

What makes 'formal' still more confusing is that as the opposite of 'informal' it also has the sense of 'ceremonious', or 'affected'. This has a longstanding use in architecture, and not only in relation to gardens. For example, Sir William Chambers warned that unless the architect was a master of drawing, 'his compositions will ever be feeble, formal and ungraceful' (94); and Sir John Soane, comparing Ancient gardens with modern: 'There can be no comparison between the stiff formal art, unnaturally applied, of the one, and the finest effects of nature, happily assisted by art, in the other' (627). In English, the use of 'formal' as the opposite of 'informal' is longer established than its other senses as the adjective of 'form', and there has always been a tendency for the meaning to revert by default to this original sense when no other is indicated – take a modern example, of Kahn's Yale University Art Gallery: 'the plan is very formal' (Banham, 1955, 357). Sometimes deliberate play is made of the 'formal/informal' contrast, while at the same time vesting 'formal' with a modern architectural sense; of Stirling and Wilford's Music Academy and Dance Theatre at Stuttgart: 'Thus both schemes are committed to the game of formality and informality, using the elements of axial stasis and diagonal movement to generate a dynamic balance' (Maxwell, 1993, 99).

'Formal' can sometimes be pejorative, in the sense of a limitation, deriving from the various negative senses of 'form'. For example, the Czech critic Karel Teige's 1929 attack upon Le Corbusier's Mundaneum project, which 'in its obvious historicism ... shows the non-viability of architecture thought of as art. It shows the failure of Le Corbusier's aesthetic and formalistic theories ...' (89). (Teige was probably taking advantage of Lukács's use of 'formalism' as a category within literary criticism, as what makes a work 'unrealistic'.) Lubetkin and Tecton's Highpoint II (1938) was criticized for setting 'formal values above use values' (Cox, 1938). Michael Sorkin comments on the difficulty of writing about city architecture, 'Appreciating it formally demands that the terms of the discussion be totally hemmed, that the question of effects be trivialized' (237).

When precision of meaning is desired (not, admittedly, always the case), 'architectonic' may be a better word than 'formal'; at least it does not mean so many so things.



Perspective, Academy of Music, Stuttgart, James Stirling and Michael Wilford, 1987. 'Formality and informality.'