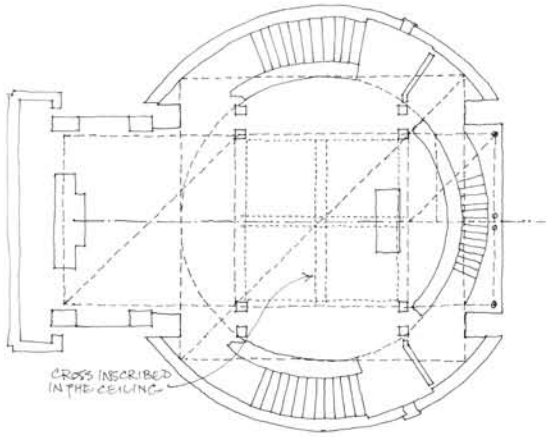
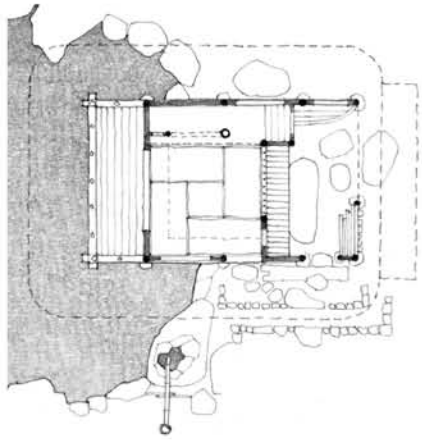
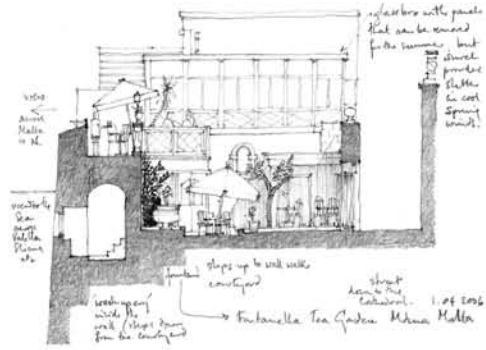
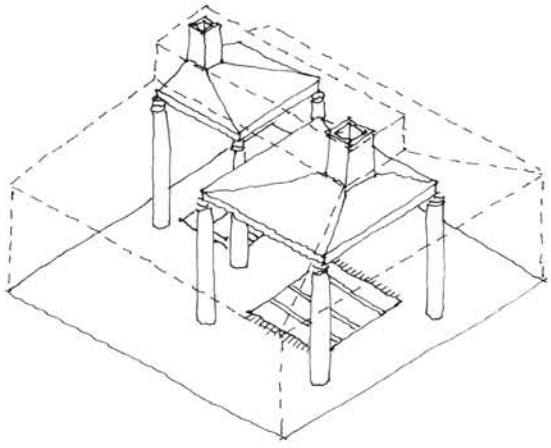
analysing
ARCHITECTURE

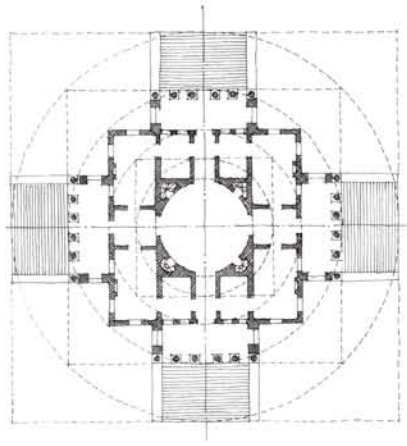
FOURTH EDITION

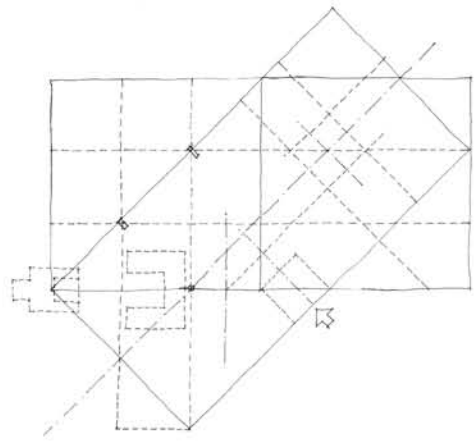












SIMON UNWIN

ROUTLEDGE

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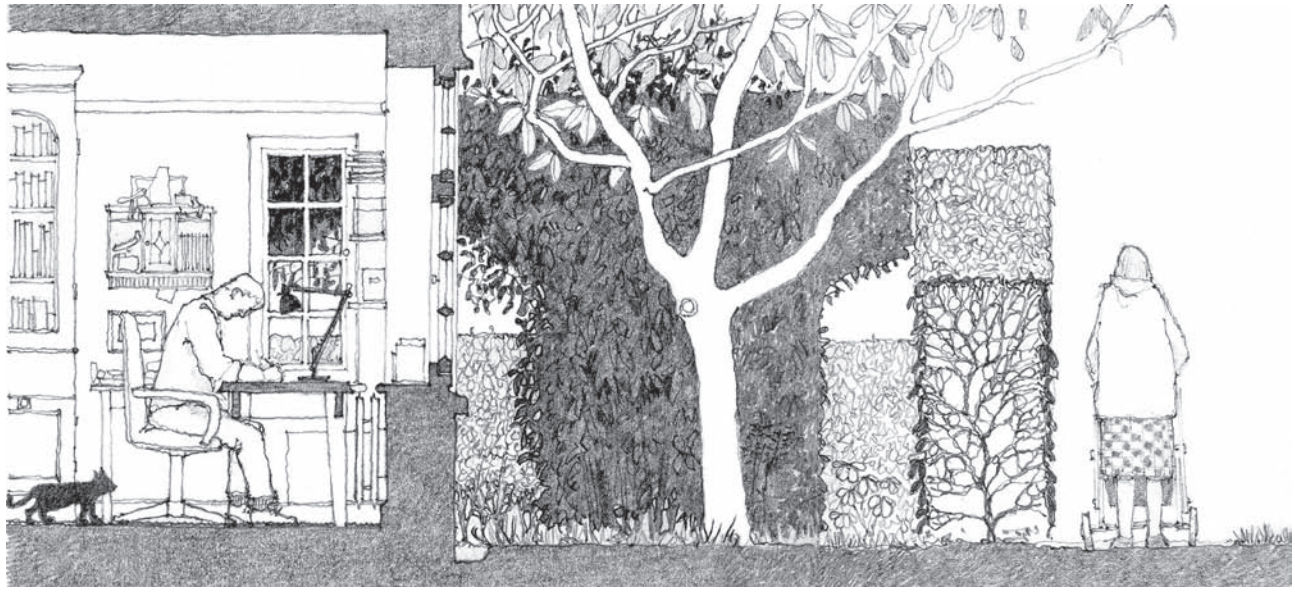


Analysing ARCHITECTURE

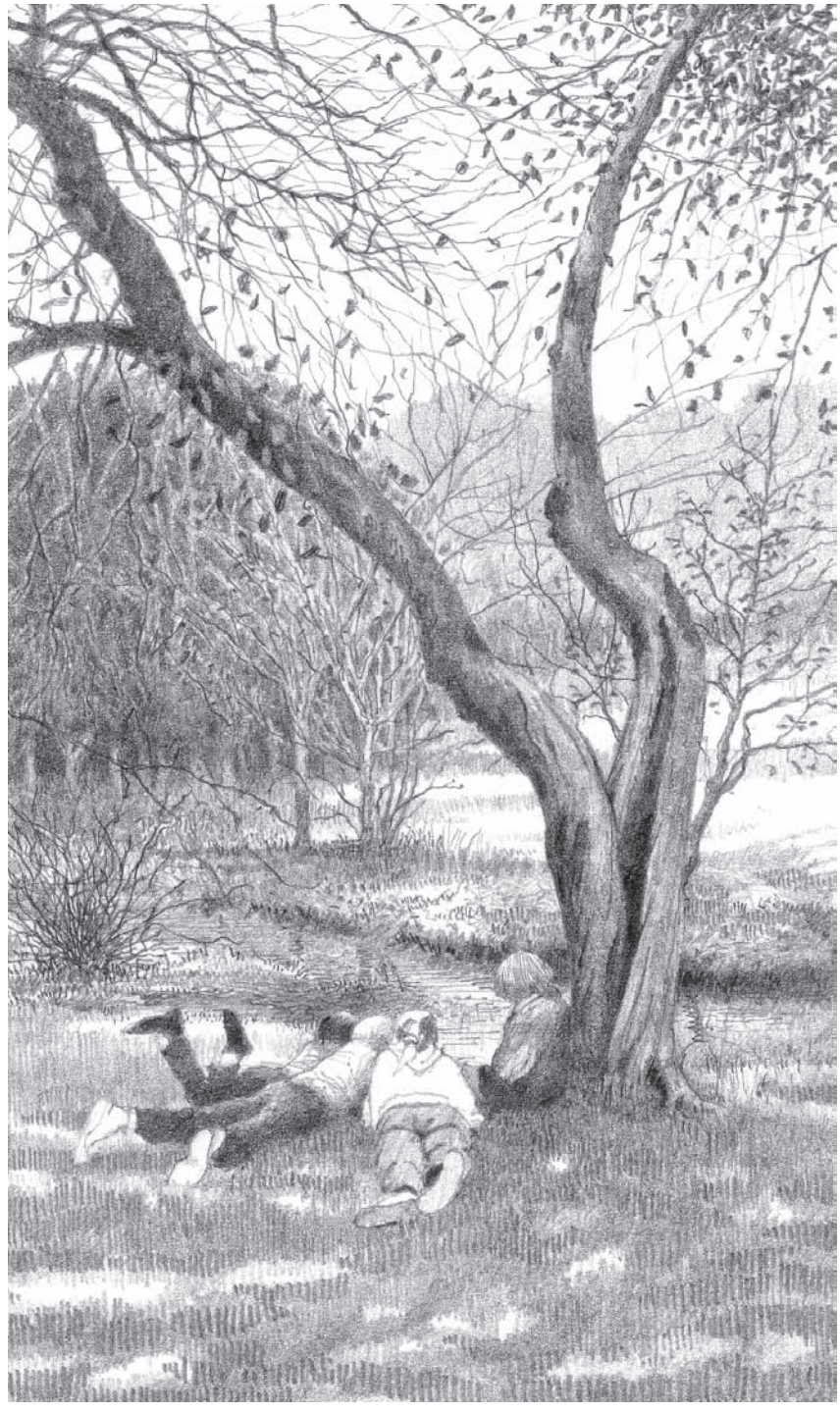
The search is what everyone would undertake if he were not stuck in the everydayness of his own life. To be aware of the possibility of the search is to be on to something. Not to be on to something is to be in despair.

Walker Percy – *The Moviegoer*, quoted in Lawrence Weschler – *Seeing is Forgetting the Name of the Thing One Sees: a Life of Contemporary Artist Robert Irwin*, 1982, p. 1

But why think about that when all the golden land's ahead of you and all kinds of unforeseen events wait lurking to surprise you and make you glad you're alive to see?

Jack Kerouac – *On the Road*, 1957, p. 122

Children under a tree have, in the most primitive way, made an architectural decision by choosing it as a place to sit. This is architecture at its most rudimentary.



ARCHITECTURE AS IDENTIFICATION OF PLACE

The marking of ground, rather than the primitive hut, is the primordial tectonic act.

Vittorio Gregotti – 'Address to the Architectural League, New York, October 1982', in *Section A*, Volume 1, Number 1, February/March 1983, p. 8

Architecture has its own realm. It has a special physical relationship with life. I do not think of it primarily as either a message or a symbol, but as an envelope and background for life which goes on in and around it, a sensitive container for the rhythm of footsteps on the floor, for the concentration of work, for the silence of sleep.

Peter Zumthor – 'A way of looking at things' (1988), in *Thinking Architecture*, 1998, p. 13

The set is the geometry of the eventual play, so that a wrong set makes many scenes impossible to play, and even destroys many possibilities for the actors.

Peter Brook – *The Empty Space*, 1968, p. 110

The principal proposition underlying our work is that the first purpose of architecture is territorial, that the architect sets out the perceptual stimuli with which the observer creates an image of 'place'. The architect particularizes. He selects an appropriate temperature range and builds devices for maintaining it, controls the intensity and direction of light, discriminates specialized activity patterns, organizes movement and subjects the building process to a clarifying pattern. By directing all these factors to a controlling image, he builds the opportunity for people to know where they are – in space, in time and in the order of things. He gives them something to be in.

Donlyn Lyndon – 'Sea Ranch: the Process of Design', in John Donat, editor – *World Architecture 2*, 1965, p. 31

ARCHITECTURE AS IDENTIFICATION OF PLACE

Before we can get on to looking at some of the conceptual strategies of architecture in detail, it is necessary to lay out some ground work with regard to the nature of architecture and its purpose. Before we can get on to the 'how?', we need to look briefly at the 'what?' and 'why?': 'what is architecture?' and 'why do we do it?'.

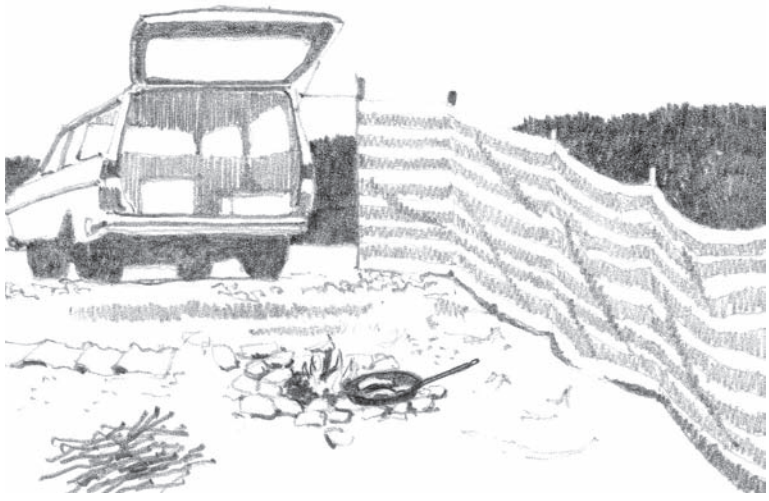
Despite the huge literature on architecture, its definition and purpose have never been settled. These are issues about which there is a great deal of confusion and debate, which is strange considering that architecture as a human activity is literally older than the Pyramids. The question 'what is one doing when one is doing architecture?' appears simple, but it is not an easy one to answer.

Various ways of framing an answer to this question seem to have contributed to the confusion. Some of these relate to comparison of architecture with other forms of art. Is architecture merely sculpture – the three-dimensional composition of forms in space? Is it the application of aesthetic considerations to the form of buildings – the art of making buildings beautiful? Is it the decoration of buildings? Is it the introduction of poetic meaning into buildings? Is it the ordering of buildings according to some intellectual system – classicism, functionalism, post-modernism?

One might answer 'yes' to all these questions, but none seems to constitute the rudimentary explanation of architecture that we need. All of them seem to allude to a special characteristic or a 'superstructural' concern, but they all seem to miss a central point that one suspects should be more obvious. What is needed for the purposes of this book is a much more basic and accessible understanding of the nature of architecture, one that allows those who engage in it to know what they are doing.

Perhaps the broadest definition of architecture is that often found in dictionaries: 'architecture is the design of buildings'. One cannot contradict this definition but it does not help very much either; in a way it actually diminishes the conception of architecture by limiting it to 'the design of buildings'. Although it is not necessary to do so, one tends to think of 'a building' as an object (like a vase or a cigarette lighter); but architecture involves rather more than the design of objects.

A more useful way of understanding architecture can be gleaned, ironically, from the way the word is used in regard to other art forms, music in particular. In musicology the 'architecture' of a symphony can be said to be the conceptual organisation of its parts into a whole, its intellectual structure. It is strange that the word is rarely used in this sense with regard to architecture itself. In this book this is adopted as the root definition of architecture. Here, the architecture of a building, a group of buildings, a city, a garden…



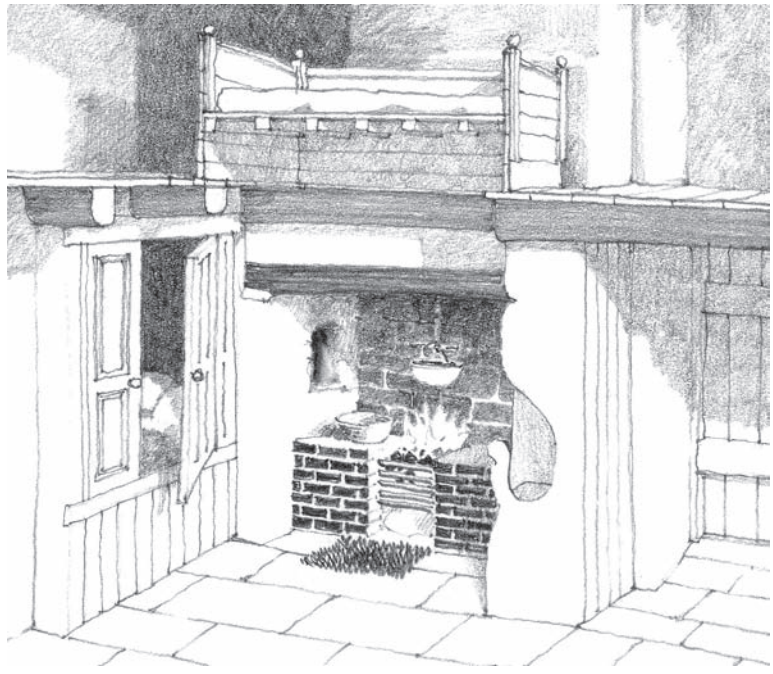
The architectural actions of a prehistoric family making its dwelling place can be replicated and updated in a beach camp. The fire is the focus, and also a place to cook. A windshield protects the fire from too much breeze, and as a wall begins to give some privacy. There is a place where the fuel for the fire is kept, and the back of the car acts as a food store. There are places to sit, and if one were to stay overnight, one would need a bed. These are the basic 'places' of a house; they come before walls and a roof.

is considered to be its conceptual organisation, its intellectual structure. This is a definition of architecture that is applicable to all kinds of examples, from simple rustic buildings, through grand public edifices, to formal urban settings.

Though this is a useful way of understanding architecture as an activity, it does not address the question of purpose – the 'why' of architecture. This appears to be another difficult 'big' question, but again there is an answer at the rudimentary level that is useful in establishing something of what one is striving to achieve when one is doing architecture. In looking for this answer, simply suggesting that the purpose of architecture is 'to design buildings' is again an unsatisfactory dead end; partly because one suspects that architecture involves rather more than that, and partly because it merely transfers the problem of understanding from the word 'architecture' to the word 'building'. The route to an answer lies in forgetting altogether, for the moment, about the word 'building', and thinking about how architecture began in the distant primeval past.

Imagine a prehistoric family making its way through a landscape unaffected by human activity. They decide to stop, and as the evening draws on they light a fire. By doing so, whether they intend to stay there permanently or just for one night, they have established a *place*. The fireplace is for the time being the centre of their lives. As they go about the business of living they make more places, subsidiary to the fire: a place to store fuel; a place to sit; a place to sleep; perhaps they surround these places with a fence; perhaps they shelter their sleeping place with a canopy of leaves. From their choice of the site onwards they have begun the evolution of the house; they have begun to organise the world around them into places they use for a variety of purposes. They have begun to do architecture.

The idea that identification of place lies at the generative core of architecture can be explored and illustrated further. In doing this one can think of architecture, not as a language, but as being in some ways like one. Place is to architecture, it may be said, as meaning is to language. Meaning is the essential burden of language; place is the essential burden of architecture. Learning to do architecture can seem to be like learning to use language.



The inside of this Welsh farmhouse can be compared with the beach camp on the previous page. The places of the beach camp have been transposed into a container, which is the house itself. Although such images can feed our romantic ideas of the past, the architecture itself was, before it became anything else, a product of life.

Like language architecture has its patterns and arrangements, in different combinations and compositions as circumstances suggest. Significantly, architecture relates directly to the things we do; it changes and evolves as new, or reinterpreted, ways of identifying places are invented or refined.

Perhaps most important, thinking of architecture as identification of place accommodates the idea that architecture is participated in by more than the individual. In any one example (a building for instance) there will be places proposed by the designer and places created by adoption by the users (these may or may not match). Unlike a painting or a sculpture, which may be said to be the intellectual property of one mind, architecture depends upon contributions from many. The idea of architecture as identification of place asserts the indispensable part played in architecture by the user as well as the designer. And for the designer who will listen, it suggests that places proposed should accord with places used, even if it takes time for this to happen.

So-called 'traditional' architecture is full of places that, through familiarity and use, accord well with users' perceptions and expectations. The illustration on this page shows the interior of a Welsh farmhouse (the upper floor has been cut through to show some of the upstairs room). The places that are evident can be compared directly with those in the beach camp shown on the opposite page. The fire remains the focus and a place to cook, though there is now also an oven – the small arched opening in the side wall of the fireplace. The 'cupboard' to the left of the picture is actually a box-bed. There is another bed upstairs, positioned to enjoy the warm air rising from the fire. Under that bed there is a place for storing and curing meat. There is a settle to the right of the fire (and a mat for the cat). In this example, unlike the beach camp, all these places are accommodated within a container – the walls

Reference for Welsh farmhouses:
Royal Commission on Ancient and Historical Monuments in Wales – *Glamorgan: Farmhouses and Cottages*, 1988.

and roof of the house as a whole (which itself, seen from the outside, becomes an identifier of place in a different way). Although nobody is shown in the drawing, every one of the places mentioned is perceived in terms of how it relates to use, occupation, meaning. One projects people, or oneself, into the room: under the blankets of the bed, cooking on the fire, chatting by the fireside. Such places are not abstractions such as one finds in other arts; they are an enmeshed part of the real world. At its rudimentary level architecture deals not in abstractions but with life as it is lived, and its fundamental power is to identify place.

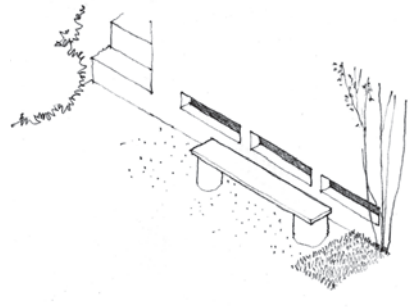
Place is the *sine qua non* of architecture. We relate to the world through the mediation of place. Situating ourselves is an *a priori* requisite of our existence. Simply to be is to be in a specific place at a specific time. We are constantly placing ourselves: we have a sense of where we are and of other places around us; we weigh up where we might go next. We feel comfortable when we are settled in a place: in bed; in an armchair; at home. We feel uncomfortable when we find ourselves in the wrong place (at the wrong time): in a field during a thunderstorm; embarrassingly exposed at some social event; lost in an unfamiliar city. In our lives we either establish places for ourselves or have them established for us. We are constantly playing the game of situating ourselves in relation to things, to people, to forces of nature. Whether simple or complex, places accommodate us, the things we do, and our possessions; they provide the frames in which we exist and act. When they work, they make sense of the world for us; or we make sense of the world, in a physical and psychological sense, through them. Those who organise the world (or a part of it) into places for others have a profound responsibility.

We make sense of our surroundings by organising them into places. Places mediate between us and the world. We recognise a chair as a place to sit…

Conditions of architecture

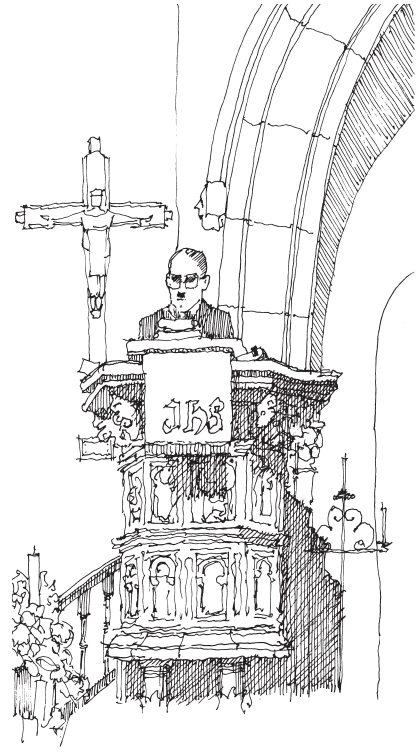
In trying to understand the powers of architecture one must also be aware of the conditions within which they are applied. Though its limits cannot be set, and should perhaps always be under review, architecture is not a free art of the mind. Discounting for the moment those fantasy architectural projects that are designed as conceptual or polemic statements never intended to be realised, the processes of architecture are applied in (or on) a real world with real characteristics: gravity, the ground and the sky, solid and space, climates, the progress of time, and so on. Works of architecture are constructed with real materials with their own innate characteristics and capacities.

Also, architecture is operated by and for people, who have needs and desires, beliefs and aspirations; who have aesthetic sensibilities that are affected by warmth, touch, odour,



When Le Corbusier built a small house for his parents overlooking Lac Léman near Montreux in Switzerland, he provided a simple bench overlooking the lake. It consisted of no more than a plank supported by two blocks of tree trunk. In a small book he wrote about the house later he described this bench as '*un authentique "fait d'architecture"*' ('an authentic "work of architecture"').

References for Le Corbusier's Villa Le Lac:
Le Corbusier – *Une petite maison* (1954), Basel, 2001.
Simon Unwin – *Villa Le Lac* (ebook), 2012 (available for iPad from iBookstore).



… and a pulpit as a place to stand and preach.

sound, as well as by visual stimuli; who do things and whose activities have practical requirements; who see meaning and significance in the world around them.

Such is no more than a reminder of the simple and basic conditions under which we all live and with which architecture must contend or harmonise. There are, however, other general themes that condition the operation of architecture. Just as the languages of the world have their common characteristics – a vocabulary, grammatical structures, etc. – so too architecture has its elements, patterns and structures (both physical and intellectual).

Though not as open to flights of imagination as other arts, architecture has fewer limits. Painting does not have to take gravity into account; music is mainly aural. Architecture is, however, not constrained by the limits of a frame; nor is it confined to one sense. Since ancient times architecture has been considered the 'mother' of the arts. While music, painting and sculpture exist in a way separate from life in a transcendent special zone, architecture incorporates life. People and their activities are an indispensable component of architecture, not merely as spectators to be entertained but as contributors and participants. Painters, sculptors, composers of music may complain about how their viewers or audience never see or hear their art in quite the same way as it was conceived, or that it is interpreted or displayed in ways that affect its innate character. But they do have control over the essence of their work and that essence is, in a way, hermetically sealed within the object: the musical score, the covers of a book or the picture frame. By contrast even the essence of architecture is penetrated by the people whose activities it accommodates.

Architecture has also been compared with film-making – an art form that incorporates people, place and action through time. But even in film the director is in control of the essence of the art object through the control of plot, sets, camera angles, script etc., which is not the case in architecture.

Furthermore, the realisation of works of architecture is usually dependent on patronage. The products of architecture – whether buildings, landscapes, cities – usually require substantial financial resources. The work that is achieved tends to be that wanted by those with access to or control over the resources needed to support its realisation. They decide what is built and often influence its form.

The conditions under which one can engage in architecture are therefore complex, perhaps more so than for any other art form. There are the physical conditions imposed by the natural world and its forces: space and solid, time, gravity, weather, light… There are the conditions imposed by those who will use the products of architecture and by those paying for them. There are also the more fickle political conditions provided by the

interactions of human beings individually and in society. Architecture is inescapably a political field, in which there are no incontrovertible rights and many arguable wrongs. The world can be conceptually organised in infinitely diverse ways. And just as there are many religions and many political philosophies, there are many divergent ways architecture is used. The organisation and disposition of places is so important to the ways people live and interact with each other that it has in the course of history become less and less a matter of *laissez faire*, more and more subject to political control.

People make places (or have places made for them) in which to do the things they do in their lives – places to eat, to sleep, to shop, to worship, to argue, to learn, to store things and so on and on. The way people organise their places is related to their beliefs and their aspirations, their world view. As world views vary, so does architecture: at the personal level; at the social and cultural level; and between different sub-cultures within a society.

Which use of architecture prevails in any situation is usually a matter of power – political, financial or that of assertion, argument, persuasion. Launching design into conditions like these is an adventure only to be undertaken by the brave-hearted.

'A house of men or of priests is at home in natural surroundings; it adjusts itself to the lie of the land whether it be forest, plain or valley. Its existence is justified by the road which winds towards it from afar. It reigns over the fields, a shelter for man and beast. It is made in the image of the law established thousands of years ago, namely, that a man comes to a place, tills the land and builds a shelter for himself, his wife, his children, his men and his domestic animals. However… every human settlement has its origins in a choice. We follow the direction of a path, taken either intentionally or by chance, and are led to a certain spot which is part of the whole environment. There we say, "This is where it shall be. We will enclose a portion of this space between walls, organize our lives inside them and, confining ourselves to this area, we will spend each day cultivating and maintaining this little space that we have taken from nature." So, in his valley or his plain or on his peak, man occupies the land, clears a piece of earth or rock and shuts in the impalpable.'

Fernand Pouillon, translated by Gillott – *The Stones of Le Thoronet* (1964), 1970, p. 155.

A definition of 'place'

In his 1982 address to the Architectural League in New York, the architect Vittorio Gregotti said: 'The marking of the ground, rather than the primitive hut, is the primordial tectonic act.' But architecture begins before even that; it begins with a mind's motivation to make that mark, with its desire to identify a place.

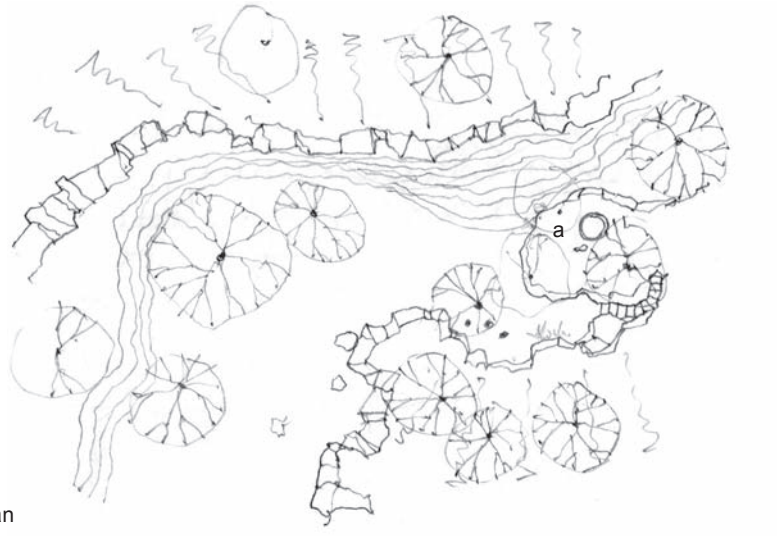
'Place' is a word which, like many other words, has variable meanings. Often in architectural discussion it is used in the sense suggested by the sentence, 'New York (or wherever else) is a place; it has a particular visual character, which consists in the heights of buildings, the scale and layout of the streets, the materials used for building, the shapes and detail of doors and windows, etc.' (with the consequential implication that new architecture might in some way relate to that ingrained character – its *genius loci*). The word is used in a different, more rudimentary, way in this book. This use may be illustrated by the following steps:

- Imagine you are in an open landscape. With no more than a look you select a specific spot on the land. You have, in that look, established, if only in your mind, a place.

  'Place' is where the mind touches the world.

  Maybe you see that place as a potential spot to settle, if only to rest for a moment. Maybe you associate that place with a particular experience – passing from the

Architecture, however complex and subtle it may be in its more sophisticated forms, can begin with something as simple as sitting on a sand-dune looking out to sea. By doing so you establish a place. Even after you have moved on, the impression of your body persists in identifying the place as a seat, the place where you sat.



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sunshine of an open field into the shade of a forest – or with a particular event – being startled by a snake – or perhaps with a particular set of emotions – a sensation of peace and safety.

- You decide to change that place, maybe just by occupying it, or by clearing bracken or stones to define an area of ground. Then you build a wall around that ground, or a circle of stones, or a small house or temple.

  A 'place' is established by a configuration of architectural elements that seems (to the mind informed by its senses) to accommodate, or offer the possibility of accommodation to, a person, an object, an activity, a mood, a spirit, a god.

- As you stand inside it, the boundary of your ground – the wall, the circle of stones, your house – defines you in your place; or, in the case of a small temple, defines the spirit or god in its place.

  'Places' mediate between life and the wider world – its surroundings.

- Even outside it, you know where you are by reference to your place.

  Through identifying 'places', and organising them, you make sense of the world you inhabit.

Places set the spatial matrix of the life they accommodate; they orchestrate our

A work of architecture may consist of little or no more than a natural topographical formation. The keys to such acquiring the label 'work of architecture' are: 1. that it has a form that lends itself to occupation and activity; 2. that it is recognised as such (by a mind) and chosen for such use. By these it becomes identified as a place, and hence a 'work of architecture'.

In Scotland there is a place called Dunino Den (left). It has been used for ritual through an unknown number of centuries, possibly thousands of years. It consists of a gorge cut into the rock by a river as it turns a bend. The floor of the gorge is relatively flat and shaded by a canopy of trees. At one end of this place walled by cliffs and roofed by trees is a promontory, like a pulpit in a church. Into the top surface of this a round basin (a) has been carved (who knows how long ago or whether it was carved by human hand or natural force) with what appears to be a worn incised footprint alongside. It resembles a place of baptism. Steps have been carved into the cliff alongside this pulpit, leading down to the river bank. It is an evocative place. You can imagine people congregating by the river to witness a ceremony or listen to a 'sermon' delivered from the promontory.

A very large proportion of the fabric and arrangement of Dunino Den was provided by nature. Only the steps and probably the basin (and footprint?) were added by human decision and work of hand. But even so this distinctive piece of topography constitutes a work of architecture, mainly by reason of its having been recognised and adopted as a place.

Though we (in the twenty-first century) would probably find it difficult not to intervene more – changing the fabric and layout of a place like Dunino Den – indigenous characteristics and the formations of natural topography may still contribute to a work of architecture.

experience of the world and manage our relationships with other people, our environment, our gods.

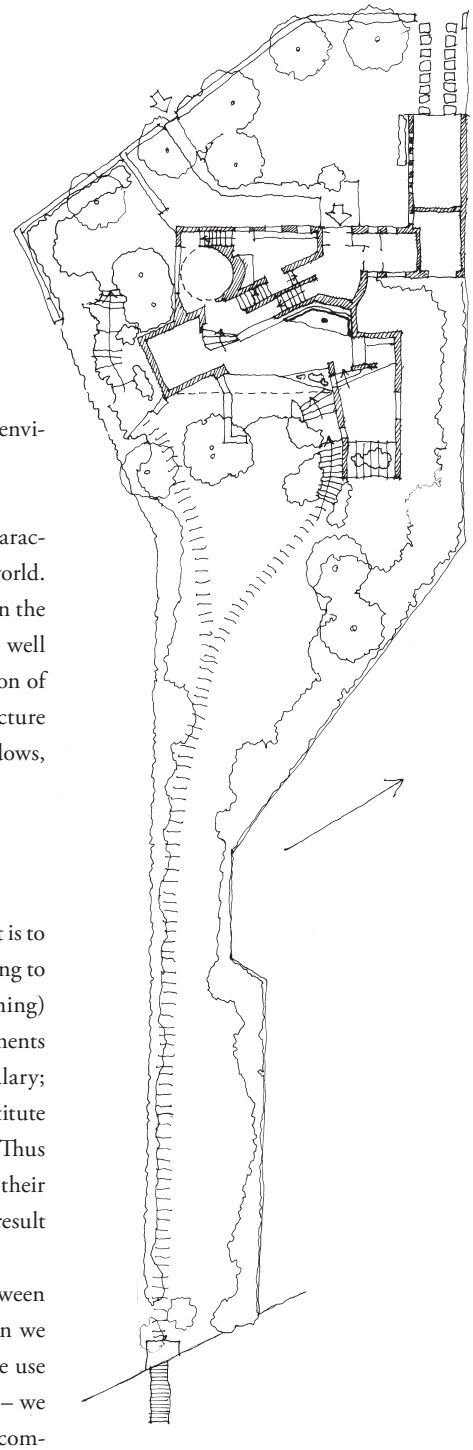
By all this, you change the world (or small parts of it at least).

These steps illustrate a way of understanding 'place' that is about more than visual character. It is about 'place' as a consequence, an inescapable consequence, of being in the world. Architecture conceived and experienced as identification of place manages our being in the world. Places such as New York can be analysed and understood in this way too (as well as in terms of their apparent visual character) but it would involve deeper investigation of how life meshes with the space it occupies (in light and time), mediated by the architecture (spatial organisation) of its rooms and streets, squares and yards, entrances and windows, steps and pavements (sidewalks), hearths, altars, tables, benches etc.

'Vocabulary', 'syntax' and 'meaning'

The analogy between architecture and language can be helpful in understanding what it is to do architecture. In using language we take words (vocabulary), compose them according to particular arrangements (syntax) into 'sentences', and hopefully convey messages (meaning) to others. Something similar happens in doing architecture: the basic architectural elements (wall, roof, doorway etc.) listed in the next chapter constitute the equivalent of vocabulary; the ways in which they may be arranged, as illustrated in subsequent chapters, constitute the equivalent of syntax; and 'place' (as defined above) is the equivalent of meaning. Thus to return to the case of the two parallel walls on the beach: each wall is a 'word'; their arrangement in parallel constitutes the 'syntax' of the composition ('sentence'); and the result is the identification of a 'place' (the 'message' conveyed by the 'sentence').

As with all analogies, it is important not to overstretch this comparison between language and architecture. Walls are not words, nor vice versa (except perhaps when we write 'KEEP OUT' by a gateway). It is enough to suggest (tentatively) that just as we use language – composing words according to syntax into sentences to convey meaning – we seek to communicate and make sense of the world verbally, so we use architecture – composing walls (and other elements) in particular arrangements to identify places – we seek to situate ourselves in and make sense of the world spatially. It is not a step too far to suggest also that in both language and architecture we can be pragmatic but we can also aspire to philosophy and poetry.



The design of the house above – the Moll House (1936-37) by Hans Scharoun – began with a decision on where to place the sofa (marked with a dot) on the site.

A place can be identified by a range of basic elements: defined area of ground; wall; platform; columns; roof; doorway; path. Here they are combined into the form of a porch marking and protecting the entrance into a house.

BASIC ELEMENTS OF ARCHITECTURE

Clearing-away brings forth the free, the openness for man's settling and dwelling. When thought in its own special character, clearing-away is the release of places toward which the fate of dwelling man turns in the preserve of the home or in the brokenness of homelessness or in complete indifference to the two… clearing-away brings forth locality preparing for dwelling.

Martin Heidegger – 'Art and Space', in Leach, editor – *Rethinking Architecture*, 1997, p. 122

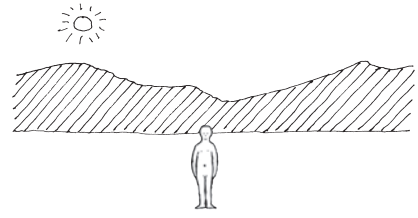
The original cult-plan is thus the Etruscan templum, a sacred area merely staked off on the ground by the augurs with an impassable boundary and a propitious entrance on the East side. A 'templum' was created where a rite was to be performed or where the representative of the state authority, senate or army, happened to be. It existed only for the duration of its use, and the spell was then removed.

Oswald Spengler, translated by Atkinson – *The Decline of the West* (1918), 1934, p. 185

BASIC ELEMENTS OF ARCHITECTURE

Now that we have a working definition of architecture and an understanding of its fundamental purpose – **intellectual structuring** and **identification of place** respectively – we can look at the basic elements available to an architect when composing a work of architecture. These are conceptual elements of architecture (used in the intellectual structuring of a place) and not to be confused with the physical materials of building – bricks and mortar, glass, timber, concrete etc. – from which they may be constructed. (For example, a wall is a basic element of architecture but it might be built of a variety of different materials – earth, stone, bricks, straw bales and so on.) The basic elements of architecture should not be thought of as objects in themselves but in the ways they may be used (individually or in combination) to identify place; i.e. they should be considered primarily as instruments for place-making and in terms of the (space-organising) powers they offer architects.

The primary elements of architecture are the conditions it operates in (i.e. the world around) and the person (1) who represents the life to be accommodated. The person, who might be an architect too, represents people and life generically.

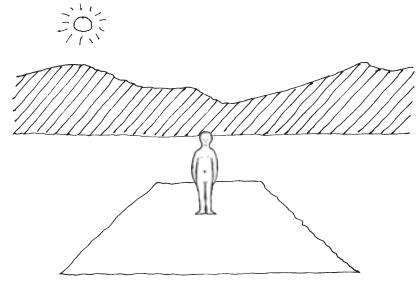


1 conditions and the person

The *a priori* unchanging conditions within which all (terrestrial) architecture operates include: the ground, which is the datum to which most products of architecture relate; space, which is the medium architecture moulds into places; gravity, which holds things down; light, by which we see; and time (few if any examples of architecture can be experienced as a whole all at one time – discovery, approach, entry, exploration and memory are usually involved). To these *a priori* unchanging conditions can be added the complex and changing ones of weather (climate), of society and culture (other people, and perhaps gods) and of growth and decay (effects of natural processes over time).

Person and conditions both contribute to architecture; together they constitute the content and the context of, maybe not absolutely all, but the vast majority of works of architecture. Generally speaking, architecture mediates between one and the other: between content and context; between the person and the conditions prevailing in the world around.

Within the conditions that prevail, and around the person (the life) to be accommodated, architects (i.e people, us human beings) have, through history (but mostly long ago), developed a range (vocabulary, palette…) of elements for composing architecture. It cannot be said that the following list is complete but at the basic level the range of elements includes:

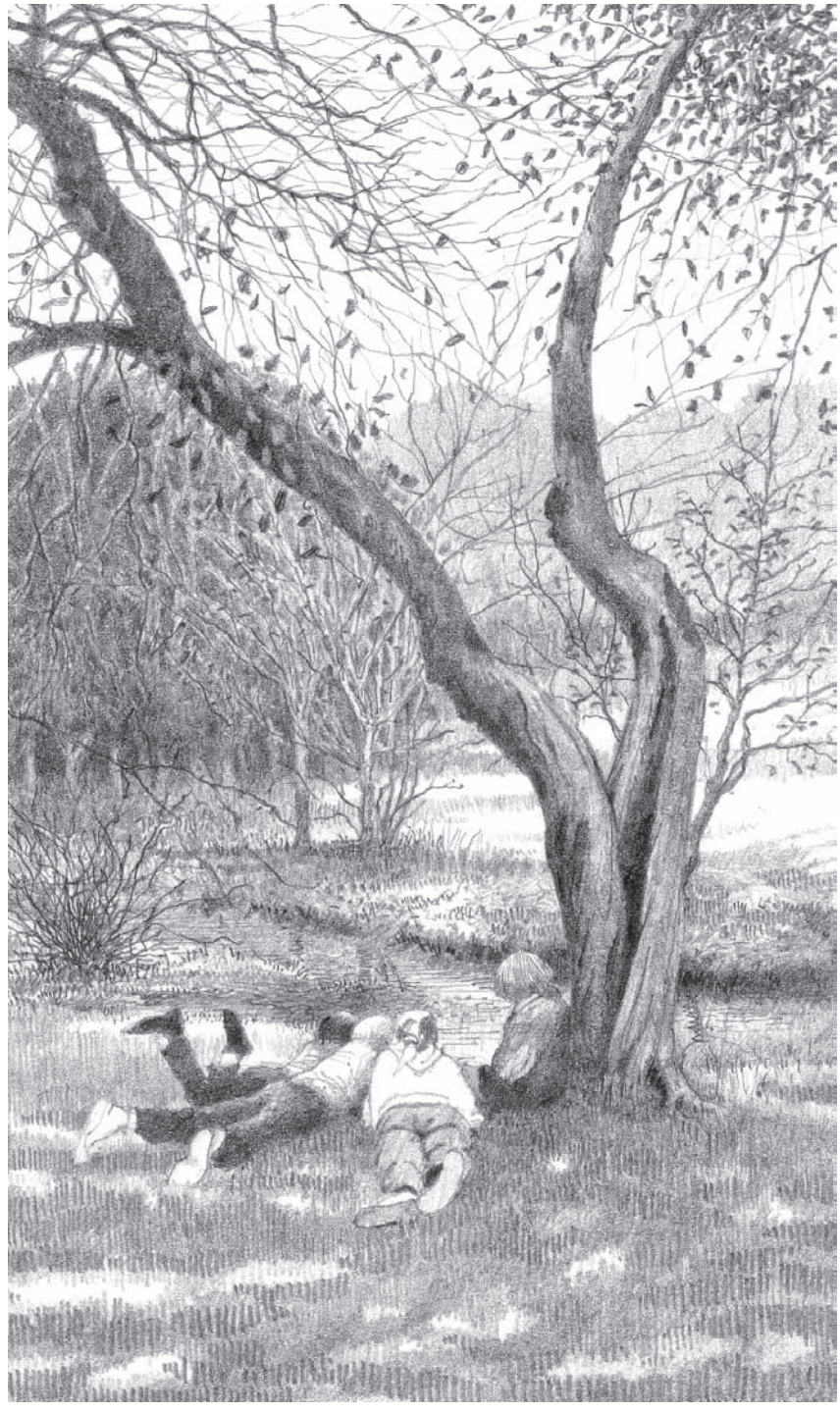


2 defined area of ground and threshold

- defined area of ground (2)

The definition of an area of ground is fundamental to the identification of many if not all types of place. All buildings have a site within which they sit and define areas (floors,

Children under a tree have, in the most primitive way, made an architectural decision by choosing it as a place to sit. This is architecture at its most rudimentary.



ARCHITECTURE AS IDENTIFICATION OF PLACE

The marking of ground, rather than the primitive hut, is the primordial tectonic act.

Vittorio Gregotti – 'Address to the Architectural League, New York, October 1982', in *Section A*, Volume 1, Number 1, February/March 1983, p. 8

Architecture has its own realm. It has a special physical relationship with life. I do not think of it primarily as either a message or a symbol, but as an envelope and background for life which goes on in and around it, a sensitive container for the rhythm of footsteps on the floor, for the concentration of work, for the silence of sleep.

Peter Zumthor – 'A way of looking at things' (1988), in *Thinking Architecture*, 1998, p. 13

The set is the geometry of the eventual play, so that a wrong set makes many scenes impossible to play, and even destroys many possibilities for the actors.

Peter Brook – *The Empty Space*, 1968, p. 110

The principal proposition underlying our work is that the first purpose of architecture is territorial, that the architect sets out the perceptual stimuli with which the observer creates an image of 'place'. The architect particularizes. He selects an appropriate temperature range and builds devices for maintaining it, controls the intensity and direction of light, discriminates specialized activity patterns, organizes movement and subjects the building process to a clarifying pattern. By directing all these factors to a controlling image, he builds the opportunity for people to know where they are – in space, in time and in the order of things. He gives them something to be in.

Donlyn Lyndon – 'Sea Ranch: the Process of Design', in John Donat, editor – *World Architecture 2*, 1965, p. 31

ARCHITECTURE AS IDENTIFICATION OF PLACE

Before we can get on to looking at some of the conceptual strategies of architecture in detail, it is necessary to lay out some ground work with regard to the nature of architecture and its purpose. Before we can get on to the 'how?', we need to look briefly at the 'what?' and 'why?': 'what is architecture?' and 'why do we do it?'.

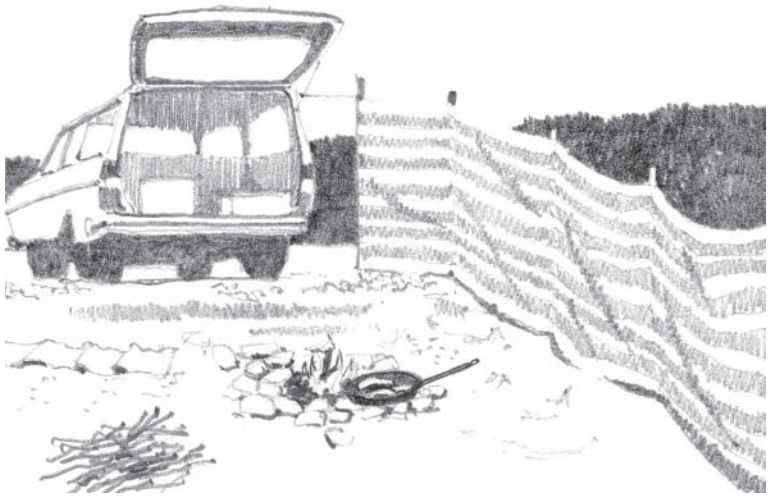
Despite the huge literature on architecture, its definition and purpose have never been settled. These are issues about which there is a great deal of confusion and debate, which is strange considering that architecture as a human activity is literally older than the Pyramids. The question 'what is one doing when one is doing architecture?' appears simple, but it is not an easy one to answer.

Various ways of framing an answer to this question seem to have contributed to the confusion. Some of these relate to comparison of architecture with other forms of art. Is architecture merely sculpture – the three-dimensional composition of forms in space? Is it the application of aesthetic considerations to the form of buildings – the art of making buildings beautiful? Is it the decoration of buildings? Is it the introduction of poetic meaning into buildings? Is it the ordering of buildings according to some intellectual system – classicism, functionalism, post-modernism?

One might answer 'yes' to all these questions, but none seems to constitute the rudimentary explanation of architecture that we need. All of them seem to allude to a special characteristic or a 'superstructural' concern, but they all seem to miss a central point that one suspects should be more obvious. What is needed for the purposes of this book is a much more basic and accessible understanding of the nature of architecture, one that allows those who engage in it to know what they are doing.

Perhaps the broadest definition of architecture is that often found in dictionaries: 'architecture is the design of buildings'. One cannot contradict this definition but it does not help very much either; in a way it actually diminishes the conception of architecture by limiting it to 'the design of buildings'. Although it is not necessary to do so, one tends to think of 'a building' as an object (like a vase or a cigarette lighter); but architecture involves rather more than the design of objects.

A more useful way of understanding architecture can be gleaned, ironically, from the way the word is used in regard to other art forms, music in particular. In musicology the 'architecture' of a symphony can be said to be the conceptual organisation of its parts into a whole, its intellectual structure. It is strange that the word is rarely used in this sense with regard to architecture itself. In this book this is adopted as the root definition of architecture. Here, the architecture of a building, a group of buildings, a city, a garden…



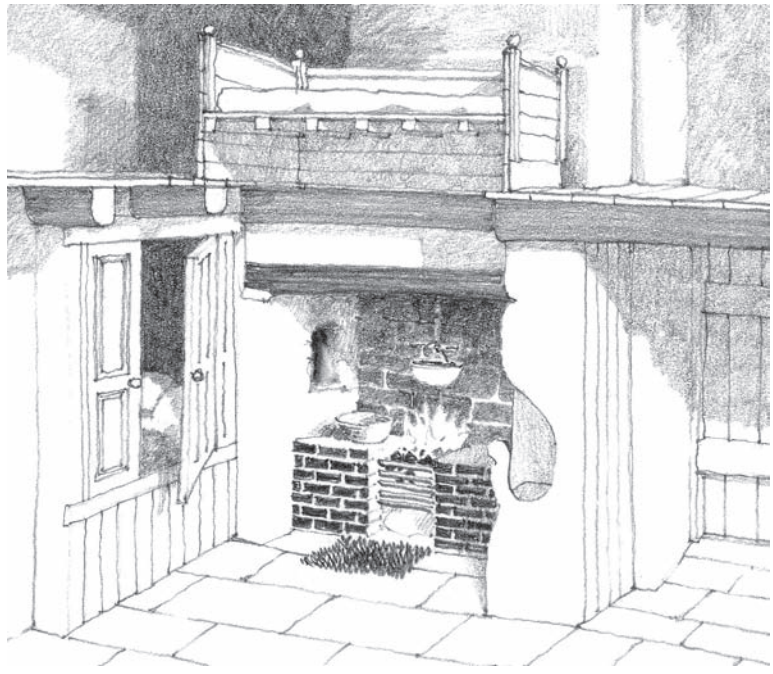
The architectural actions of a prehistoric family making its dwelling place can be replicated and updated in a beach camp. The fire is the focus, and also a place to cook. A windshield protects the fire from too much breeze, and as a wall begins to give some privacy. There is a place where the fuel for the fire is kept, and the back of the car acts as a food store. There are places to sit, and if one were to stay overnight, one would need a bed. These are the basic 'places' of a house; they come before walls and a roof.

is considered to be its conceptual organisation, its intellectual structure. This is a definition of architecture that is applicable to all kinds of examples, from simple rustic buildings, through grand public edifices, to formal urban settings.

Though this is a useful way of understanding architecture as an activity, it does not address the question of purpose – the 'why' of architecture. This appears to be another difficult 'big' question, but again there is an answer at the rudimentary level that is useful in establishing something of what one is striving to achieve when one is doing architecture. In looking for this answer, simply suggesting that the purpose of architecture is 'to design buildings' is again an unsatisfactory dead end; partly because one suspects that architecture involves rather more than that, and partly because it merely transfers the problem of understanding from the word 'architecture' to the word 'building'. The route to an answer lies in forgetting altogether, for the moment, about the word 'building', and thinking about how architecture began in the distant primeval past.

Imagine a prehistoric family making its way through a landscape unaffected by human activity. They decide to stop, and as the evening draws on they light a fire. By doing so, whether they intend to stay there permanently or just for one night, they have established a *place*. The fireplace is for the time being the centre of their lives. As they go about the business of living they make more places, subsidiary to the fire: a place to store fuel; a place to sit; a place to sleep; perhaps they surround these places with a fence; perhaps they shelter their sleeping place with a canopy of leaves. From their choice of the site onwards they have begun the evolution of the house; they have begun to organise the world around them into places they use for a variety of purposes. They have begun to do architecture.

The idea that identification of place lies at the generative core of architecture can be explored and illustrated further. In doing this one can think of architecture, not as a language, but as being in some ways like one. Place is to architecture, it may be said, as meaning is to language. Meaning is the essential burden of language; place is the essential burden of architecture. Learning to do architecture can seem to be like learning to use language.



The inside of this Welsh farmhouse can be compared with the beach camp on the previous page. The places of the beach camp have been transposed into a container, which is the house itself. Although such images can feed our romantic ideas of the past, the architecture itself was, before it became anything else, a product of life.

Like language architecture has its patterns and arrangements, in different combinations and compositions as circumstances suggest. Significantly, architecture relates directly to the things we do; it changes and evolves as new, or reinterpreted, ways of identifying places are invented or refined.

Perhaps most important, thinking of architecture as identification of place accommodates the idea that architecture is participated in by more than the individual. In any one example (a building for instance) there will be places proposed by the designer and places created by adoption by the users (these may or may not match). Unlike a painting or a sculpture, which may be said to be the intellectual property of one mind, architecture depends upon contributions from many. The idea of architecture as identification of place asserts the indispensable part played in architecture by the user as well as the designer. And for the designer who will listen, it suggests that places proposed should accord with places used, even if it takes time for this to happen.

So-called 'traditional' architecture is full of places that, through familiarity and use, accord well with users' perceptions and expectations. The illustration on this page shows the interior of a Welsh farmhouse (the upper floor has been cut through to show some of the upstairs room). The places that are evident can be compared directly with those in the beach camp shown on the opposite page. The fire remains the focus and a place to cook, though there is now also an oven – the small arched opening in the side wall of the fireplace. The 'cupboard' to the left of the picture is actually a box-bed. There is another bed upstairs, positioned to enjoy the warm air rising from the fire. Under that bed there is a place for storing and curing meat. There is a settle to the right of the fire (and a mat for the cat). In this example, unlike the beach camp, all these places are accommodated within a container – the walls

Reference for Welsh farmhouses:
Royal Commission on Ancient and Historical Monuments in Wales – *Glamorgan: Farmhouses and Cottages*, 1988.

and roof of the house as a whole (which itself, seen from the outside, becomes an identifier of place in a different way). Although nobody is shown in the drawing, every one of the places mentioned is perceived in terms of how it relates to use, occupation, meaning. One projects people, or oneself, into the room: under the blankets of the bed, cooking on the fire, chatting by the fireside. Such places are not abstractions such as one finds in other arts; they are an enmeshed part of the real world. At its rudimentary level architecture deals not in abstractions but with life as it is lived, and its fundamental power is to identify place.

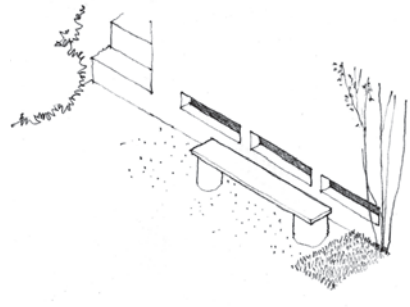
Place is the *sine qua non* of architecture. We relate to the world through the mediation of place. Situating ourselves is an *a priori* requisite of our existence. Simply to be is to be in a specific place at a specific time. We are constantly placing ourselves: we have a sense of where we are and of other places around us; we weigh up where we might go next. We feel comfortable when we are settled in a place: in bed; in an armchair; at home. We feel uncomfortable when we find ourselves in the wrong place (at the wrong time): in a field during a thunderstorm; embarrassingly exposed at some social event; lost in an unfamiliar city. In our lives we either establish places for ourselves or have them established for us. We are constantly playing the game of situating ourselves in relation to things, to people, to forces of nature. Whether simple or complex, places accommodate us, the things we do, and our possessions; they provide the frames in which we exist and act. When they work, they make sense of the world for us; or we make sense of the world, in a physical and psychological sense, through them. Those who organise the world (or a part of it) into places for others have a profound responsibility.

We make sense of our surroundings by organising them into places. Places mediate between us and the world. We recognise a chair as a place to sit…

Conditions of architecture

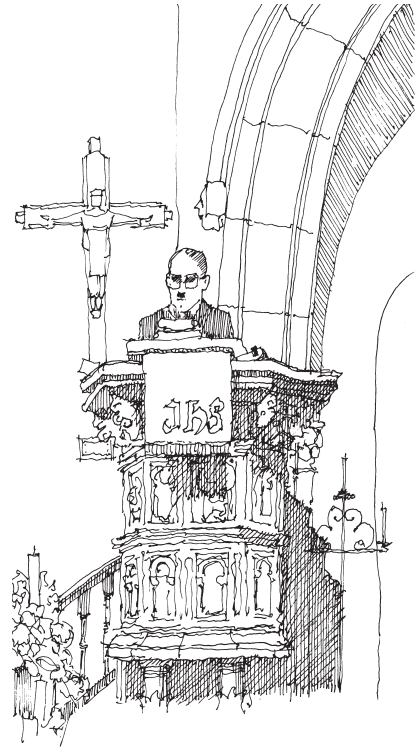
In trying to understand the powers of architecture one must also be aware of the conditions within which they are applied. Though its limits cannot be set, and should perhaps always be under review, architecture is not a free art of the mind. Discounting for the moment those fantasy architectural projects that are designed as conceptual or polemic statements never intended to be realised, the processes of architecture are applied in (or on) a real world with real characteristics: gravity, the ground and the sky, solid and space, climates, the progress of time, and so on. Works of architecture are constructed with real materials with their own innate characteristics and capacities.

Also, architecture is operated by and for people, who have needs and desires, beliefs and aspirations; who have aesthetic sensibilities that are affected by warmth, touch, odour,



When Le Corbusier built a small house for his parents overlooking Lac Léman near Montreux in Switzerland, he provided a simple bench overlooking the lake. It consisted of no more than a plank supported by two blocks of tree trunk. In a small book he wrote about the house later he described this bench as '*un authentique "fait d'architecture"*' ('an authentic "work of architecture"').

References for Le Corbusier's Villa Le Lac:
Le Corbusier – *Une petite maison* (1954), Basel, 2001.
Simon Unwin – *Villa Le Lac* (ebook), 2012 (available for iPad from iBookstore).



… and a pulpit as a place to stand and preach.

sound, as well as by visual stimuli; who do things and whose activities have practical requirements; who see meaning and significance in the world around them.

Such is no more than a reminder of the simple and basic conditions under which we all live and with which architecture must contend or harmonise. There are, however, other general themes that condition the operation of architecture. Just as the languages of the world have their common characteristics – a vocabulary, grammatical structures, etc. – so too architecture has its elements, patterns and structures (both physical and intellectual).

Though not as open to flights of imagination as other arts, architecture has fewer limits. Painting does not have to take gravity into account; music is mainly aural. Architecture is, however, not constrained by the limits of a frame; nor is it confined to one sense. Since ancient times architecture has been considered the 'mother' of the arts. While music, painting and sculpture exist in a way separate from life in a transcendent special zone, architecture incorporates life. People and their activities are an indispensable component of architecture, not merely as spectators to be entertained but as contributors and participants. Painters, sculptors, composers of music may complain about how their viewers or audience never see or hear their art in quite the same way as it was conceived, or that it is interpreted or displayed in ways that affect its innate character. But they do have control over the essence of their work and that essence is, in a way, hermetically sealed within the object: the musical score, the covers of a book or the picture frame. By contrast even the essence of architecture is penetrated by the people whose activities it accommodates.

Architecture has also been compared with film-making – an art form that incorporates people, place and action through time. But even in film the director is in control of the essence of the art object through the control of plot, sets, camera angles, script etc., which is not the case in architecture.

Furthermore, the realisation of works of architecture is usually dependent on patronage. The products of architecture – whether buildings, landscapes, cities – usually require substantial financial resources. The work that is achieved tends to be that wanted by those with access to or control over the resources needed to support its realisation. They decide what is built and often influence its form.

The conditions under which one can engage in architecture are therefore complex, perhaps more so than for any other art form. There are the physical conditions imposed by the natural world and its forces: space and solid, time, gravity, weather, light… There are the conditions imposed by those who will use the products of architecture and by those paying for them. There are also the more fickle political conditions provided by the

interactions of human beings individually and in society. Architecture is inescapably a political field, in which there are no incontrovertible rights and many arguable wrongs. The world can be conceptually organised in infinitely diverse ways. And just as there are many religions and many political philosophies, there are many divergent ways architecture is used. The organisation and disposition of places is so important to the ways people live and interact with each other that it has in the course of history become less and less a matter of *laissez faire*, more and more subject to political control.

People make places (or have places made for them) in which to do the things they do in their lives – places to eat, to sleep, to shop, to worship, to argue, to learn, to store things and so on and on. The way people organise their places is related to their beliefs and their aspirations, their world view. As world views vary, so does architecture: at the personal level; at the social and cultural level; and between different sub-cultures within a society.

Which use of architecture prevails in any situation is usually a matter of power – political, financial or that of assertion, argument, persuasion. Launching design into conditions like these is an adventure only to be undertaken by the brave-hearted.

'A house of men or of priests is at home in natural surroundings; it adjusts itself to the lie of the land whether it be forest, plain or valley. Its existence is justified by the road which winds towards it from afar. It reigns over the fields, a shelter for man and beast. It is made in the image of the law established thousands of years ago, namely, that a man comes to a place, tills the land and builds a shelter for himself, his wife, his children, his men and his domestic animals. However… every human settlement has its origins in a choice. We follow the direction of a path, taken either intentionally or by chance, and are led to a certain spot which is part of the whole environment. There we say, "This is where it shall be. We will enclose a portion of this space between walls, organize our lives inside them and, confining ourselves to this area, we will spend each day cultivating and maintaining this little space that we have taken from nature." So, in his valley or his plain or on his peak, man occupies the land, clears a piece of earth or rock and shuts in the impalpable.'

Fernand Pouillon, translated by Gillott – *The Stones of Le Thoronet* (1964), 1970, p. 155.

A definition of 'place'

In his 1982 address to the Architectural League in New York, the architect Vittorio Gregotti said: 'The marking of the ground, rather than the primitive hut, is the primordial tectonic act.' But architecture begins before even that; it begins with a mind's motivation to make that mark, with its desire to identify a place.

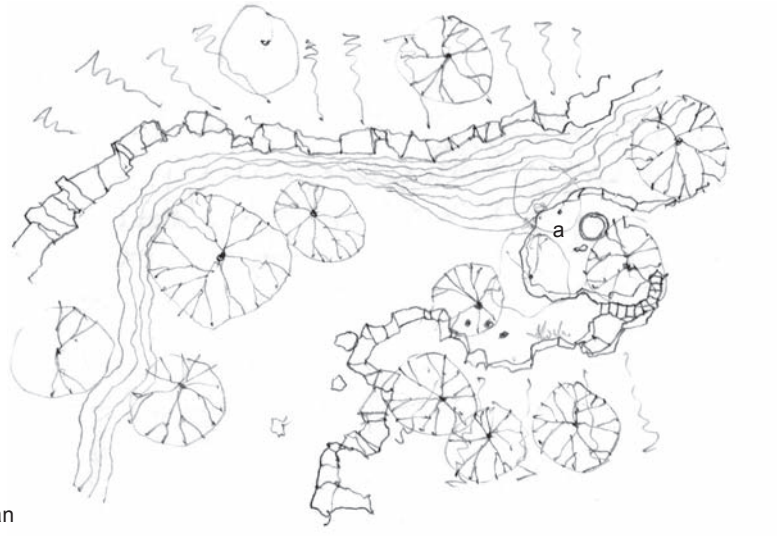
'Place' is a word which, like many other words, has variable meanings. Often in architectural discussion it is used in the sense suggested by the sentence, 'New York (or wherever else) is a place; it has a particular visual character, which consists in the heights of buildings, the scale and layout of the streets, the materials used for building, the shapes and detail of doors and windows, etc.' (with the consequential implication that new architecture might in some way relate to that ingrained character – its *genius loci*). The word is used in a different, more rudimentary, way in this book. This use may be illustrated by the following steps:

- Imagine you are in an open landscape. With no more than a look you select a specific spot on the land. You have, in that look, established, if only in your mind, a place.

  'Place' is where the mind touches the world.

  Maybe you see that place as a potential spot to settle, if only to rest for a moment. Maybe you associate that place with a particular experience – passing from the

Architecture, however complex and subtle it may be in its more sophisticated forms, can begin with something as simple as sitting on a sand-dune looking out to sea. By doing so you establish a place. Even after you have moved on, the impression of your body persists in identifying the place as a seat, the place where you sat.



plan

section

sunshine of an open field into the shade of a forest – or with a particular event – being startled by a snake – or perhaps with a particular set of emotions – a sensation of peace and safety.

- You decide to change that place, maybe just by occupying it, or by clearing bracken or stones to define an area of ground. Then you build a wall around that ground, or a circle of stones, or a small house or temple.

  A 'place' is established by a configuration of architectural elements that seems (to the mind informed by its senses) to accommodate, or offer the possibility of accommodation to, a person, an object, an activity, a mood, a spirit, a god.

- As you stand inside it, the boundary of your ground – the wall, the circle of stones, your house – defines you in your place; or, in the case of a small temple, defines the spirit or god in its place.

  'Places' mediate between life and the wider world – its surroundings.

- Even outside it, you know where you are by reference to your place.

  Through identifying 'places', and organising them, you make sense of the world you inhabit.

Places set the spatial matrix of the life they accommodate; they orchestrate our

A work of architecture may consist of little or no more than a natural topographical formation. The keys to such acquiring the label 'work of architecture' are: 1. that it has a form that lends itself to occupation and activity; 2. that it is recognised as such (by a mind) and chosen for such use. By these it becomes identified as a place, and hence a 'work of architecture'.

In Scotland there is a place called Dunino Den (left). It has been used for ritual through an unknown number of centuries, possibly thousands of years. It consists of a gorge cut into the rock by a river as it turns a bend. The floor of the gorge is relatively flat and shaded by a canopy of trees. At one end of this place walled by cliffs and roofed by trees is a promontory, like a pulpit in a church. Into the top surface of this a round basin (a) has been carved (who knows how long ago or whether it was carved by human hand or natural force) with what appears to be a worn incised footprint alongside. It resembles a place of baptism. Steps have been carved into the cliff alongside this pulpit, leading down to the river bank. It is an evocative place. You can imagine people congregating by the river to witness a ceremony or listen to a 'sermon' delivered from the promontory.

A very large proportion of the fabric and arrangement of Dunino Den was provided by nature. Only the steps and probably the basin (and footprint?) were added by human decision and work of hand. But even so this distinctive piece of topography constitutes a work of architecture, mainly by reason of its having been recognised and adopted as a place.

Though we (in the twenty-first century) would probably find it difficult not to intervene more – changing the fabric and layout of a place like Dunino Den – indigenous characteristics and the formations of natural topography may still contribute to a work of architecture.

experience of the world and manage our relationships with other people, our environment, our gods.

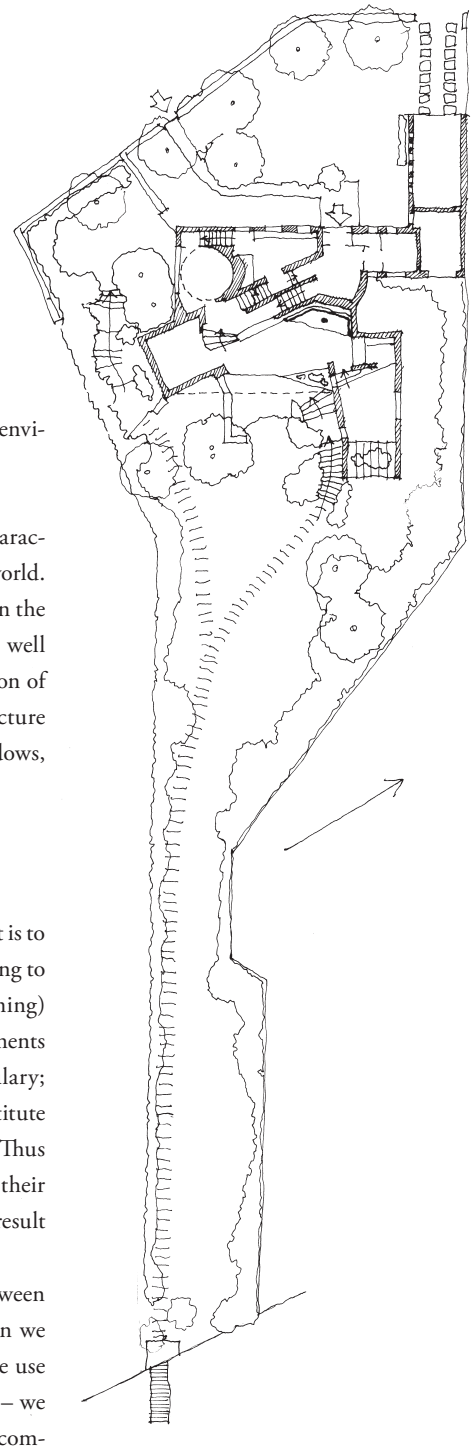
By all this, you change the world (or small parts of it at least).

These steps illustrate a way of understanding 'place' that is about more than visual character. It is about 'place' as a consequence, an inescapable consequence, of being in the world. Architecture conceived and experienced as identification of place manages our being in the world. Places such as New York can be analysed and understood in this way too (as well as in terms of their apparent visual character) but it would involve deeper investigation of how life meshes with the space it occupies (in light and time), mediated by the architecture (spatial organisation) of its rooms and streets, squares and yards, entrances and windows, steps and pavements (sidewalks), hearths, altars, tables, benches etc.

'Vocabulary', 'syntax' and 'meaning'

The analogy between architecture and language can be helpful in understanding what it is to do architecture. In using language we take words (vocabulary), compose them according to particular arrangements (syntax) into 'sentences', and hopefully convey messages (meaning) to others. Something similar happens in doing architecture: the basic architectural elements (wall, roof, doorway etc.) listed in the next chapter constitute the equivalent of vocabulary; the ways in which they may be arranged, as illustrated in subsequent chapters, constitute the equivalent of syntax; and 'place' (as defined above) is the equivalent of meaning. Thus to return to the case of the two parallel walls on the beach: each wall is a 'word'; their arrangement in parallel constitutes the 'syntax' of the composition ('sentence'); and the result is the identification of a 'place' (the 'message' conveyed by the 'sentence').

As with all analogies, it is important not to overstretch this comparison between language and architecture. Walls are not words, nor vice versa (except perhaps when we write 'KEEP OUT' by a gateway). It is enough to suggest (tentatively) that just as we use language – composing words according to syntax into sentences to convey meaning – we seek to communicate and make sense of the world verbally, so we use architecture – composing walls (and other elements) in particular arrangements to identify places – we seek to situate ourselves in and make sense of the world spatially. It is not a step too far to suggest also that in both language and architecture we can be pragmatic but we can also aspire to philosophy and poetry.



The design of the house above – the Moll House (1936-37) by Hans Scharoun – began with a decision on where to place the sofa (marked with a dot) on the site.

A place can be identified by a range of basic elements: defined area of ground; wall; platform; columns; roof; doorway; path. Here they are combined into the form of a porch marking and protecting the entrance into a house.

BASIC ELEMENTS OF ARCHITECTURE

Clearing-away brings forth the free, the openness for man's settling and dwelling. When thought in its own special character, clearing-away is the release of places toward which the fate of dwelling man turns in the preserve of the home or in the brokenness of homelessness or in complete indifference to the two… clearing-away brings forth locality preparing for dwelling.

Martin Heidegger – 'Art and Space', in Leach, editor – *Rethinking Architecture*, 1997, p. 122

The original cult-plan is thus the Etruscan templum, a sacred area merely staked off on the ground by the augurs with an impassable boundary and a propitious entrance on the East side. A 'templum' was created where a rite was to be performed or where the representative of the state authority, senate or army, happened to be. It existed only for the duration of its use, and the spell was then removed.

Oswald Spengler, translated by Atkinson – *The Decline of the West* (1918), 1934, p. 185

BASIC ELEMENTS OF ARCHITECTURE

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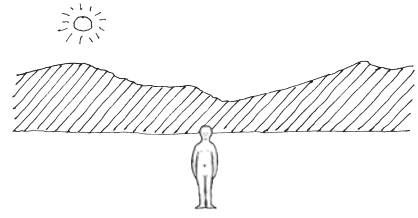
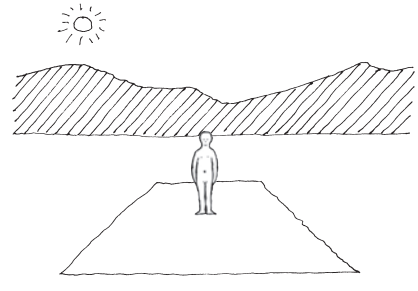


1 conditions and the person

The *a priori* unchanging conditions within which all (terrestrial) architecture operates include: the ground, which is the datum to which most products of architecture relate; space, which is the medium architecture moulds into places; gravity, which holds things down; light, by which we see; and time (few if any examples of architecture can be experienced as a whole all at one time – discovery, approach, entry, exploration and memory are usually involved). To these *a priori* unchanging conditions can be added the complex and changing ones of weather (climate), of society and culture (other people, and perhaps gods) and of growth and decay (effects of natural processes over time).

Person and conditions both contribute to architecture; together they constitute the content and the context of, maybe not absolutely all, but the vast majority of works of architecture. Generally speaking, architecture mediates between one and the other: between content and context; between the person and the conditions prevailing in the world around.

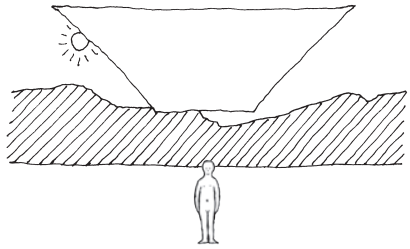
Within the conditions that prevail, and around the person (the life) to be accommodated, architects (i.e people, us human beings) have, through history (but mostly long ago), developed a range (vocabulary, palette…) of elements for composing architecture. It cannot be said that the following list is complete but at the basic level the range of elements includes:



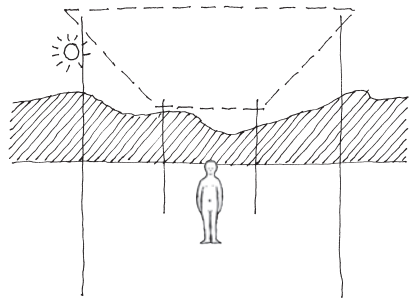
2 defined area of ground and threshold

- defined area of ground (2)

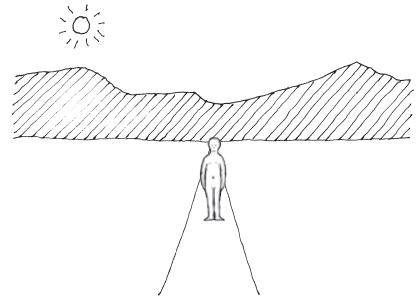
The definition of an area of ground is fundamental to the identification of many if not all types of place. All buildings have a site within which they sit and define areas (floors,



8 roof



9 columns

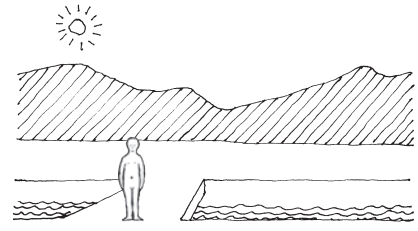


10 path

• roof (8)

A roof divides (protects) a place from the forces of the sky, sheltering it from sun or rain. In so doing, a roof also implies various defined areas of ground beneath: an area of shadow; an area of dry; or just the area directly under the roof (which might not be exactly the same as either of the others). A roof can be as small as a beam over a doorway (a lintel or soffit) or as large as the vault of a cathedral and the cantilever of a football stand. A roof can also be a marker (e.g. a church steeple). Because of gravity a roof needs support; this might be provided by walls but it could be by columns (9).

Other basic elements of architecture include:



11 bridge

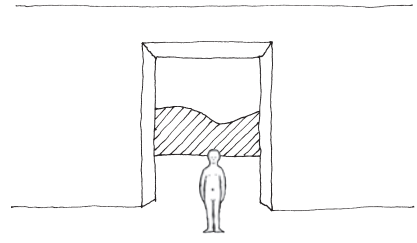
• path (10)…

… a place along which one moves. A path may be straight or might trace an irregular route across the ground avoiding obstacles. A path may also be a bridge (11) across a gap; or be inclined as a ramp. A path may be formally laid down, made hard-wearing by a special surface material (paving, tarmac…) or defined merely by use – no more than a line of wear on the ground caused by feet tramping.

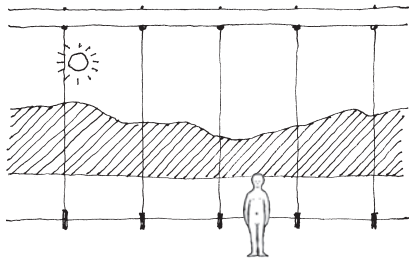
• openings…

… doorway (12) by which one may pass through a wall (or other barrier) from one place to another; but which may also be a place in its own right (people like to sit in a doorway and watch the world go by). And window (13), which allows passage of light and air, and through which one might look outwards at a view or inwards at a display.

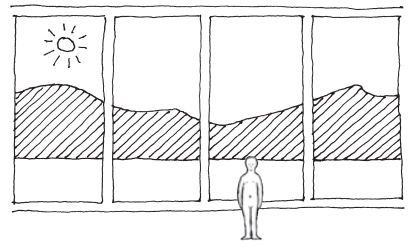
A more recent basic element is the glass wall (14), which is a barrier physically but not visually. Another is the suspension rod (15) or cable, which can support a platform, bridge or roof but which also depends upon a structural support above.



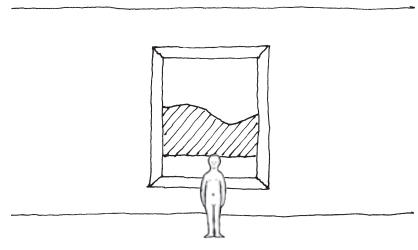
12 doorway



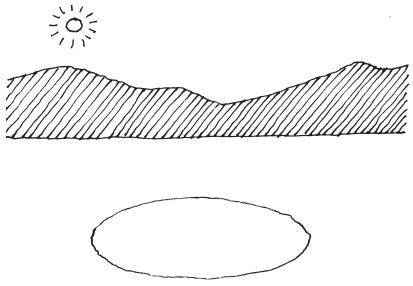
15 suspension rod



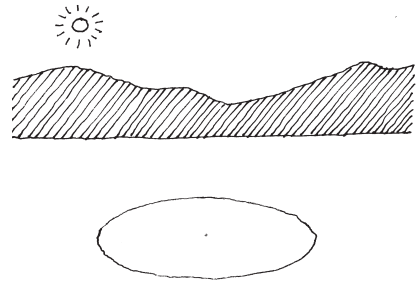
14 glass wall



13 window

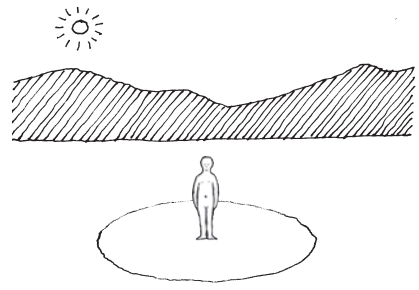


16 identification of place



17 centre and threshold

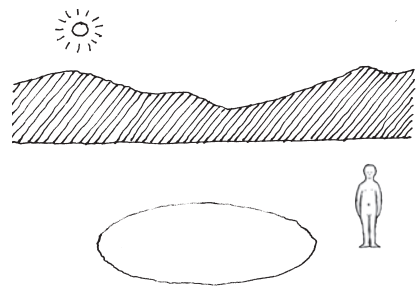
These then are the most common basic elements used in composing a work of architecture. Look at any example and you will be able to analyse it in terms of these elements: most houses have walls, doorways and roofs…; mosques have minarets as markers and a mihrab (niche/doorway indicating the direction of Mecca) as focus… But it is not enough just to see these elements, you need to think hard about all the things each element is doing so that you can learn about how you can use them in your own work. An architect's first concern is not with how and of what materials basic elements might be constructed nor with their appearance (these are not unimportant concerns that come later) but with what they may be used to do – their powers. Some powers are obvious: a roof keeps the rain off; a wall keeps the children from running onto the road; a gateway allows access into a garden… But some are more subtle; and it can be the subtle powers of elements that make architecture particularly effective and interesting.



18 inside

Powers of some basic elements of architecture

Here are a few examples of the powers some of the basic elements of architecture offer architects. Many others will be found in the chapters that follow. The basic elements of architecture are instruments for identifying place, for organising space, especially to accommodate human occupation, to orchestrate experience, to frame activity… As instruments, each architectural element may be used to do different things, often in combination with others.

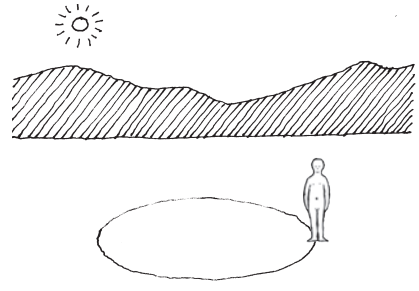


19 outside

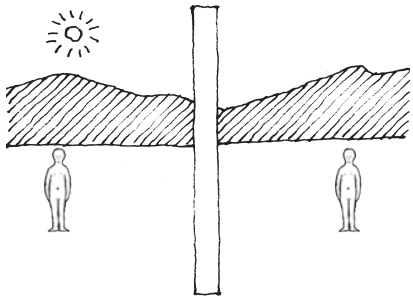
The powers the basic elements of architecture offer an architect are many, varied and, as well as being available for use in conventional ways, open to invention. There is not enough room on a few pages of a book to illustrate comprehensively all the powers of the basic elements of architecture; you should study them for yourself, noting and illustrating your discoveries in your notebook and experimenting with them in your design work.

- defined area of ground

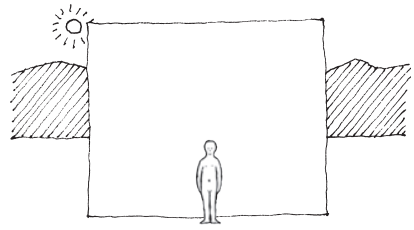
One of the chief things to consider is the effect that the creation of an architectural element will have on a person's free movement and experience of the world. The first power of a defined area of ground, for example, is to identify a place (16) and in doing so, if the definition (e.g. a line on the ground) is clear, to establish a clear inside differentiated and separated (by that line) from the general outside. In this sense, a defined area of ground is the prerequisite architectural element for all works of architecture founded on the surface of the earth and which occupy a site.



20 on the threshold

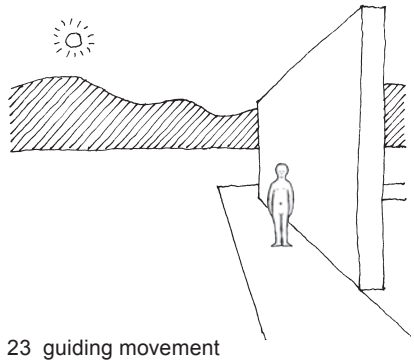


21 dividing space



22 blocking view

At the same time, a defined area of ground, if it is geometrically regular (e.g. rectangular or circular), establishes a centre (17) – and thereby may be used to reinforce a focus – and a threshold which might also constitute a notional wall between inside and outside. Psychologically, such a threshold can have various effects on a person's free movement and experience of the world. It might give an 'insider' (18) a sense of security within the refuge of the defined area. It might give an 'outsider' (19) a sense of exclusion, even alienation. Occupying the threshold might give a sense of being neither here nor there but in-between (20); or, when crossed, elicit a sense of trepidation, either at entering a territory whose ownership is asserted by someone else or at leaving one's own territory to meet the challenges of the outside world. Conversely, crossing the threshold might elicit a sense of relief at returning to one's own territory ('coming home'). Such are some of the powers of a simple line drawn on the ground.



23 guiding movement

- wall

A line on the ground may be a psychological barrier. It becomes a physical barrier too when it is developed, through the process of building, into a wall.

The built wall supplements psychological deterrence against intrusion with physical obstruction. A wall divides space (21). It can divide an inside from the outside, here from there, us from them. A wall can stop intrusion: from people (enemies, strangers…) and other creatures; and from the weather (wind, rain, snow…). So one power of a wall is to protect.

A wall can prevent escape too, controlling animals, containing children, incarcerating prisoners… So another power of a wall is to contain.

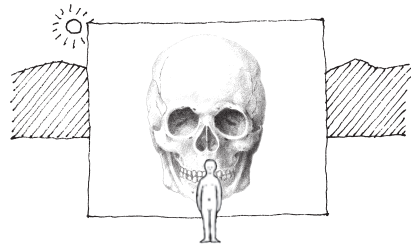
A wall can have other powers too. Independent of whether it divides an inside from the general outside, a wall can be used to block a view (22): hiding; providing privacy; orchestrating revelation… Yet another power of a wall is to screen.

A wall can be used to define or accompany a path (23), persuading people to take a particular route. A wall has the power to guide.

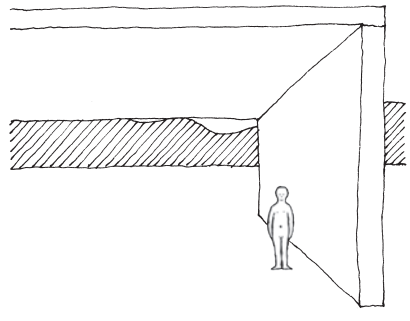
Walls can provide surfaces for decoration, ornamentation, colour, words, shadow and sunlight, hanging pictures and the projection of images (24) as in a cinema. A wall can provide a surface on which another world can be projected (actually or metaphorically).

Walls have environmental properties. A wall can be used to shade, to insulate, to store and radiate warmth.

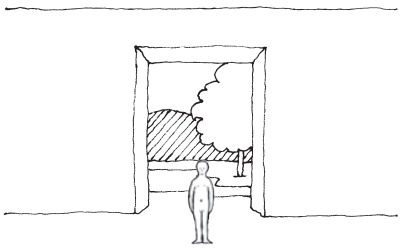
A wall may (even!) be used to hold up a roof (25), or (as in a castle wall) a walkway. A wall has the power to support.



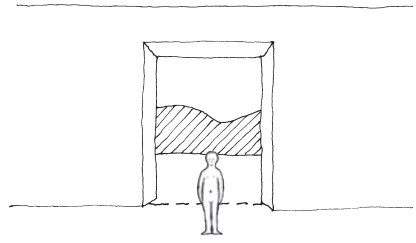
24 a surface for images



25 supporting a roof



26 framing a view (as a picture)



27 framing a threshold

- doorway

The primary power of a doorway is to allow access through a barrier (wall). As such a doorway is a point for controlling entrances and exits, filtering (with the help of a door) those things that may be allowed in or out from those that are not. A doorway is a place of welcome and farewell; a point for a display of identity (such as a name sign).

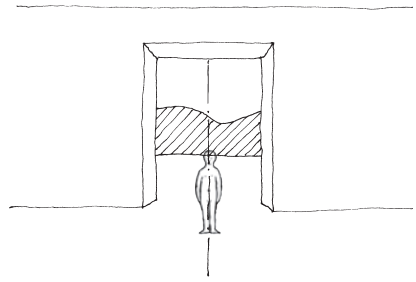
As a potential point of weakness in a defensive barrier (against enemies or the weather) a doorway needs to be defended by locks, porches, surveillance…

A doorway has other powers. A doorway can frame a view as if it were a picture (26).

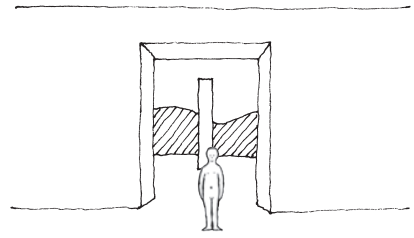
A doorway frames a threshold (27) – a 'fault line' between the places a wall separates. Crossing thresholds has the power to elicit emotional responses, such as those associated with trepidation, arrival, exposure to view, escape, refuge, concealment, revelation… A doorway may be the locus of any of these.

A doorway generates an axis (28) which might suggest symmetry in composing an elevation but which can also establish a relationship between things either side or with something in the distance (29). This power of a doorway has been used since ancient times in religious architectures across the world; a doorway can suggest a link between the person and something remote – a distant mountain or sacred site; an altar; an icon; even an abstract concept (such as 'good', 'infinity', 'the other'…).

As a threshold, a doorway also provides an attractive place to sit and watch the world go by. A doorway has in itself the power to identify place.



28 generating an axis



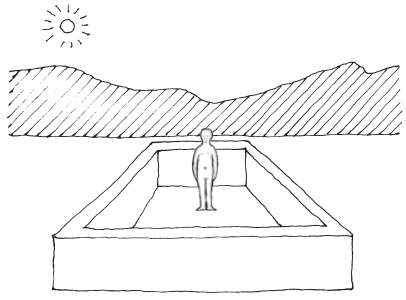
29 creating linkage

These are just a few examples of the powers basic elements of architecture offer. Powers are factors in what might be called the 'grammar' of architecture; elements such as walls and doorways, roofs and markers… are the architectural equivalent of doing words (verbs); they are instruments for identifying place and organising space – mediating in the person's relationship with the world around.

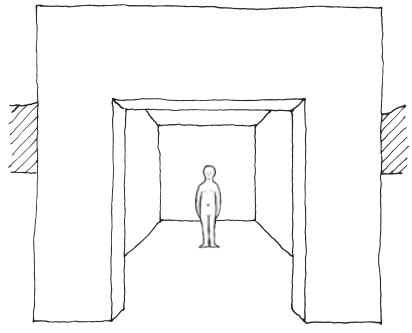
When analysing basic elements of architecture in real situations consider carefully what those elements are doing, which powers are in play. Look beyond the obvious. Often it will be found that a seemingly simple element such as a doorway, a wall, a roof, a path… is doing a number of things (architecturally) at the same time. A doorway, for example, might be providing access, generating an axis, framing a view, acting as a filter… all at the same time. A wall, for another example, might be dividing space, supporting a roof, acting as a screen for projected images… all at the same time. The multi-valency of architectural elements is discussed further in the chapter 'Elements Doing More Than One Thing'.

Reference for the powers of walls:
Simon Unwin – *An Architecture Notebook: Wall*, 2000.

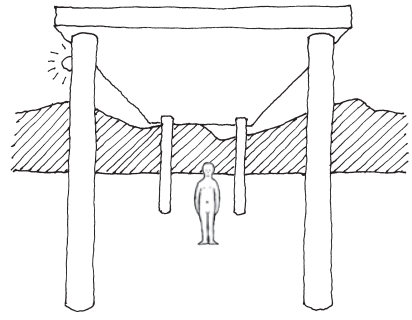
Reference for the powers of doorways:
Simon Unwin – *Doorway*, 2007.



30 enclosure



31 cell



32 aedicule

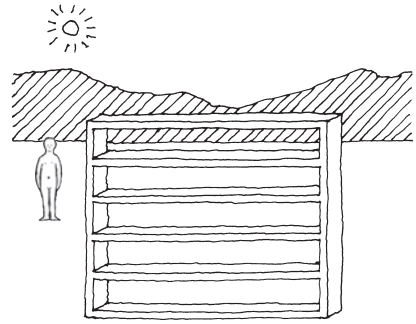
Combined elements

In architecture there are some common combinations of basic elements, for example, the enclosure, cell, aedicule, shelves, stair, window seat, porch… all of which are composed of different combinations of basic elements – defined area of ground, wall, doorway, roof, column, platform.

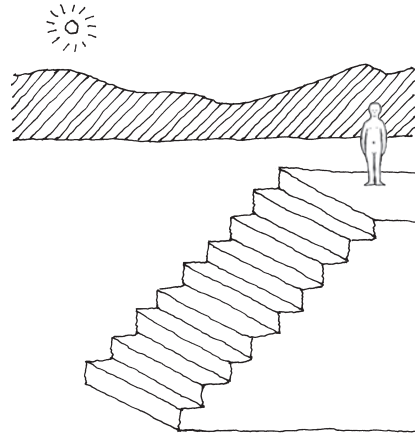
The basic elements of architecture can be combined to create rudimentary architectural forms. Sometimes these combined elements have names of their own.

Walls (barriers) can be combined to form an enclosure (30), which defines an area by putting a wall around it. (This one would need a door- or gate-way for access.) Floor, walls and a roof create a cell (31) or room, isolating a space from everywhere else and making it a place (maybe a place of refuge, of solitude, perhaps one of imprisonment…). Giving a roof the supporting columns it needs creates an aedicule (32), one of the most fundamental of architectural forms, often used to frame something special, a focus such as a sacred object or an important person. Arranging a series of platforms vertically above one another makes a set of shelves (33) for storage or display, or the floors of a multi-storey building. And arranging platforms at an angle makes a flight of stairs (34) – a path climbing from one level to another. A combination of wall, window and platform can create a window seat (35), a place to sit enjoying the light from the window and the view out. And a composition of a wall, doorway, columns and a small roof can make a porch (36), a place to shelter a visitor waiting at a doorway or for taking off outdoor clothes before entering.

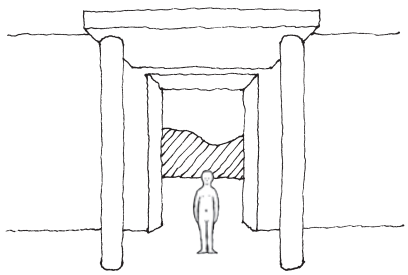
These basic elements and their combination into rudimentary forms recur again and again in the examples in this book and through all architecture. They are used in buildings of all times and regions of the world. Just as in language we often repeat common phrases (such as 'how about a cup of tea?') so too in architecture we often use common combinations of basic architectural elements.



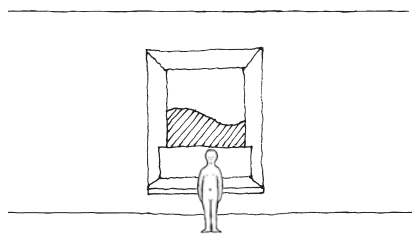
33 shelves (or floors)



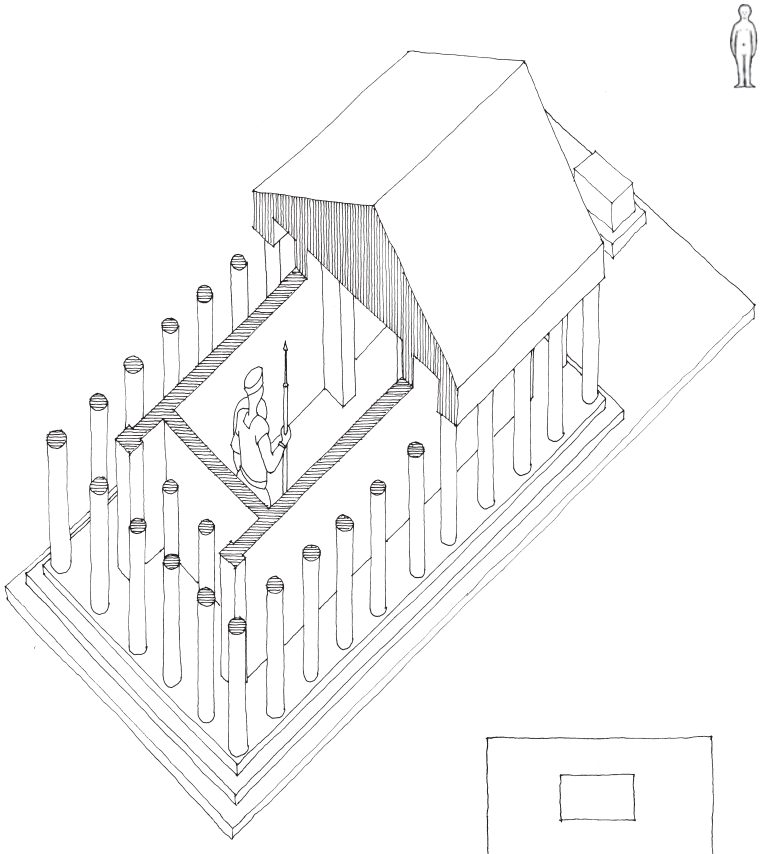
34 stair

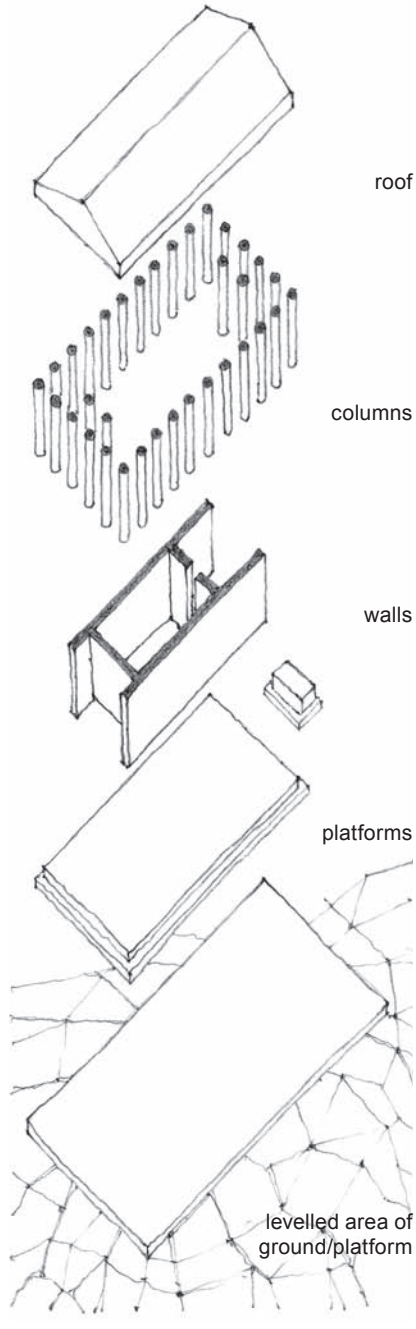


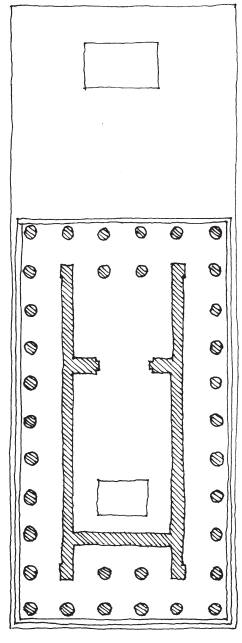
36 porch



35 window seat



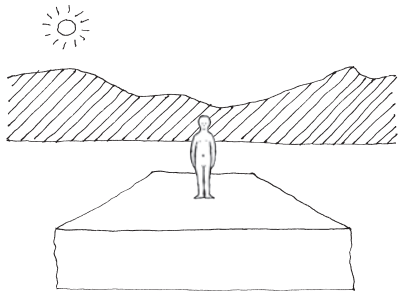




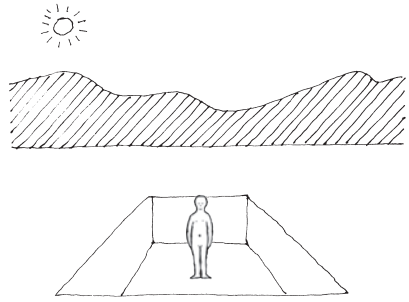
An ancient Greek temple (above) consists of some of the basic elements of architecture used in a clear and direct way to identify the place of a god. The building stands on a platform, and consists of walls that define a cell, surrounded by columns. The columns together with the walls of the cell support the roof. The cell is entered through a doorway, outside of which is a small platform in the form of an altar, which would have been the focus of a ceremony. Together, this composition of basic architectural elements organises the space and orchestrates one's experience of the temple. See how the doorway establishes a relationship between the statue of the god and the altar, or with a person standing on its axis. See also how the columns veil the cella or core cell of the temple. Imagine too how it would feel to enter the temple – crossings its threshold – or to walk between the columns and the cella wall. Such a temple, often sited on a hill, acts as a marker that can be seen from far away, and as the focus of its city.

Together, the platform, walls, columns, roof and altar identify the place of the god who is represented by the carved statue within, which is the inner focus of the temple.

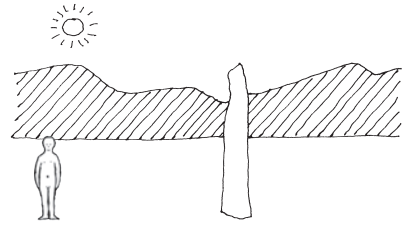
References for Greek temples:
A.W. Lawrence – *Greek Architecture*, 1957.
D.S. Robertson – *Greek and Roman Architecture*, 1971.



3 platform



4 pit



5 marker

pavements, lawns…) for various purposes. A defined area may be no more than a clearing in the forest or it may be a pitch laid out for a football game; it might conceivably even be an area of water. It may be small or stretch to the horizon. It need not be rectangular in shape nor need it be level. It might be defined by a clear line or threshold but it does not need to have a precise boundary; it may, at its edges, blend gradually into its surroundings.

- platform (3)

A platform lifts a defined area above the level of the surrounding ground. It may be high or low. It may be large – a stage or terrace; it may be medium-sized – a table or altar; it may be small – a step or shelf. A platform might provide a smooth horizontal surface amongst rugged ground conditions, such as the base of a temple set on a craggy rock.

- pit (4)

A pit lowers a defined area below the level of the surrounding ground. It is made by excavation. A pit may be a grave or a trap, or provide space for a cellar or subterranean house. It might be a sunken garden or perhaps a swimming pool.

- marker (5)

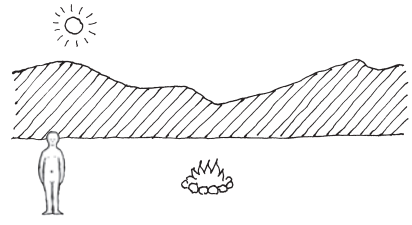
A marker identifies a place by occupying a particular spot and by standing out from its surroundings. It may be a pole planted in the sand, a standing stone or a statue, a tombstone or a flag on a golf course. In their own ways a church steeple and a multi-storey office block are markers too.

- focus (6)

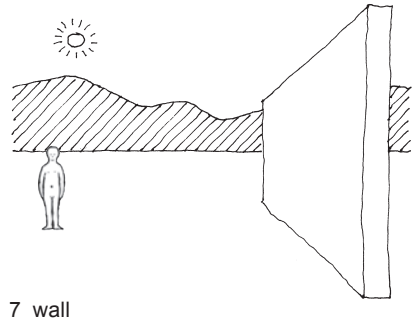
The word 'focus' is the Latin for 'hearth'. In architecture it can mean any element upon which concentration is brought to bear. This might be a fireplace, but it could also be an altar, a throne, a work of art, even a distant mountain.

- wall (7)

A wall divides one place from another. 'Wall' is used here as an abbreviation for all kinds of barrier dividing one space from another: fence, hedge, dyke, moat… or just the psychological barrier of a line drawn on the ground. All elements of architecture have their powers but perhaps the wall is the most powerful. It is used to divide and to contain. Often it is used in a negative way: it denies (removes, restricts…) freedom of movement.



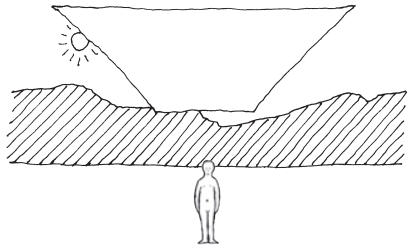
6 focus



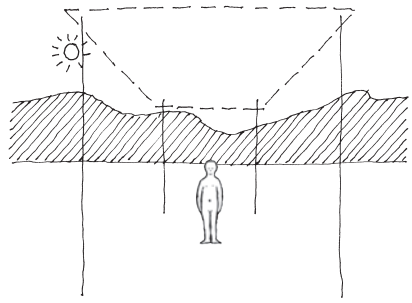
7 wall

Reference for wall:
Simon Unwin – *An Architecture Notebook: Wall*, Routledge, 2000.

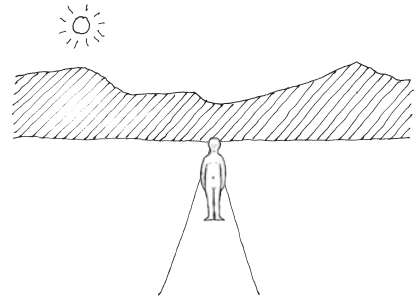
Reference for doorway:
Simon Unwin – *Doorway*, Routledge, 2007.



8 roof



9 columns

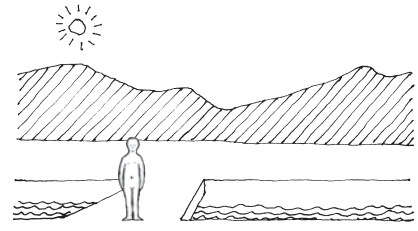


10 path

• roof (8)

A roof divides (protects) a place from the forces of the sky, sheltering it from sun or rain. In so doing, a roof also implies various defined areas of ground beneath: an area of shadow; an area of dry; or just the area directly under the roof (which might not be exactly the same as either of the others). A roof can be as small as a beam over a doorway (a lintel or soffit) or as large as the vault of a cathedral and the cantilever of a football stand. A roof can also be a marker (e.g. a church steeple). Because of gravity a roof needs support; this might be provided by walls but it could be by columns (9).

Other basic elements of architecture include:



11 bridge

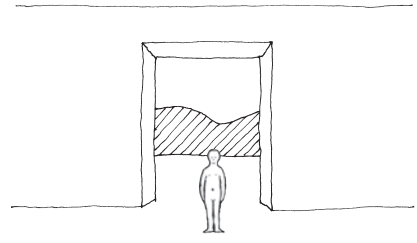
• path (10)…

… a place along which one moves. A path may be straight or might trace an irregular route across the ground avoiding obstacles. A path may also be a bridge (11) across a gap; or be inclined as a ramp. A path may be formally laid down, made hard-wearing by a special surface material (paving, tarmac…) or defined merely by use – no more than a line of wear on the ground caused by feet tramping.

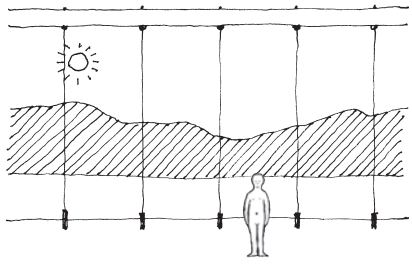
• openings…

… doorway (12) by which one may pass through a wall (or other barrier) from one place to another; but which may also be a place in its own right (people like to sit in a doorway and watch the world go by). And window (13), which allows passage of light and air, and through which one might look outwards at a view or inwards at a display.

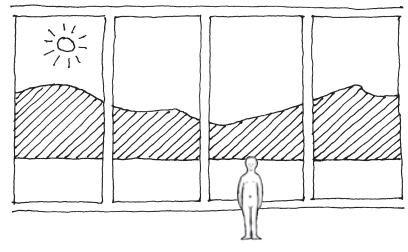
A more recent basic element is the glass wall (14), which is a barrier physically but not visually. Another is the suspension rod (15) or cable, which can support a platform, bridge or roof but which also depends upon a structural support above.



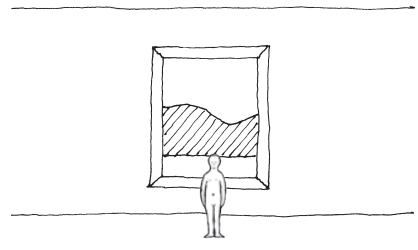
12 doorway



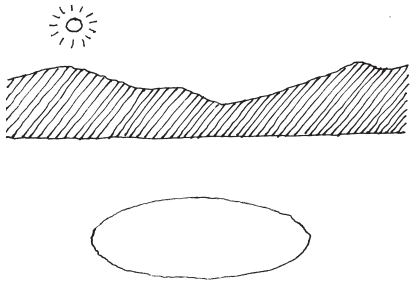
15 suspension rod



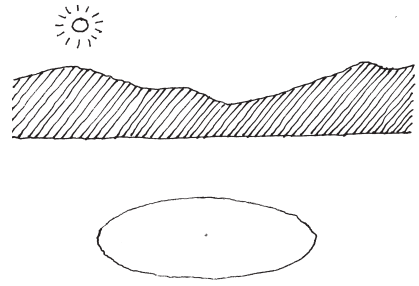
14 glass wall



13 window

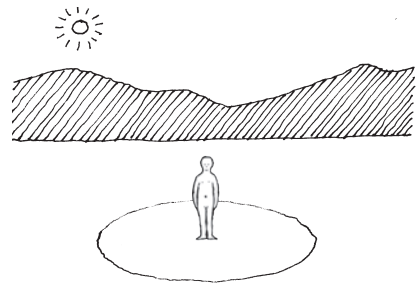


16 identification of place



17 centre and threshold

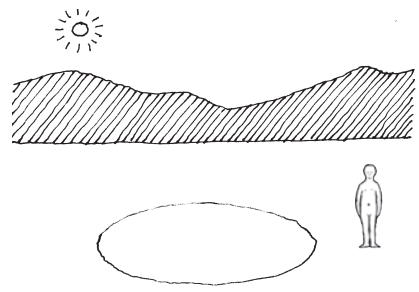
These then are the most common basic elements used in composing a work of architecture. Look at any example and you will be able to analyse it in terms of these elements: most houses have walls, doorways and roofs…; mosques have minarets as markers and a mihrab (niche/doorway indicating the direction of Mecca) as focus… But it is not enough just to see these elements, you need to think hard about all the things each element is doing so that you can learn about how you can use them in your own work. An architect's first concern is not with how and of what materials basic elements might be constructed nor with their appearance (these are not unimportant concerns that come later) but with what they may be used to do – their powers. Some powers are obvious: a roof keeps the rain off; a wall keeps the children from running onto the road; a gateway allows access into a garden… But some are more subtle; and it can be the subtle powers of elements that make architecture particularly effective and interesting.



18 inside

Powers of some basic elements of architecture

Here are a few examples of the powers some of the basic elements of architecture offer architects. Many others will be found in the chapters that follow. The basic elements of architecture are instruments for identifying place, for organising space, especially to accommodate human occupation, to orchestrate experience, to frame activity… As instruments, each architectural element may be used to do different things, often in combination with others.

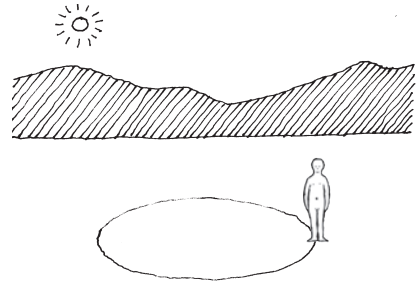


19 outside

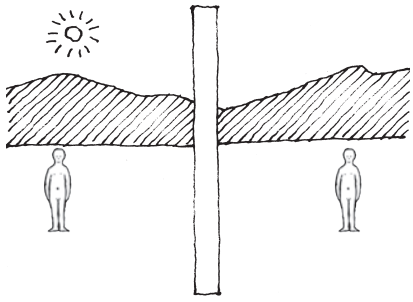
The powers the basic elements of architecture offer an architect are many, varied and, as well as being available for use in conventional ways, open to invention. There is not enough room on a few pages of a book to illustrate comprehensively all the powers of the basic elements of architecture; you should study them for yourself, noting and illustrating your discoveries in your notebook and experimenting with them in your design work.

- defined area of ground

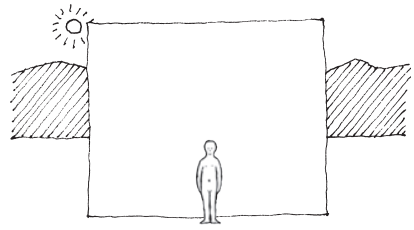
One of the chief things to consider is the effect that the creation of an architectural element will have on a person's free movement and experience of the world. The first power of a defined area of ground, for example, is to identify a place (16) and in doing so, if the definition (e.g. a line on the ground) is clear, to establish a clear inside differentiated and separated (by that line) from the general outside. In this sense, a defined area of ground is the prerequisite architectural element for all works of architecture founded on the surface of the earth and which occupy a site.



20 on the threshold

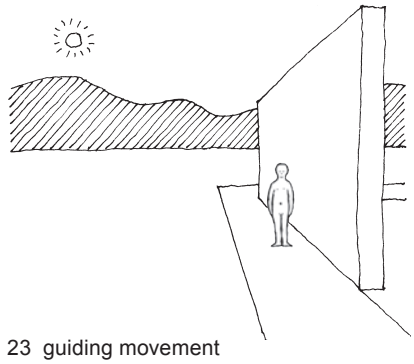


21 dividing space



22 blocking view

At the same time, a defined area of ground, if it is geometrically regular (e.g. rectangular or circular), establishes a centre (17) – and thereby may be used to reinforce a focus – and a threshold which might also constitute a notional wall between inside and outside. Psychologically, such a threshold can have various effects on a person's free movement and experience of the world. It might give an 'insider' (18) a sense of security within the refuge of the defined area. It might give an 'outsider' (19) a sense of exclusion, even alienation. Occupying the threshold might give a sense of being neither here nor there but in-between (20); or, when crossed, elicit a sense of trepidation, either at entering a territory whose ownership is asserted by someone else or at leaving one's own territory to meet the challenges of the outside world. Conversely, crossing the threshold might elicit a sense of relief at returning to one's own territory ('coming home'). Such are some of the powers of a simple line drawn on the ground.



23 guiding movement

- wall

A line on the ground may be a psychological barrier. It becomes a physical barrier too when it is developed, through the process of building, into a wall.

The built wall supplements psychological deterrence against intrusion with physical obstruction. A wall divides space (21). It can divide an inside from the outside, here from there, us from them. A wall can stop intrusion: from people (enemies, strangers…) and other creatures; and from the weather (wind, rain, snow…). So one power of a wall is to protect.

A wall can prevent escape too, controlling animals, containing children, incarcerating prisoners… So another power of a wall is to contain.

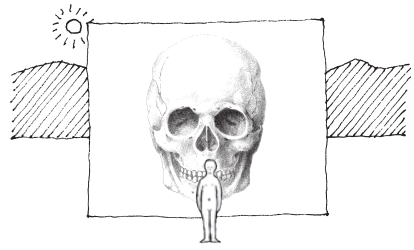
A wall can have other powers too. Independent of whether it divides an inside from the general outside, a wall can be used to block a view (22): hiding; providing privacy; orchestrating revelation… Yet another power of a wall is to screen.

A wall can be used to define or accompany a path (23), persuading people to take a particular route. A wall has the power to guide.

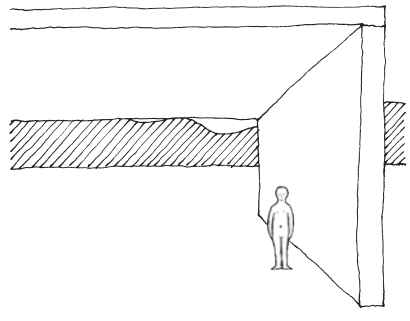
Walls can provide surfaces for decoration, ornamentation, colour, words, shadow and sunlight, hanging pictures and the projection of images (24) as in a cinema. A wall can provide a surface on which another world can be projected (actually or metaphorically).

Walls have environmental properties. A wall can be used to shade, to insulate, to store and radiate warmth.

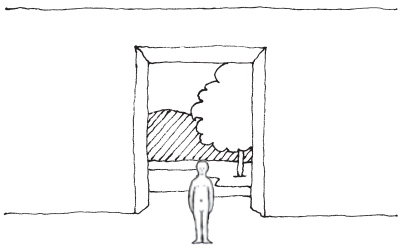
A wall may (even!) be used to hold up a roof (25), or (as in a castle wall) a walkway. A wall has the power to support.



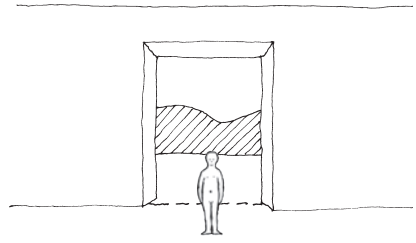
24 a surface for images



25 supporting a roof



26 framing a view (as a picture)



27 framing a threshold

- doorway

The primary power of a doorway is to allow access through a barrier (wall). As such a doorway is a point for controlling entrances and exits, filtering (with the help of a door) those things that may be allowed in or out from those that are not. A doorway is a place of welcome and farewell; a point for a display of identity (such as a name sign).

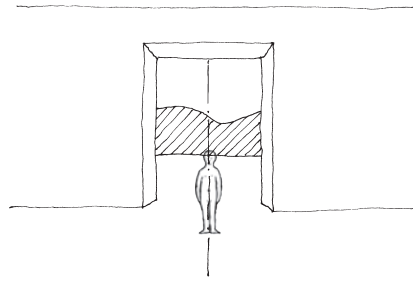
As a potential point of weakness in a defensive barrier (against enemies or the weather) a doorway needs to be defended by locks, porches, surveillance…

A doorway has other powers. A doorway can frame a view as if it were a picture (26).

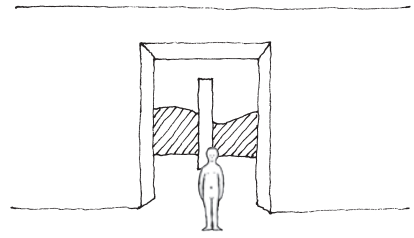
A doorway frames a threshold (27) – a 'fault line' between the places a wall separates. Crossing thresholds has the power to elicit emotional responses, such as those associated with trepidation, arrival, exposure to view, escape, refuge, concealment, revelation… A doorway may be the locus of any of these.

A doorway generates an axis (28) which might suggest symmetry in composing an elevation but which can also establish a relationship between things either side or with something in the distance (29). This power of a doorway has been used since ancient times in religious architectures across the world; a doorway can suggest a link between the person and something remote – a distant mountain or sacred site; an altar; an icon; even an abstract concept (such as 'good', 'infinity', 'the other'…).

As a threshold, a doorway also provides an attractive place to sit and watch the world go by. A doorway has in itself the power to identify place.



28 generating an axis



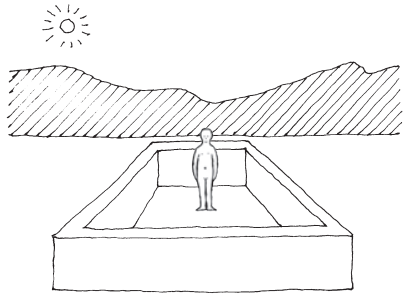
29 creating linkage

These are just a few examples of the powers basic elements of architecture offer. Powers are factors in what might be called the 'grammar' of architecture; elements such as walls and doorways, roofs and markers… are the architectural equivalent of doing words (verbs); they are instruments for identifying place and organising space – mediating in the person's relationship with the world around.

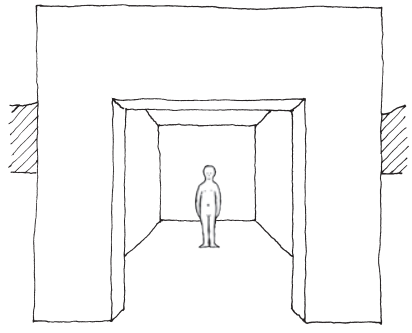
When analysing basic elements of architecture in real situations consider carefully what those elements are doing, which powers are in play. Look beyond the obvious. Often it will be found that a seemingly simple element such as a doorway, a wall, a roof, a path… is doing a number of things (architecturally) at the same time. A doorway, for example, might be providing access, generating an axis, framing a view, acting as a filter… all at the same time. A wall, for another example, might be dividing space, supporting a roof, acting as a screen for projected images… all at the same time. The multi-valency of architectural elements is discussed further in the chapter 'Elements Doing More Than One Thing'.

Reference for the powers of walls:
Simon Unwin – *An Architecture Notebook: Wall*, 2000.

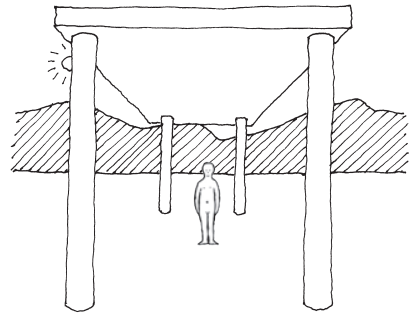
Reference for the powers of doorways:
Simon Unwin – *Doorway*, 2007.



30 enclosure



31 cell



32 aedicule

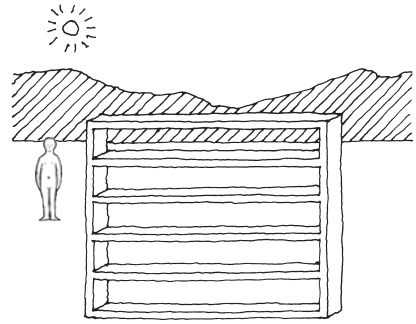
Combined elements

In architecture there are some common combinations of basic elements, for example, the enclosure, cell, aedicule, shelves, stair, window seat, porch… all of which are composed of different combinations of basic elements – defined area of ground, wall, doorway, roof, column, platform.

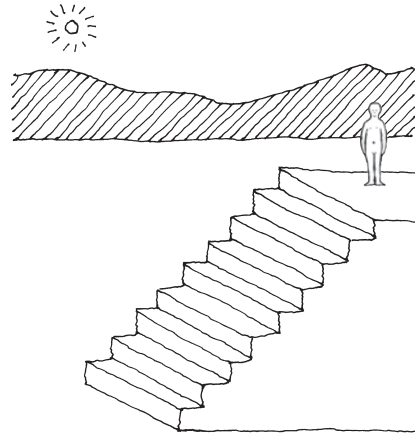
The basic elements of architecture can be combined to create rudimentary architectural forms. Sometimes these combined elements have names of their own.

Walls (barriers) can be combined to form an enclosure (30), which defines an area by putting a wall around it. (This one would need a door- or gate-way for access.) Floor, walls and a roof create a cell (31) or room, isolating a space from everywhere else and making it a place (maybe a place of refuge, of solitude, perhaps one of imprisonment…). Giving a roof the supporting columns it needs creates an aedicule (32), one of the most fundamental of architectural forms, often used to frame something special, a focus such as a sacred object or an important person. Arranging a series of platforms vertically above one another makes a set of shelves (33) for storage or display, or the floors of a multi-storey building. And arranging platforms at an angle makes a flight of stairs (34) – a path climbing from one level to another. A combination of wall, window and platform can create a window seat (35), a place to sit enjoying the light from the window and the view out. And a composition of a wall, doorway, columns and a small roof can make a porch (36), a place to shelter a visitor waiting at a doorway or for taking off outdoor clothes before entering.

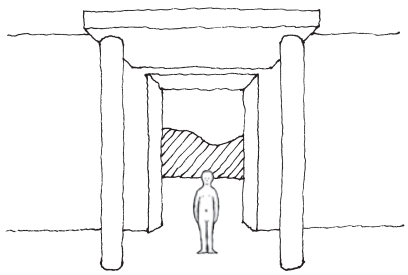
These basic elements and their combination into rudimentary forms recur again and again in the examples in this book and through all architecture. They are used in buildings of all times and regions of the world. Just as in language we often repeat common phrases (such as 'how about a cup of tea?') so too in architecture we often use common combinations of basic architectural elements.



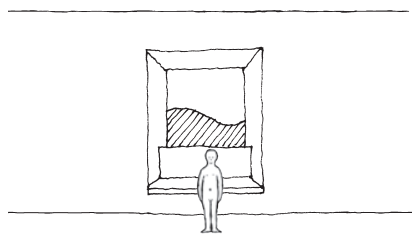
33 shelves (or floors)



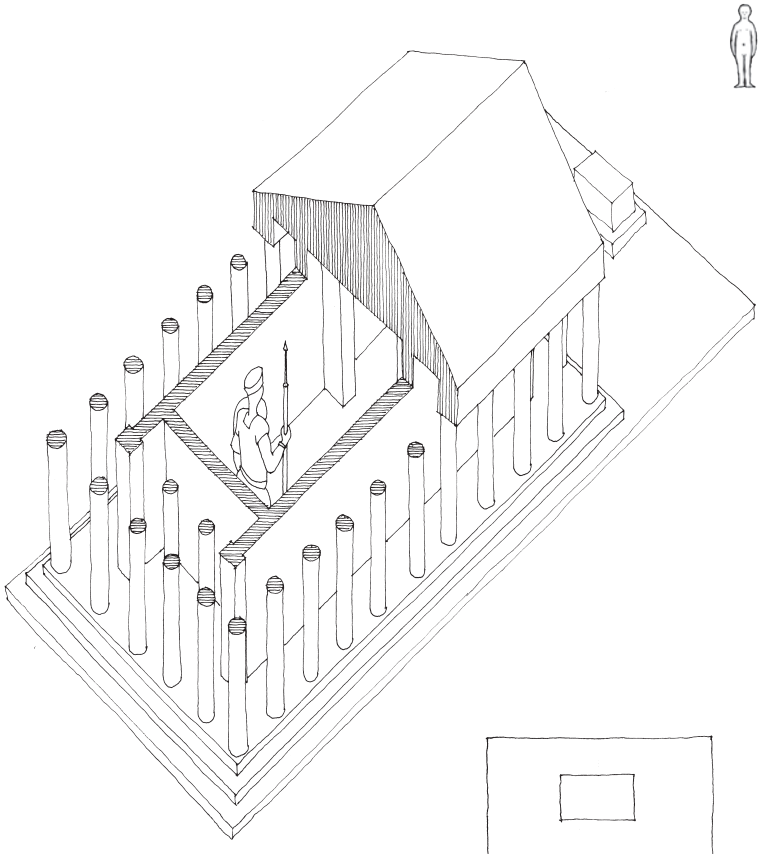
34 stair

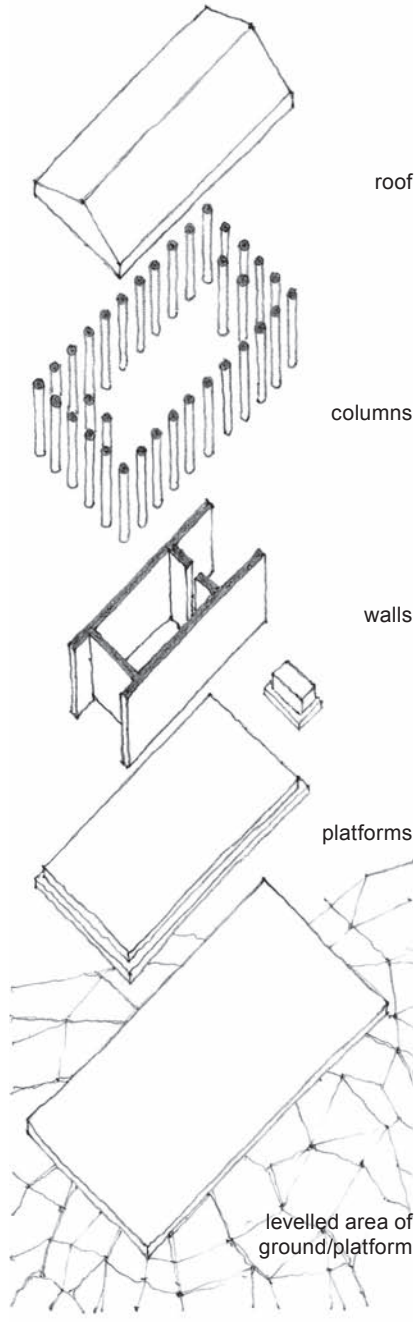


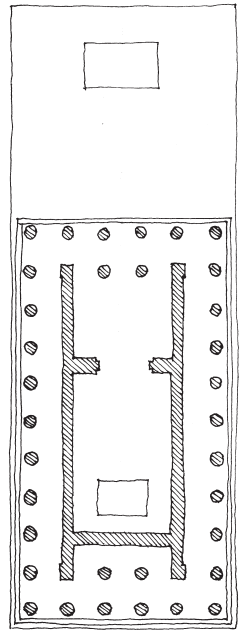
36 porch



35 window seat



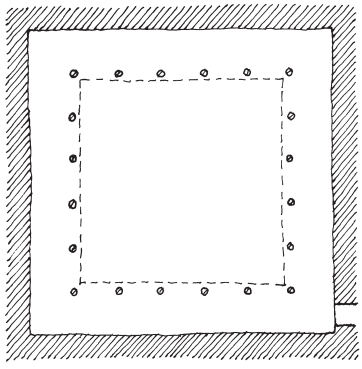




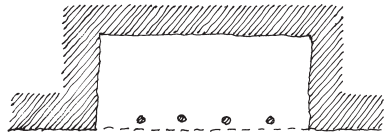
An ancient Greek temple (above) consists of some of the basic elements of architecture used in a clear and direct way to identify the place of a god. The building stands on a platform, and consists of walls that define a cell, surrounded by columns. The columns together with the walls of the cell support the roof. The cell is entered through a doorway, outside of which is a small platform in the form of an altar, which would have been the focus of a ceremony. Together, this composition of basic architectural elements organises the space and orchestrates one's experience of the temple. See how the doorway establishes a relationship between the statue of the god and the altar, or with a person standing on its axis. See also how the columns veil the cella or core cell of the temple. Imagine too how it would feel to enter the temple – crossings its threshold – or to walk between the columns and the cella wall. Such a temple, often sited on a hill, acts as a marker that can be seen from far away, and as the focus of its city.

Together, the platform, walls, columns, roof and altar identify the place of the god who is represented by the carved statue within, which is the inner focus of the temple.

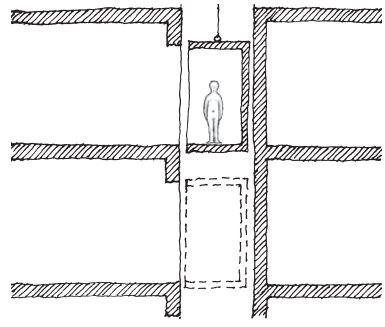
References for Greek temples:
A.W. Lawrence – *Greek Architecture*, 1957.
D.S. Robertson – *Greek and Roman Architecture*, 1971.



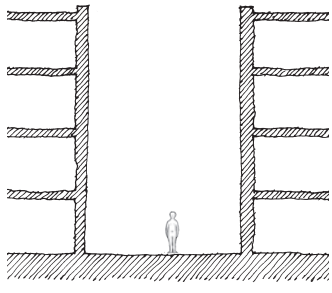
A ‘cloister’ is an area of ground (a garden open to the sky perhaps) enclosed by the walls of buildings with a row of columns set in from each side to create a path with a roof. This is the form of the garden of a typical Roman house. It is a standard element in the composition of a medieval monastery and of a Renaissance palace.



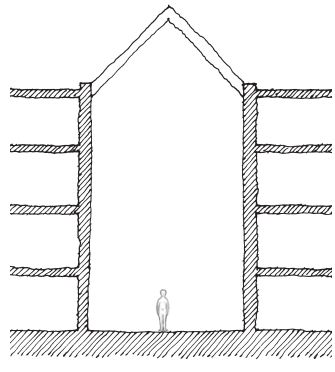
A ‘loggia’ is a place defined by walls but open to one or more sides through columns.



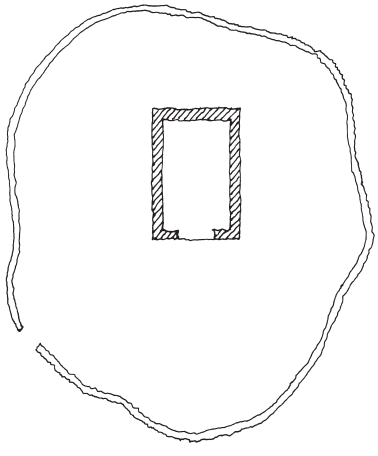
A ‘lift’ or ‘elevator’ is a place that moves. It is a cell that transports people from one floor to another.



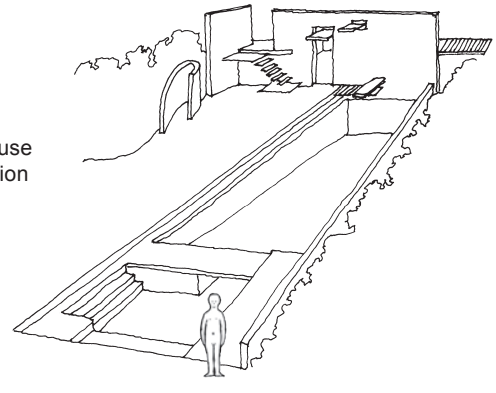
A ‘street’ is a path lined by the walls of buildings.



With a glass roof it becomes a ‘mall’ or ‘arcade’ – an internal street.

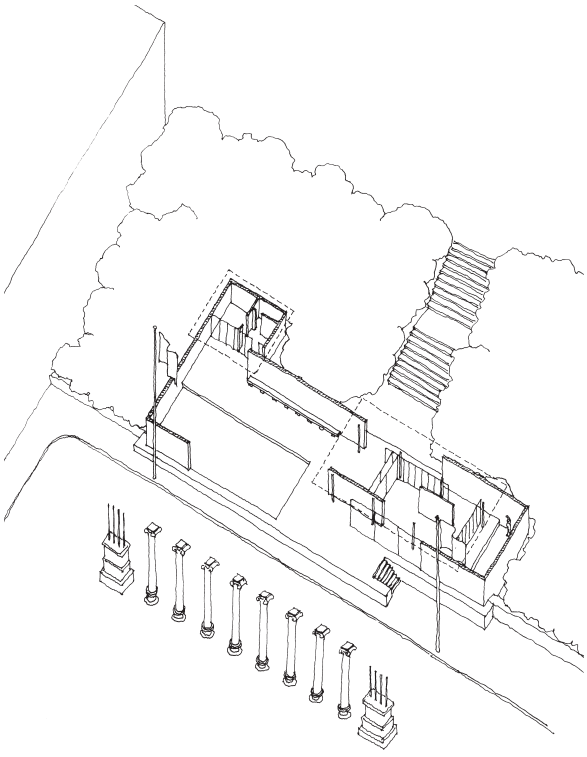


A ‘temenos’ is an area of ground enclosed by a wall to distinguish it as special, with a cellular building at its heart. This is the arrangement of many sacred places: the sanctuary of the ancient Greek temple; the medieval church in its graveyard; and of the cottage in its plot of garden.

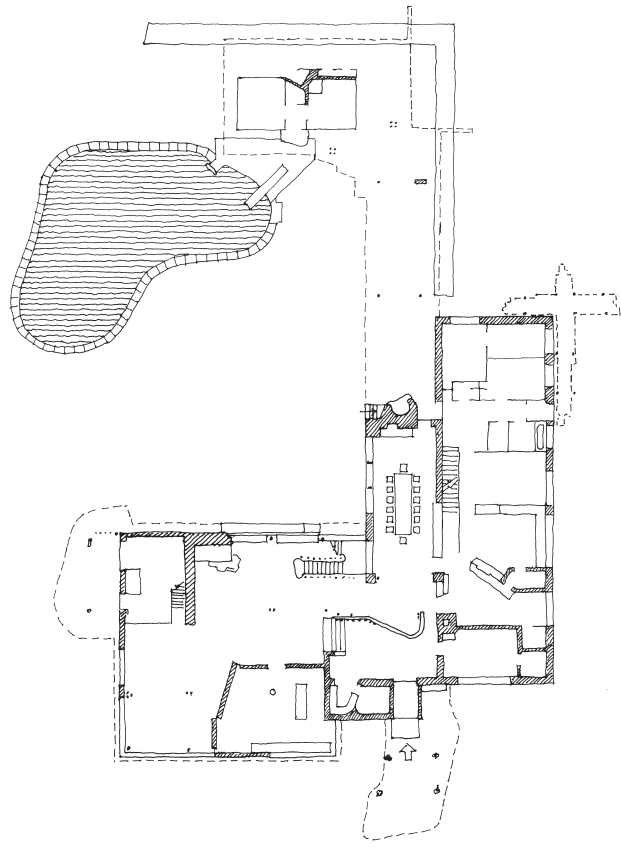


The swimming pool at the Baggy House in Cornwall, UK (right), is a composition of basic architectural elements: pit; wall, platform; path, stairs, bridge. It was designed by architects Hudson Featherstone.

Reference for Baggy House swimming pool:
Kester Rattenbury – in *Royal Institute of British Architects Journal*, November 1997, pp. 56–61.



Mies van der Rohe's design for the Barcelona Pavilion is a composition of platforms, pits, walls, glass walls, columns and roofs. A statue in the corner is a focus and the flags (banners) are markers.



The places that constitute the Villa Mairea are defined by the basic elements of wall, floor, roof, platform, column, door, window, pathway, defined area, pit (the swimming pool), and so on. Some places – the approach to the main entrance (indicated by an arrow) for example, and the covered area between the main house and the sauna – are identified by roofs (shown as dotted lines) supported by slender columns. Some places are identified by particular floor materials, timber, stone, grass, etc. Some places are divided by low walls, others by full-height walls (hatched) or glass walls.

These are some of the basic and combined elements used by architects in designing works of architecture. In some cases, such as the swimming pool of the Baggy House (previous page, designed by Hudson Featherstone in 1996) or the celebrated Barcelona Pavilion (above left, by Mies van Der Rohe, 1929), a work of architecture can be a clear composition of basic architectural elements. But more complex and irregular works of architecture are composed of these basic and combined elements too. Above right is the ground-floor plan of the Villa Mairea, a house designed by the Finnish architects Alvar Aalto and his wife Aino, and built in 1939. Although it is not drawn in three dimensions, you can see that even if the underlying geometry of the building is not as simple as that of the Baggy House swimming pool, its composition is one of basic and combined architectural elements.

Doing architecture is not merely a matter of knowing the basic elements. The basic elements of architecture are constructs of the mind which introduces them into the world as instruments by which space is organised into places. A large portion of the subtlety of architecture lies in how its elements are put together. In literature, knowing all the words in the dictionary would not necessarily make you a great novelist. Having a good vocabulary does, however, give greater choice and accuracy when you want to say something. In architecture, getting to know the basic elements and their various powers is only the first step. But knowing them provides the beginnings of a repertoire of ways to give identity to places.

References for Villa Mairea:
Richard Weston – *Villa Mairea*, in the Buildings in Detail series, 1992.
Richard Weston – *Alvar Aalto*, 1995.

Reference for Barcelona Pavilion:
Simon Unwin – *Twenty Buildings Every Architect Should Understand*, 2010.

It is impossible to convey fully in drawing, but the architecture of these steps consists in more than just their visible form. They are in the Generalife, near the Alhambra in Granada, Spain. The place shown in the drawing stimulates nearly all the senses: the deep greens of the leaves, the colours of the flowers and the patterns of light and shade stimulate the sight; there is the sound of moving water in nearby fountains; the smell of warm vegetation, and the perfume of oranges; the variations in temperature between the hot sunny places and the cooler shady places; the cold water for bathing hands and feet; the textures of the cobbled paths; and, if one were to pick one of the oranges or a grape, the taste would contribute to the place too. And then there is the time that it would take you to climb to the doorway at the top.

MODIFYING ELEMENTS OF ARCHITECTURE

From the outside, the house, shaded by the almonds in the Park of the Evangels, appeared to be in ruins, as did the others in the colonial district, but inside there was a harmony of beauty and an astonishing light that seemed to come from another age. The entrance opened directly into a square Sevillian patio that was white with a recent coat of lime and had flowering orange trees and the same tiles on the floor as on the walls. There was an invisible sound of running water, and pots with carnations on the cornices, and cages of strange birds in the arcades. The strangest of all were three crows in a very large cage, who filled the patio with an ambiguous perfume every time they flapped their wings. Several dogs, chained elsewhere in the house, began to bark, maddened by the scent of a stranger, but a woman's shout stopped them dead, and numerous cats leapt all around the patio and hid among the flowers, frightened by the authority in the voice. Then there was such a diaphanous silence that despite the disorder of the birds and the syllables of water on stone, one could hear the desolate breath of the sea.

Gabriel García Márquez, translated by Grossman – *Love in the Time of Cholera*, 1989, p. 116

This was the genius of our ancestors, that by cutting off the light from this empty space they imparted to the world of shadows that formed there a quality of mystery and depth superior to that of any wall painting or ornament… We can imagine with little difficulty what extraordinary pains were taken with each invisible detail – the placement of the window in the shelving recess, the depth of the crossbeam, the height of the threshold. But for me the most exquisite touch is the pale white glow of the shoji in the study bay; I need only pause before it and I forget the passage of time.

Junichirō Tanizaki, translated by Harper and Seidensticker – *In Praise of Shadows* (1933), 2001, p. 33

MODIFYING ELEMENTS OF ARCHITECTURE

The basic elements of architecture as described in the previous chapter are abstract ideas. When, by being built, they are given physical form, various additional factors come into play. In their realisation and our experience of them, basic elements and the places they identify are modified: by light; colour; sound; temperature; air movement; smell (and possibly taste); the qualities and textures of the materials used; use; scale; and the effects and experience of time.

Such modifying forces are conditions of architecture. They can also be used as elements in the identification of place. Possible configurations of basic and modifying elements are probably infinite. A room might be sombre, lit by one dim light-bulb, or bright with sunshine streaming through a window; sounds might be muffled by fabrics or reflect off hard surfaces. The temperature might be warm or cool; the air dank or fresh; there could be a smell of stale sweat or rotting fruit, fresh cooking or expensive perfume. The floor might be rough or polished as smooth as ice; the bed might be as hard as rock, or soft, padded with foam or feathers. Outside there may be a garden, continually changing with the weather, the time of day and the seasons.

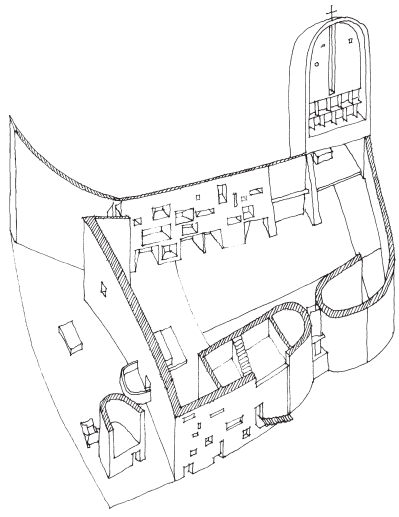
A place may be no more than a patch of light, or a moment on a journey.

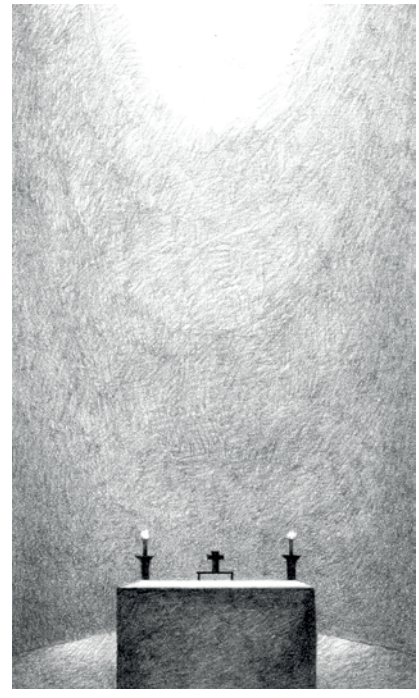
As abstract ideas, basic elements are subject to complete control by the designing mind; modifying elements may be less compliant. You might decide on the precise shape and proportions of a column, a cell or an aedicule, but the matter of how it sounds, or is lit, or smells, or changes with time is a more subtle issue. Control over modifying elements is a continuing and evolving battle. For example: in prehistoric times, light would have been that provided by the sky and not controllable; now there is electric light that may be controlled precisely. In the distant past, materials for building, whether stone or timber, were rough hewn; now their textures and qualities can be finely finished.

Though use of the basic elements may be the primary way a designing mind conceptually organises space into places, modifying elements contribute a great deal to the experience of those places.

Light and shadow

The first modifying element of architecture is light. Light is a condition of architecture, but it can also be an element. Light from the sky is the medium through which sighted people experience the products of architecture; but light, both natural and artificial, can be manipulated by design to identify places and to give places particular character.



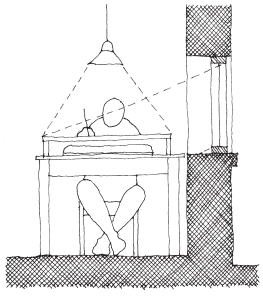


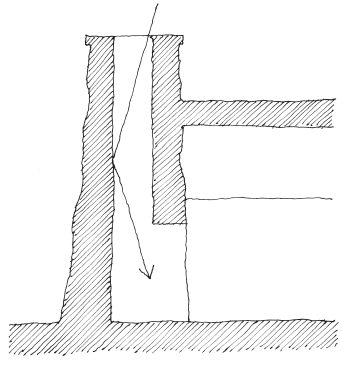
If you think of architecture as sculpture it is by light that it is seen and its modelling appreciated. If you think of architecture as identification of place, then you will be aware that there can be light places and dark places; places with a soft even light and places with the strong brightness and sharp shadows of sunlight; places where the light is dappled or constantly but subtly changing; places, such as theatres, where there is a stark contrast between light (the stage – the place of the action) and dark (the auditorium – the place of the audience).

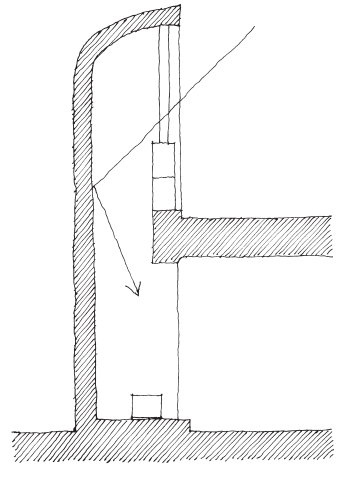
Light can be related to activity (below left). Different kinds of light are appropriate for different kinds of activity. A jeweller at his workbench needs strong light over a particular area. An artist painting in her studio needs constant and even light. Children in school need good general lighting for work and play.

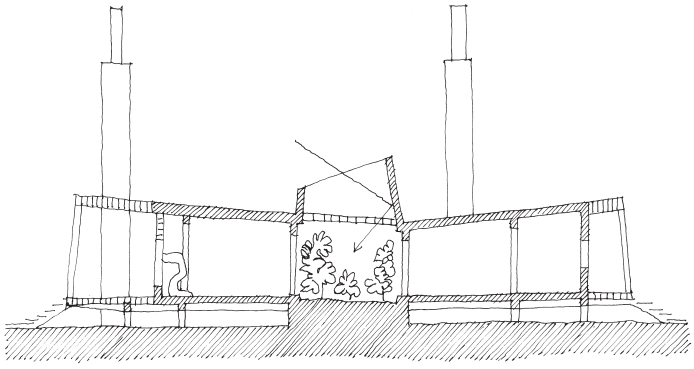
The way light is admitted into the side chapels at Ronchamp (above and below) is similar in effect to that of light filtering down an old broad chimney stack.

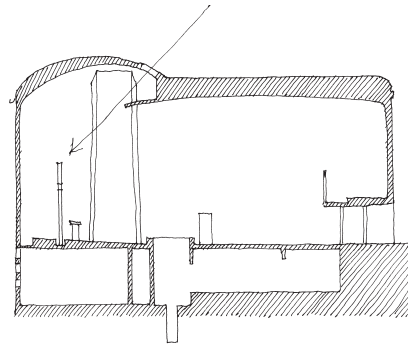
Light changes and can be altered. Light from the sky varies through the cycles of night and day, and during different times of the year; sometimes it may be shaded or defused by clouds. Daylight can be exploited in making places. Its qualities can be changed by the ways it is allowed into a building. Some old houses have broad chimney stacks (below middle). Open to the sky they allow a dim 'religious' light to illuminate the hearth (when there is no fire). Le Corbusier used a similar effect in the side chapels of Notre-Dame du Haut at Ronchamp (above and below right). Using light 'scoops' he illuminated the side altars with daylight softened by its reflection off white roughcast walls. The same sort of effect is





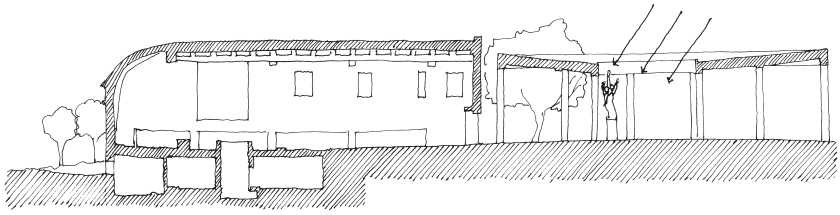






The sources of daylight in religious buildings are often indirect or hidden, to increase their sense of mystery.

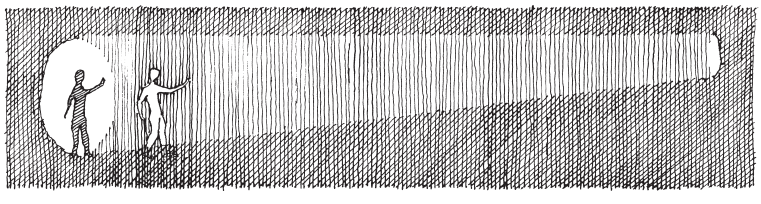
used in this crematorium at Boras, Sweden, by Harald Ericson (above right). It was built in 1957, three years after the Ronchamp chapel. The drawing shows its long section, with a concealed source of daylight over the sanctuary. In the same year, Ralph Erskine used a roof-light cum light scoop to identify the place of a small winter garden in the middle of a single-storey villa which he built at Storvik, in Sweden too (above left). Also in Sweden, though some twenty years earlier, Gunnar Asplund designed the Woodland Crematorium in the outskirts of Stockholm. The main chapel, set in extensive grounds, has a large detached portico. Near the middle of this portico is a large statue that appears to be reaching for the light (heaven) through an opening in the roof (below).

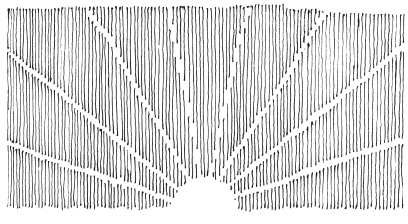


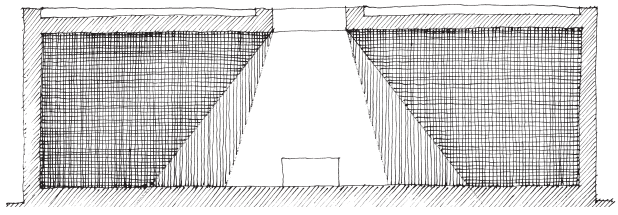
Light from an electric bulb is more constant and controllable than daylight: it can be switched on and off or precisely varied in intensity, colour and direction. One of the most intense uses of electric lighting is in the theatre but any place can be considered as a 'theatre' and lit accordingly. A spotlight can identify the place of an actor, a singer, a painting, an object, anything on which attention is to be focused (below). Beams of light can also work in the opposite way, drawing attention to their source (right).

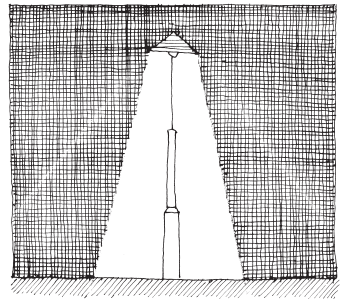
In identifying places through architecture, light – both the varying light from the sky and the precisely controllable light from electric bulbs – can contribute in many ways. The way light contributes to the identification of place is part of architecture. Decisions about light play their part in the conceptual organisation of space and affect the ways basic elements of architecture are used. Light contributes to the character and ambience of a place.

A spotlight can identify the place of anything you want to focus attention on, or draw attention towards itself.





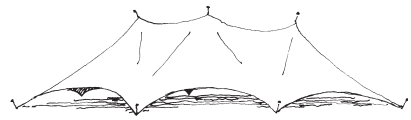




A roof-light in a room, like a clearing in the forest, identifies a place of light, which might by used to draw attention to an altar. A street lamp makes a cone of light in the darkness of the night.

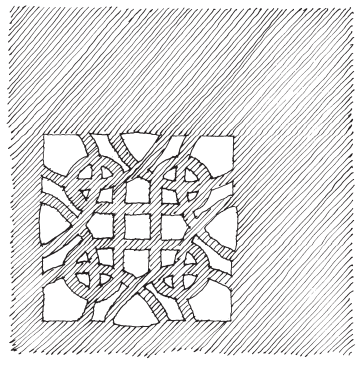
You are likely to make the quality of light in places of contemplation or worship different from that in places for playing basketball or for performing surgical operations.

Without changing the physical form of a place, its character can be radically altered by changing how it is lit. Think of the dramatic change in the appearance of a friend's face when you hold a flashlight under her chin. The same can occur in a room when it is lit in different ways, at different intensities and from different directions. A room's character changes radically when, in the evening, the electric lights are put on and the curtains are drawn; the fading dusk light is replaced with a constant brightness. We are perhaps so familiar with this event that we do not recognise its drama. The device of reversing the lighting conditions in a theatre when the house lights go out and the stage is lit is an important ingredient in the magic of theatre. Light can make the fabric of a building seem to dematerialise. A well-lit, completely smooth surface (of a wall or a dome for example), of which you cannot see the edges, may appear to lose its substance and become like air. The absence of light can have a similar effect. The surfaces in the distant recesses of the interior of a church can disappear in the gloom. There are places where light is constant and others where it changes. In some buildings (hypermarkets or shopping malls for example) electric bulbs supply light that is the same all the time, at 9.30 on a winter night and at noon on a summer's day.



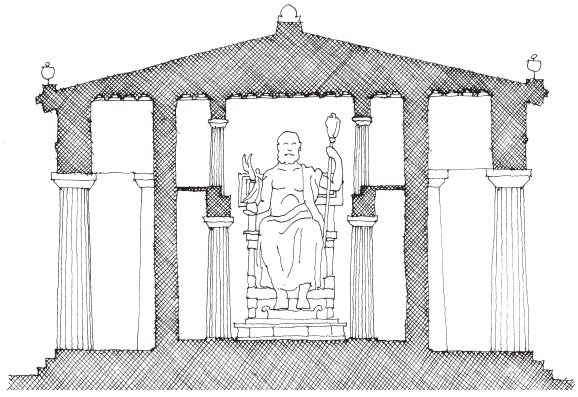
A tent in the desert identifies a place of shade.

Making a clearing in a forest is an architectural act. It removes the obstruction of tree trunks but it also changes general shade into a place with bright light from the sky. The removal of obstruction means that the place becomes a 'dancing floor'; the admission of light accentuates the place and allows it to be a garden rather than a forest. Erecting a roof under desert sun creates a patch of shade. The creation of a place of shade is essential to the architecture of a Bedouin tent (right). A roof, which might in some climates be considered primarily as protection against rain, is also a shade. Putting a roof-light in it can be like making a clearing in a forest, creating a pool of light surrounded by shade (above left). A lone lamp in a dark street identifies a place (above right); a red light maybe identifies somewhere more specific.



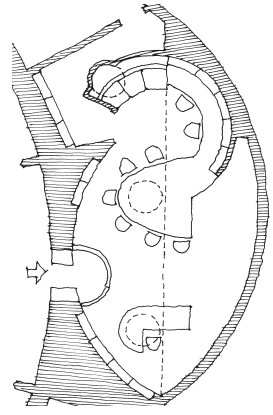
A wall can be a screen on which shadows are projected. Inside the tower of Brockhampton Church, designed by William Richard Lethaby in 1902, the windows cast shadows of their tracery as a pattern of sunlight on the white walls.

The doors of ancient Greek temples usually faced the morning sun. At dawn, the golden light from the east must have dramatically illuminated the figure of the god within. Like a cannon operating in reverse, the sun's horizontal light, striking deep into the interior of the temple, helped to identify the place of the image of the god at a particularly significant time of day. In the high ceiling of the large church of the abbey of La Tourette in southern France (built in the 1960s), Le Corbusier designed a relatively small rectangular roof-light.

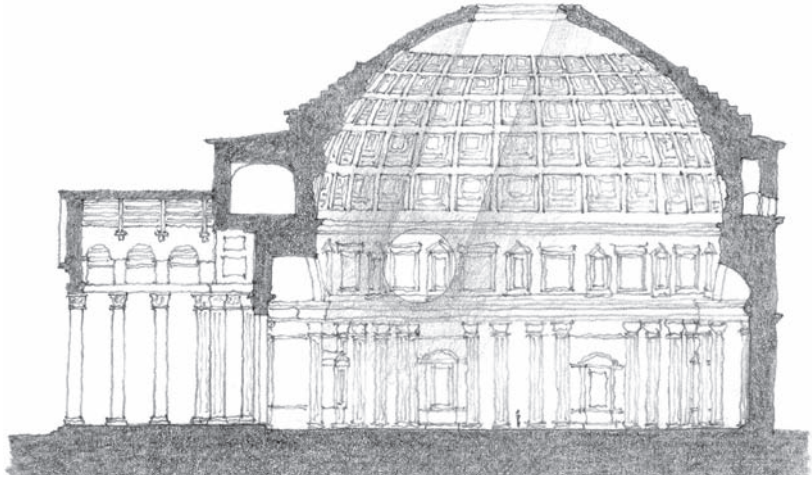


Imagine the statue of the god illuminated by golden light from the rising sun striking in through the door of a temple (left).

As the sun moves across the sky, through the dark interior a rectangle of its beams tracks like a slowly moving searchlight – the eye of God? In the side chapel of the same church Le Corbusier used deep circular roof-lights, like broad gun barrels with brightly coloured inner surfaces, to illuminate the places of the altars. These roof-lights are themselves like suns in the 'sky' of the chapel's ceiling. In the crypt chapel of the church intended for the Güell Colony in southern Spain, the architect Antonio Gaudi created a place of darkness in which columns and vaults melt into shadow, lit only by the stained-glass windows. This chapel, rather than making a clearing, recreates the forest, with stone tree trunks and coloured dappled light seeping under a canopy of shade.



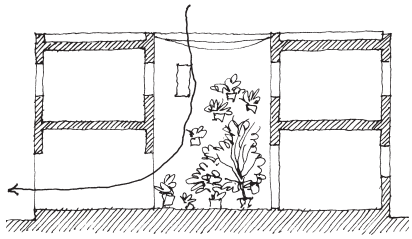
In the Aye Simon Reading Room (above, in the Guggenheim Museum of Art, New York, designed by Frank Lloyd Wright) Richard Meier, who was remodelling the room, used three existing roof-lights to identify three specific places (from top to bottom): the built-in seat; the reading table; the receptionist's desk.



In the Pantheon (left), built in Rome nearly two thousand years ago, the oculus in the dome allows a beam of sunlight to pan around the circular space.

Colour

Issues of colour are of course inseparable from those of light. Light itself can be any colour; coloured glass changes the colour of light that passes through it; the apparent colours of material objects are affected by the colour of the light that falls on them, adjacent colours and colours reflected from nearby surfaces. Colour, with light, can play a part in identifying place. A room painted a particular shade of green has a particular character (and is likely to be known as the 'Green Room'); a room lit only by a blue electric lamp has a particular character; a room lit by daylight passing through coloured glass windows has a different character. Various colours and qualities of light may seem



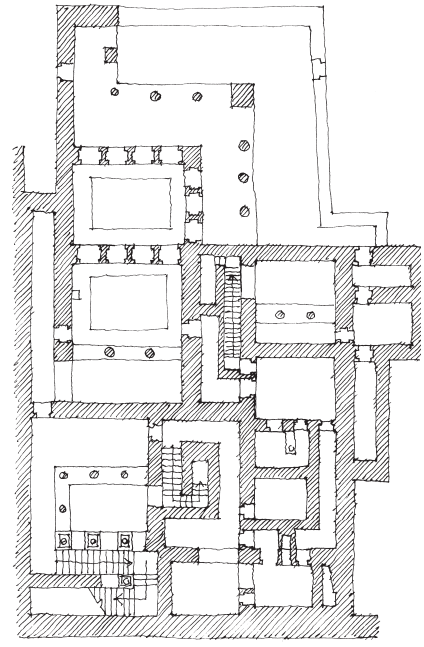
The patio courtyards of houses in southern Spain (left) are shaded by their high walls and, when the sun is at its highest, by awnings. They are packed with many plants and maybe a small fountain. Evaporation from these creates cool air that flows through the rooms and into the narrow streets.

An air-conditioning outlet can identify a warm place to stand on a cold day.

to suggest different moods. Colour is not only a matter of decoration or the creation of places with particular moods. Colour plays a part in place recognition. The importance of colour in place recognition is underlined by camouflage, which conceals by destroying or obscuring colour differences. Colour is also used in coding. In directing someone to your house, you might describe it as the house with the red (or blue, or green, or whatever colour) door (or walls, or windows, or roof). A coloured line can indicate a place where you should wait (to have your passport checked). A change in the colour of paving slabs or a carpet might indicate a particular path (giving it special importance, as when a red carpet is laid down for an important person) or help people find their way.

Temperature

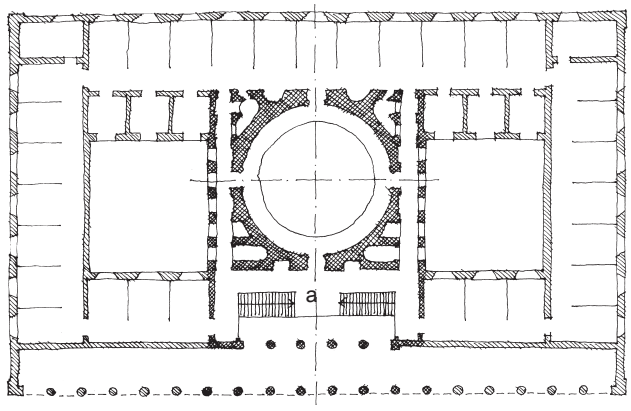
Temperature plays a part in the identification of place too. The first huts were built either to contain the heat of a fire or to provide cool shade. The chief purpose in building an igloo is to organise a small place of relative warmth amid the snow fields of the Arctic north. A reason for the shaded patios, full of plants, in the houses of Cordoba is that they create a relatively cool place as a respite from the strong sun and summer heat of southern Spain. Temperature may or may not be associated with light. In the temperate zones of the northern hemisphere a south-facing wall can make a place that is both bright and warm from the light and heat of the sun. An air-conditioning outlet, however, which emits no light, can identify an attractively warm place on an icy day. A bright room can of course be cold; a dark one, warm. The interiors of some buildings have constant, unvarying temperature in all parts, carefully controlled by air-conditioning and computer systems. In other buildings, a rambling old house for example, there may be places with different temperatures: a warm place by a fire, a cool hallway, a warm attic, a cool cellar, a warm living room, a cool passageway, a warm courtyard, a cool pergola or veranda, a warm conservatory, a cool larder, a hot kitchen oven, a cold ice-house; moving from place to place, one passes through zones of different temperatures, related to different purposes and providing different experiences.

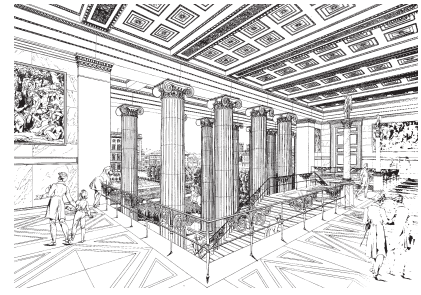


The residential quarters in the palaces of ancient Crete were well shaded. They were also provided with many openings and small light wells that, by providing ventilation, helped keep the rooms cool in the severe Cretan summer heat. (This is part of the royal apartments of the palace of Knossos.)

Ventilation

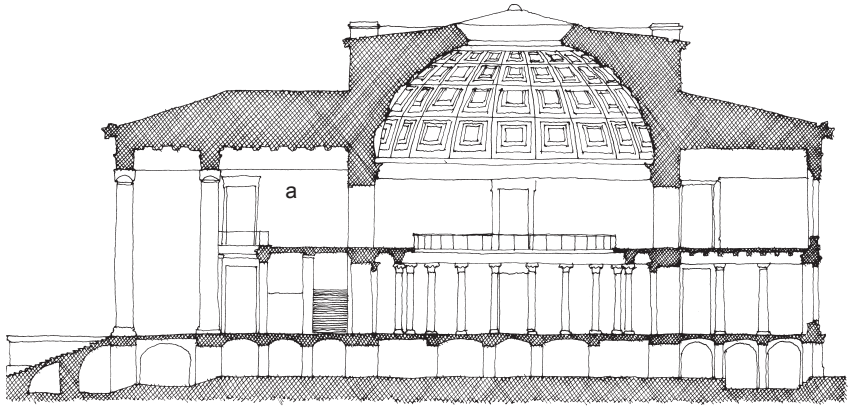
Temperature is involved with ventilation and humidity. Together they can identify places that may be warm, dry and still; cold, damp and draughty; warm, humid and still; cold, dry and draughty; and so on. A fresh breezy place can be refreshing after a warm, humid



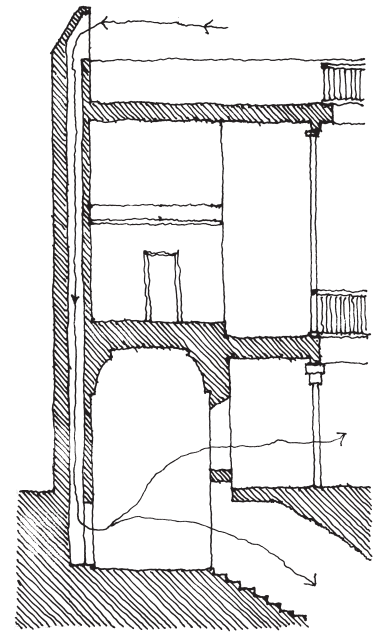


The loggia on the first floor of the Altes Museum in Berlin, marked 'a' on the plan (left) and section (below left), provided a moment of fresh air on a promenade through the galleries. Above is a drawing of the loggia from Schinkel's own *Collection of Architectural Designs*, originally published in 1866 but republished in facsimile in 1989.

one; a warm, still place is welcome after a cold, windy one. In the ancient palaces of the Mediterranean island of Crete, which has a hot, dry climate, royal apartments had open terraces and tiny courtyards shaded from sun and positioned to catch or produce air movement to cool the interior spaces.



In the front elevation of the Altes Museum in Berlin (above), designed by Karl Friedrich Schinkel in the nineteenth century, there is a loggia (a), originally open to the outdoor air, containing a pair of stairs from ground to first floor and looking over the square (the Lustgarten) in front of the museum. Before it was enclosed with a glass curtain wall (in the early 1990s) this loggia, which is encountered during one's progression through the museum as well as at the beginning and end of a visit, provided a reminder of the fresh air and the openness of the outside, as a contrast to the enclosed galleries.

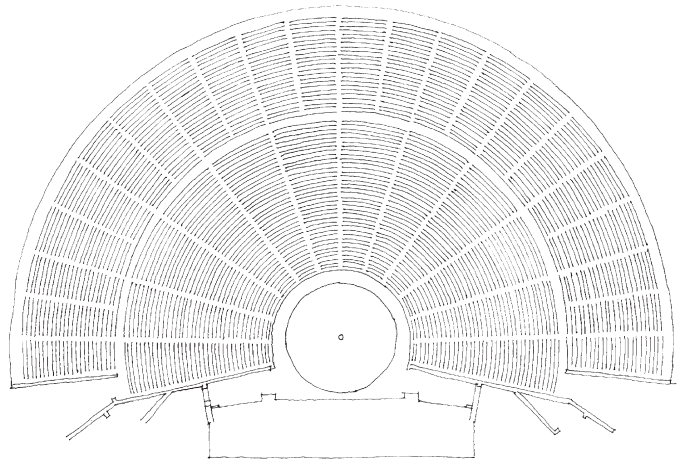


Traditional houses in Iraq have windscoops (badgir) to help bring air down into the lower rooms and courtyard.

Reference for traditional houses in Iraq: John Warren and Ihsan Fethi – *Traditional Houses in Baghdad*, 1982.

Sound

Sound can be as powerful as light in identifying place. Places can be distinguished by the sounds they make or by the ways they affect sounds made in them. Religions use sound to identify their times and places of worship: by bells, gongs or the call to prayer from a minaret. In Greek Orthodox monasteries a plank of wood is beaten at significant times of the day to announce services. They also use bells that chime across the landscape. A place



Standing at the centre of an ancient Greek theatre, any sound you make is reflected back from each tier in turn, extending it into a string of echoes that sound like a rapid machine-gun. The plan of the theatre is itself like a diagram of sound waves emanating from the centre.

might be distinguishable by the sound of the wind in the leaves of its trees or by the sound of a stream or fountain of water. Experience of a hotel room might be spoilt by the constant hum of its air-conditioning. A particular place in a city might be associated with the music of a particular busker. A place – an examination room or a library or a monastery refectory – might be distinguished by its silence; a restaurant by its taped background music.

Places can be identified by sound but they can also be identified by the ways they affect sounds made within them. A sound in a cathedral that is large and has hard surfaces will echo. Sound in a small room with a carpet, soft upholstered furniture and curtained windows will be muffled. A hall for the performance of music or for drama, or a courtroom in which witnesses, lawyers and judges must be heard, has to be made with careful consideration of the quality of sound it will allow. In the large church that is part of the monastery of La Tourette (the church with the rectangular roof-light) Le Corbusier has created a space that seems to hum of its own volition: its hard, parallel, concrete surfaces reflect and even seem to magnify every small noise: someone's shoe scraping on the floor, a door closing, someone clearing their throat or whispering. When the monks sang in this space…

Sometimes odd acoustic effects can be produced inadvertently. In the early 1960s the American architect Philip Johnson designed a small art gallery as an extension to a house. Its plan is based on nine circles arranged in a square; the central circle is a small open court; the other eight circles form the galleries and entrance lobby. Each of the galleries has a shallow domed roof (right). At the centre of each gallery one's voice seems amplified as the circular surfaces of the walls and the spherical surface of the domed ceiling reflect it directly back. A related effect occurs in an ancient Greek theatre. If one stamps one's foot at the central focus, the sound reflects back from each step in turn, producing a very rapid 'machine-gun' sound. This is a different phenomenon from the claim that such theatres (above) have good acoustics; but the rake of the tiers of seats did help the audience hear the actors and chorus performing in the orkestra – the circular 'dancing floor' at the centre of the theatre.

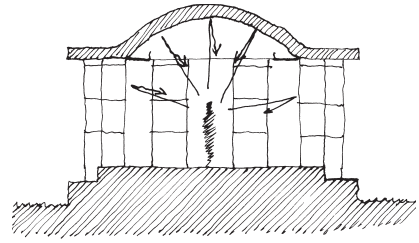
Some composers have written music specially to exploit the acoustic effects of particular buildings. The sixteenth-century composer Andrea Gabrieli wrote music especially for the cathedral of St Mark's in Venice. For his 'Magnificat' he would position three choirs and an orchestra in different parts of the church, producing a quadrophonic effect.

There have also been occasions when the fabric of a building has been used as a musical instrument. Apparently, this happened at the opening of an arts building at Gothenberg University, Sweden, in the early 1990s, when the balcony rails were used as percussion instruments.

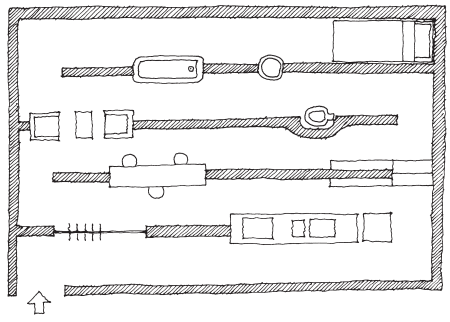
Sound can be a powerful component of the drama of a place:

'He would throw open the window in his room, even when the wintry stars were still in the sky, and warm up with progressive phrasings of great love arias until he was singing at full voice. The daily expectation was that when he sang his *do* at top volume, the Villa Borghese lion would answer him with an earth-shaking roar…. One morning it was not the lion who replied. The tenor began the love duet from *Otello*… and from the bottom of the courtyard we heard the answer, in a beautiful soprano voice. The tenor continued, and the two voices sang the complete selection to the delight of all the neighbours, who opened their windows to sanctify their houses with the torrent of that irresistible love.'

Gabriel García Márquez – 'The Saint', in *Strange Pilgrims*, 1994, pp. 41–2.



If you stand at the centre of one of the galleries in this building by Philip Johnson, your voice is reflected back to you by the curved surfaces of the walls and the ceiling, making it sound louder than elsewhere.



Usually we find our way around a building by sight. The 'Wall House' (left) was designed by Akira Imafugi to be navigated by touch. It is for a blind person. The walls are arranged in parallel lines an arm's width apart so they are never out of reach. All the principal places within the house – kitchen, dining table, clothes storage – are arranged within or in relation to these walls so they can be found easily.

Reference for the Wall House by Akira Imafugi: Japan Architect '92 Annual, pp. 24–5.

Smell

A place can be identified by its smell; a smell can make a place. Smell can be pleasant but it can also be repulsive. A schoolboy's stink bomb identifies a place to avoid. A public lavatory tends to smell one way, a ladies' hairdressers another, a perfume shop another, a fishmonger's another. The character of an old library is partly due to the smell of polished wood and musty leather book-bindings; that of an artist's studio to the smell of oil paint. Food halls in department stores cultivate odours of roasted coffee, delicate cheeses and fresh-baked bread. Some parts of cities with breweries smell of hops. Chinese temples are pervaded by the perfume of burning incense. When the spice warehouses of the Shad Thames area of London were in operation you could tell where you were with eyes closed, by the smell of cumin, cardamom, coriander…. The bedroom of an adolescent boy might be distinguished by the smell of dirty socks or deodorant. The lounge in a gentlemen's club might smell of polish and old leather armchairs. Different parts of a garden might be distinguishable by the perfume of roses, honeysuckle, jasmine, lavender. Some of these odours are results of chance and occupation but an architect (whether of a garden or a building) may orchestrate the smells of spaces by using materials that have particular perfumes.

'The moment was magical. There stood the bed, its curtains embroidered in gold thread, the bedspread and its prodigies of passementerie still stiff with the dried blood of his sacrificed lover…. What affected me most, however, was the unexplicable scent of fresh strawberries that hung over the entire bedroom.'

Gabriel García Márquez, translated by Grossman – 'The Ghosts of August' (1980), in *Strange Pilgrims*, 1994, p. 94.

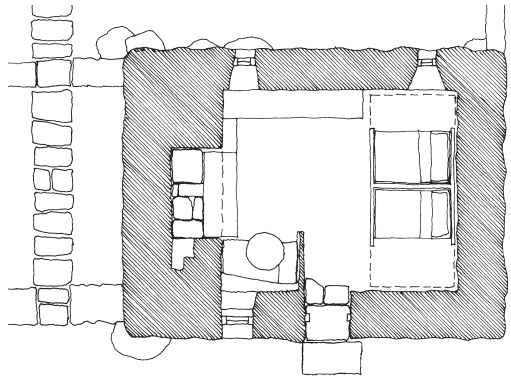
'The rooms adjoining the large parlour were protected by thick masonry walls that kept them in autumnal shadow. Jose Palacios had gone ahead to have everything ready. The bedroom, its rough walls covered by a fresh coat of whitewash, was dimly lit by a single green-shuttered window that looked out on the orchard. He had the position of the bed changed so that the window facing the orchard would be at the foot and not at the head of the bed, and in this way the General could see the yellow guavas on the trees and enjoy their perfume. The General arrived on Fernando's arm and in the company of the priest from the Church of La Concepcion, who was also the rector of the academy. As soon as he walked through the door he leaned his back against the wall, surprised by the scent of the guavas lying in the gourd on the windowsill, their luxuriant fragrance saturating the entire bedroom. He stood with his eyes closed, inhaling the heartbreaking aroma of days gone by until he lost his breath.'

Gabriel García Márquez, translated by Grossman – *The General in His Labyrinth*, 1991, p. 107.

Texture and touch

Texture is a characteristic one can see – in this it relates to light and the sense of sight; but it is also a characteristic one can feel – in this it relates to the sense of touch. In both ways, texture may contribute to the identification of place. Texture can be achieved by surface application, of paint or of polish or of fabric; but texture is also intimately related to the innate qualities of materials and the ways they can be treated and used.

We identify places by changing their texture. We do this inadvertently when, for example, by repeatedly walking the same route across a field or a yard, we (or some sheep) wear away a smooth path. We do it consciously when we define a path with grit, or cobbles, or paviours, or tarmacadam. These changes are apparent to our eyes but they are also appreciated by our sense of touch, through our feet, and provide a harder-wearing surface than the earth. On some roads the white lines that mark the verges are textured with rough ridges. If a car deviates from its lane it is communicated to the driver by the vibration and the noise of the tyres on the ridges; the place of the roadway is identified not only by sight, but by vibration (and sound) too.

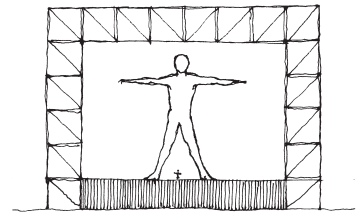


Traditionally, the surfaces of areas of floor that would be used most were given a texture that would be hard-wearing. In this cottage, flagstones protect the area just outside the doorway and have also been carefully placed to form a garden path. The area around the hearth is paved with stone to withstand the heat from the fire. Elsewhere the textures range from the large boulders of the wall to the smooth timber of the table and bench seat, to the soft feather mattresses of the beds.

Changes of texture are useful in the dark, and for people with partial sight. In some places road crossings are indicated by a change in the pavement texture. In old houses, when the making of hard pavements was a laborious activity, the places of hardest wear around the doorways were often protected (and identified) by large slabs of stone or aprons of cobbles.

Floors and pavements figure so prominently in discussion of the ways textures can identify place because it is through our feet that we make our main tactile contact with the products of architecture. Carpets change the texture of floors, making them warmer and more comfortable, particularly to bare feet. In some places consideration of bare feet is more problematic; around a swimming pool there is conflict between the need for comfort and the need for a non-slippery texture. Texture is important in other places where we come into contact with architecture. It can be a combination of aesthetics and practicality. If the top surface of a low wall is also intended as a casual seat, then one might change its texture from hard stone, brick or concrete to soft fabric or timber, thereby identifying it as a place to sit. The change is apparent to the eye but also to other parts of the body. Texture is also important where our hands or upper bodies touch buildings: door handles, counters, sleeping places, and so on. Beds are essentially matters of changes of texture – making a place upon which it is comfortable to lie and sleep.

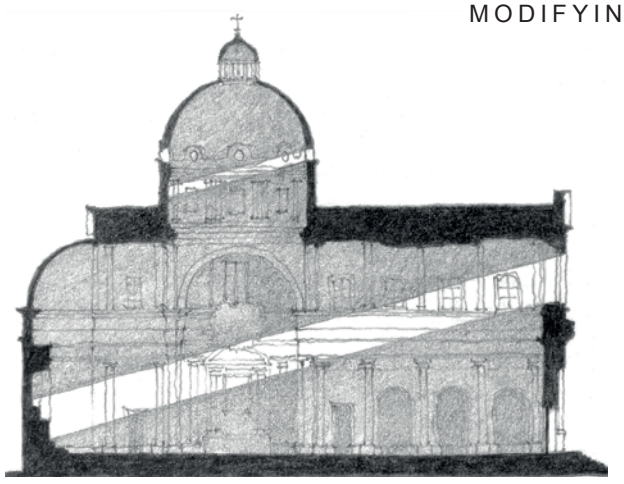
Scale



The drawing on the right shows a man standing on a rather small stage. If however you were told that this man is only a piece of stage dressing, and that the real man on the stage is actually the dot between its legs, your perception of the size of the stage is dramatically changed. Scale is about relative sizes. A scale on a map or drawing indicates the sizes of things shown on it relative to their sizes in reality. On a drawing which is at 1:100 a doorway that in reality might be one metre wide would be shown as one centimetre wide.

In architecture scale has another meaning, still to do with relative sizes. It refers to the size of something relative to oneself – human scale. The experience of a place is radically affected by its scale. A football pitch and a small patch of grass in a back garden, though both defined areas of grass, present very different experiences because of their different scales.

(Scale is also discussed later, in 'Geometries of Being', under 'Measuring'.)



Il Gesù (left) is a church in Rome, designed in the sixteenth century by Vignola. There is a clear window high in its west façade. Late in the afternoon the sunlight streams in like a searchlight down the nave to light the sanctuary and altar. Like the Pantheon and Le Corbusier's church at La Tourette, the building is an instrument for managing time as manifest in the movement of the sun.

Time

If light is the first modifying element of the products of architecture then time is perhaps the last. Light provides instant stimulation; but time takes… time. Time plays a part in architecture in various ways. Although architecture produces lasting products, none of them is immune to the effects of time. The light in a space changes as the sun moves in the sky; materials change – develop a patina or deteriorate into ruin; original uses become more ingrained in a building or are displaced by others; people make places better or alter them for new uses; in war, and by terrorism, people destroy the places belonging to those others who they consider to be their enemies.

Sometimes the effects of time are positive, sometimes negative. They are usually considered to be 'natural' in that they are not subject to control by human decision; but that does not mean that they cannot be anticipated and used positively. It is possible to choose materials, or to design generally, with maturity rather than early use in mind.

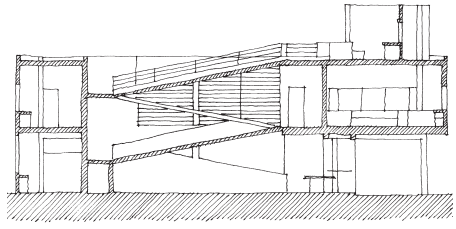
Time is a modifying element of architecture in another sense, one that is more under the control of the designer, though not totally so. Although it takes time to achieve a profound understanding of a great painting, one is able to take in an initial impression literally in the blink of an eye. With a piece of music it takes the duration to be able to get even this initial impression; the achievement of a profound understanding probably takes many listenings. It takes time to assimilate architecture too. Though we see a great deal of the products of architecture illustrated, as pictures, by photographs in books and journals, this is not of course the way they are intended to be experienced.

When we experience a building in its physical existence there are many stages in the process. For example, there is the discovery, the view of outward appearance, approach, entrance and exploration of interior spaces (the last of which probably takes the greatest amount of the time). All processional architecture encapsulates time. In ancient Athens there were processions which led from the agora, up the Acropolis to the Parthenon. The route took time. Great churches and cathedrals seem to encapsulate and manage the time it takes to pass from the entrance, along the nave, to the altar; as in a wedding. The production line in a car plant takes cars through a process of assembly, which takes time. The owners of great country estates made visitors approach their houses on long, and sometimes meandering, driveways so that they would have time to admire their property and wealth. It usually takes time to reach the managing director's office in an office building; and even when you reach it you have to wait.

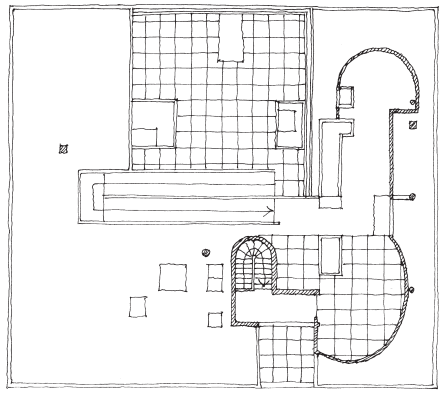
Buildings are changed through time, as the demands of their uses change. This opening in a wall in Chania, Crete, has been changed many times.

Although architecture is sometimes discussed as if it were merely a sculptural or visual art – standing outside of the passage of time – some architects have realised and exploited its temporal dimension.

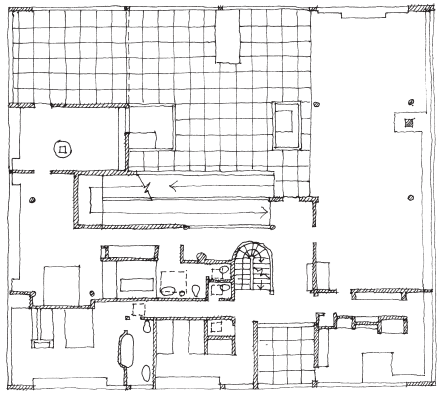
In the Villa Savoye at Poissy near Paris (1929), Le Corbusier used time as a modifying element of architecture. He knew it would take time for people to experience the house and so orchestrated routes through it. The three floor plans and a section are shown on the right. Approaching it, entering it and exploring within it, he created a route – an 'architectural promenade'. The approach works whether one is on foot or in a car. The front entrance into the house is on the right of the ground floor plan (1); but you approach from the rear. In a car you would pass under the building following the sweep of the glass wall around the hallway. Entering the house, there is a ramp that takes you, slowly, up to the first floor, which is the main living floor. The ramp is visible on the section (4). On the first floor (2) there are the salon, kitchen, bedrooms, bathroom and a roof terrace, which is itself like a large room. From the roof terrace the ramp continues to an upper roof terrace (3), where there is a solarium and a glassless window just above the entrance, completing the route; like a piece of classical music (another temporal art), the 'melodic' route through the Villa Savoye returns eventually to its home 'key'.



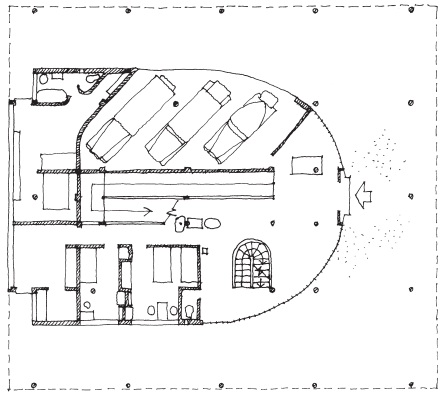
4 section



3 roof, solarium



2 first floor



1 ground floor

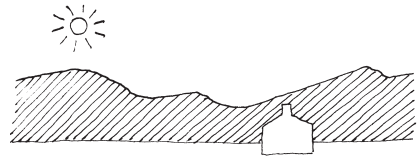
A window can do many things architecturally at the same time. It lets light into a room, or out. It provides a view out, or in. It might set up an axial relationship, like the sight of a rifle, lining up with something in the distance. The formation of an opening creates a sill, which can be a shelf for books or plants. The window can be a place for display. All this without even considering its role in the pattern of the overall layout of a wall.

ELEMENTS DOING MORE THAN ONE THING

Follow out the destiny of the Column, from the Egyptian tomb-temple in which columns are ranked to mark out the path for the traveller, through the Doric peripteros in which they are held together by the body of the building, and the Early-Arabian basilica where they support the interior, to the façades of the Renaissance in which they provide the upward-striving element.

Oswald Spengler, translated by Atkinson – *The Decline of the West* (1918), 1934, p. 166

ELEMENTS DOING MORE THAN ONE THING



1

In architecture elements often do more than one thing at once. A gable wall of a house, for example, which plays its part in enclosing the interior of the dwelling, can also be a marker identifying a place where someone lives (1).

The top of a wall can be a path, for a child or a cat, as can the promenade of a pier or the battlements of a castle (2).

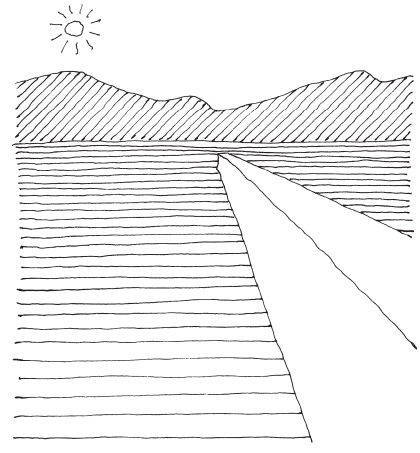
And the side surface of a wall can be a place for display, as in a cinema or an art gallery; or in the way that any building presents a face to the world (3).

This ability of an element to identify different places in a variety of ways is an essential feature and one of the most intriguing aspects of architectural design. It involves the mental processes of both recognition and creation in an interactive way – creation of one place leads to recognition of others – and comes into operation at all scales.

Occurrences are innumerable. This will be seen to be a theme that recurs over and over again in the examples used in this book.

Part of the reason for the importance of this theme in architectural design is that architecture does not (or should not) operate in its own hermetic world. Its work is (almost) always relating to other things that already exist in the conditions around.

For example, any wall built in a windswept landscape creates at least two places – one exposed, one sheltered. If the sun is shining it will also divide a shady from a sunny place (4). All this as well as maybe dividing a public place from one that is private, or a place where there are sheep from one where there is a garden.



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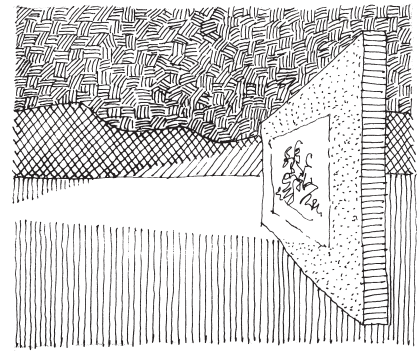
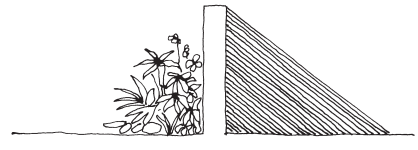


3

If the wall forms an enclosure or a cell then it divides an inside from the outside; giving something to and taking something from both. Even in such a simple arrangement the walls can be seen to do many things. As well as separating a sheltered inside from everywhere else they also probably support the roof. They provide surfaces on which things can be displayed or against which furniture can be positioned. And their geometry, together with the position of the doorway, seems to give them a hierarchy of importance. The theme also reaches into the work itself. A single party or dividing wall makes two rooms, with the dividing wall serving both equally.



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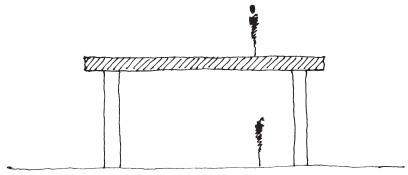
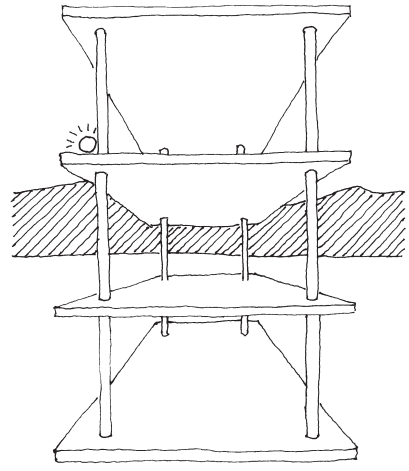
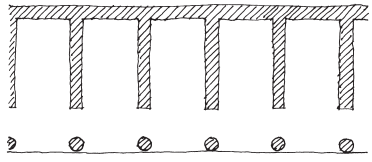




A flat roof is also a platform. The ceiling of one place is the floor of another (above). A vertical series of roofs, which are also floors, makes a multi-storey building (right).

Walls are often (though not always) structural – they hold up a roof; but their primary architectural role is to define the boundaries of place. Other structural elements can have this role too. A line of columns can also define a path.

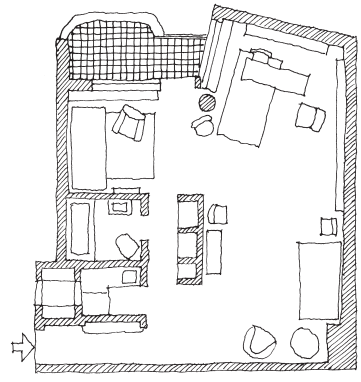
A roof may also be a platform (above left). A stack of roofs/floors makes a multi-storey building (above).



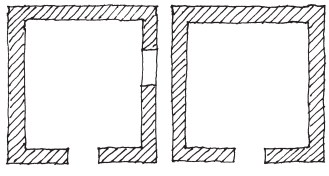
A line of columns also defines a pathway (left).

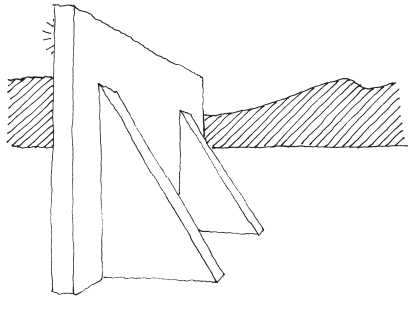
In this apparently simple plan (variations on which can be found in the stoa of an ancient Greek agora, the cloister of a medieval monastery, the shop-houses of Malaysia and streets and urban squares across the world) a few basic architectural elements are composed to identify a number of different places: the cells themselves; the street or square outside; and the covered path (defined by the columns and the ends of the party walls of the cells), which also makes a transition space between the street and the insides of the cells.

One of the indispensable skills of an architect is to appreciate the consequences of composing elements and be aware that they are likely to do more than one thing. These consequences can be positive: cut a window into a wall and one has a view as well as light and a sill for books or a vase of flowers; build two parallel rows of houses and one also makes a street between them. But the consequences can also be negative: build two houses too close together but not joined and you create an unpleasant unusable space between; build a wall for display and you may also create a 'non-place' behind.

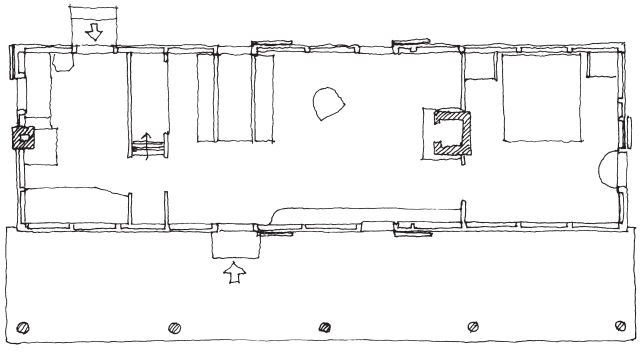


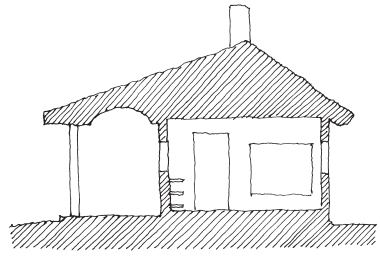
In this small apartment by the Swedish architect Sven Markelius, a number of elements do more than one thing at once. For example: the one structural column (near the balcony door) helps to suggest different places within the generally open plan; the bathroom and kitchen are grouped together and form a division between the entrance lobby and the rest of the apartment.





Ill-considered arrangements of walls can result in the creation of 'non-places' (left).



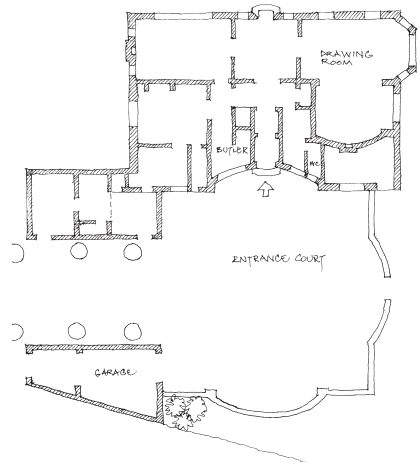


In this small summerhouse (shown above in plan and section), the five columns not only hold up the roof, but also help to define the boundary of the veranda – a place for sitting and looking over the nearby lake which is at Muuratsalo in Finland. It is called the Villa Flora, and was designed by Alvar and Aino Aalto in 1926.

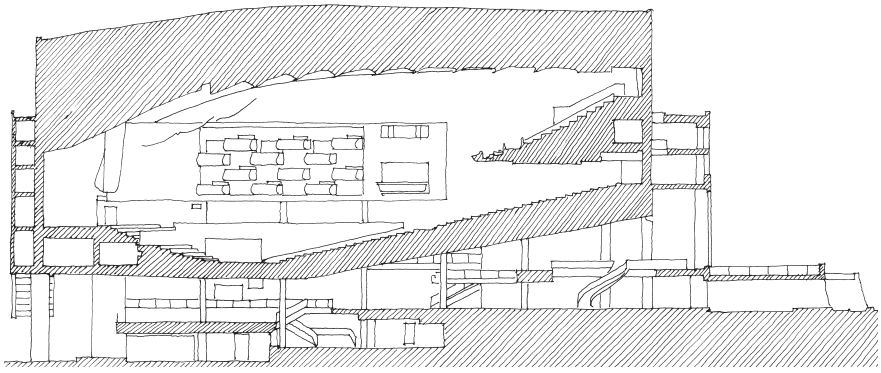
This is one of the most important aspects of architectural design. It is something in which an architect can achieve great subtlety; but it can also cause problems, especially when the consequences are unforeseen. Urban skaters and skateboarders, for example, have been adept at finding additional (unintended) uses for elements in the city such as steps, kerbs, ramps and rails.

Some problems associated with elements doing more than one thing are evident in the work itself rather than in how others interpret it. In such examples it seems the architect has not cared, or been able, to design the problems out.

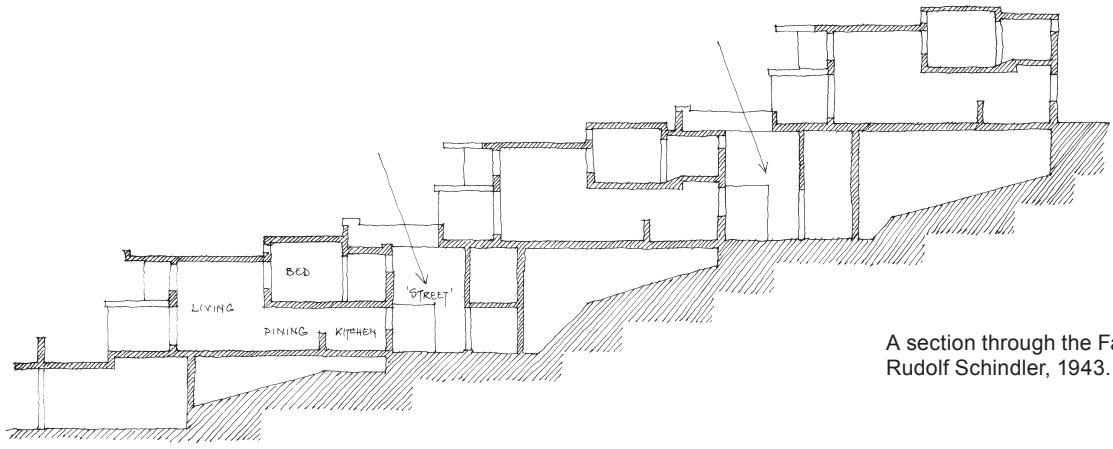
On the right is the plan of an English house from the early part of the twentieth century. The forecourt is a square with cusps taken out of three sides. The cusp that bites into the house may help to identify the place of the entrance but it also causes problems with its internal planning. In the awkward spaces alongside the doorway the architect has placed the butler's pantry (to the left) and the cloakroom and lavatory (to the right). A similar problem occurs in the drawing room where the same device is used to identify the place of the fire; but here it also makes an odd shaped garden room (in the bottom right corner of the house). These are examples of an element (a wall with a particular geometry) having a positive effect on one side but a negative effect on the other.



Elements can readily be found to be doing two things at once (it is actually difficult to find elements in architecture that are only doing one thing!) but sometimes one finds elements that are doing many things. (Maybe this is one of the measures of quality, or at least sophistication, in architecture.)



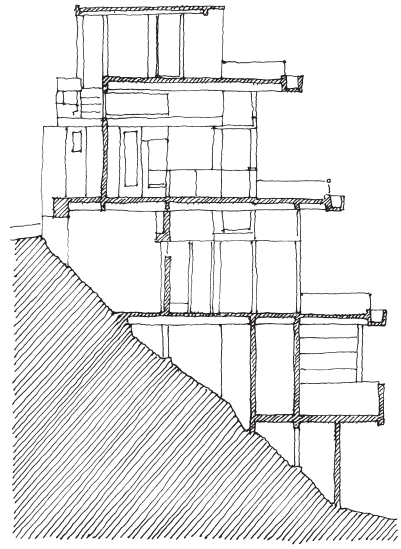
In the Royal Festival Hall, London, the stepped floor of the auditorium also provides a distinctive raked ceiling for the foyer spaces. The building was designed by Robert Matthew, Leslie Martin and others, and was completed in 1951.



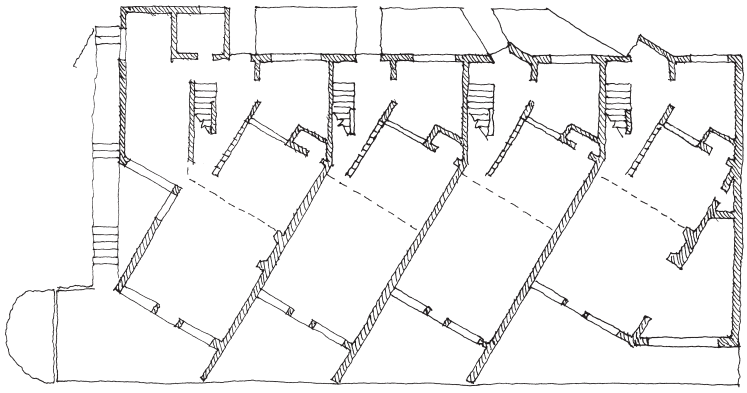
A section through the Falk Apartments by Rudolf Schindler, 1943.

In this section through a hillside house – The Wolfe House (right) designed by Rudolf Schindler in 1928 – you can see that the simple thin horizontal concrete slabs, some of which are tied back into the hillside, act not only as floors and ceilings but also as outdoor terraces and sunshades. Their precipitous edges are protected by balustrades which are also planting boxes.

In the Falk Apartments of 1943 (above and below), also by Schindler, it is not only the elements but the ways they are positioned that do more than one thing at once. The party walls between the apartments have been angled so that the living rooms face a lake. But this device has other effects too. It allows the terraces outside each apartment to be larger; it also gives these terraces more privacy. Deeper into the plan the angled walls open up a place for each staircase, which would otherwise be more cramped. The non-orthogonal geometry also enables the end apartments to be larger and different in plan from the intermediate ones. Schindler has been careful not to let the deviation from right-angles create awkward shaped rooms; it is as if almost all the problems that might have been caused by the shift from rectangular geometry have been reduced down to one tiny triangular cupboard in the right-hand end apartment. These apartments, like the Wolfe House, were also designed for a hillside, though one that is less steep. Their section (above) is stepped so that a roof can also be a terrace. In the section of an individual apartment you can see that the bedroom is almost like an enclosed gallery in the living room. This device too does more than one thing.



A section through the Wolfe House by Rudolf Schindler, 1928.



In the plan of the Falk Apartments (left), the angle of the party walls does more than one thing. In the section (top of page) the streets between the blocks allow access, as well as light and air, to the rear of the apartments. The siting on a hillside allows one apartment to look over the top of those in front.

Reference for the architecture of Rudolf Schindler:
Lionel March and Judith Scheine – *R.M. Schindler*, 1993.

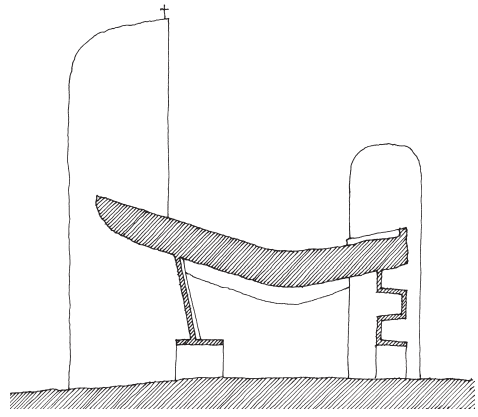
This is the plan of a village in the Ticino region of Switzerland. It shows cellular houses (hatched), low walls and some platforms adjacent to houses. In such places it is difficult to find an element that is not doing more than one thing at once. Most house walls also define outside pathways, private gardens or small public spaces. The result is an integrated web of places, some private, some public and some in between. There are no vague, open, non-specific spaces.

You can see from the bedroom down into the living room; the bedroom is less enclosed than is traditionally the case. But the position of the bedroom in the section also creates two different ceiling heights which relate to the places they cover: a high ceiling over the living room making it more spacious; a low ceiling over the entrance and kitchen. The line where the low ceiling changes to the high also suggests the division between the living room and the dining area. The dining place is identified by the lower ceiling.

One of the drawbacks with stepped sections is that inside spaces close to the hill can be dark. Schindler counters this problem in the Falk Apartments by making streets between the blocks. These paths between do at least three things at once: they give access into the apartments; they provide light into the back spaces – the kitchens, hallways and bathrooms; and they allow cross-ventilation through the apartments.

Many small villages across the world that have been inhabited and gently modified over many centuries show the subtle ways in which simple elements can be used for more than one thing. House walls, for example, usually not only enclose the private interiors of the dwellings or their gardens but also define the paths, small public squares and roads between them. In this way the villages have an intimate interrelationship between spaces, creating a tightly woven web of places that also seems to be a metaphor for the tightly knit communities that live in them.

Reference for Swiss villages:
Werner Blaser – *The Rock is My Home*, 1976.

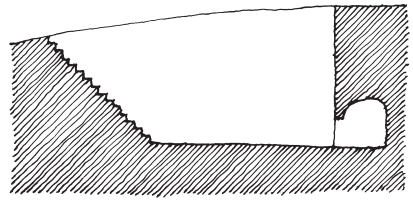


The chapel at Ronchamp, designed by Le Corbusier in the 1950s, seems to draw on the images of standing stones and ancient burial chambers as symbols of places of pilgrimage, worship and sacrifice.

Allegory and metaphor

Elements often do more than one thing in the ways they organise space or contribute to the structural stability and environmental performance of a building. But they can be expressive too. Architecture can express meanings, draw allusions, evoke metaphors, tell stories. The capacity of a work of architecture to be symbolic can lift it out of the pragmatic and experiential to the level of allegory, in which some message is communicated through association.

Some works of architecture seem metaphorical in ways that emerge from deep in the human psyche. Three millennia ago, Minoan people, living on the island of Crete, carved deep slits into the living rock (right), with chambers at their ends for the interment of the remains of the dead. It is hard not to interpret these tombs as metaphorical wombs to which those who had died could be returned.

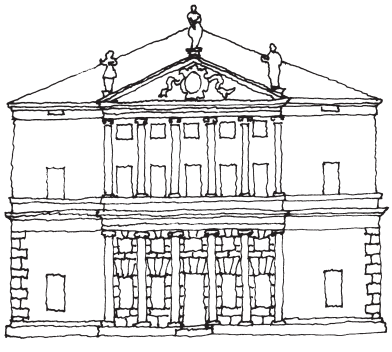


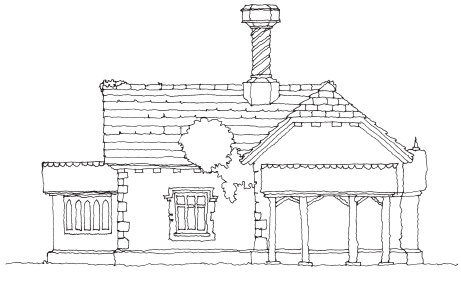
Early Minoan graves are like wombs carved into the solid rock.

When prehistoric chieftains erected large stones to identify their territory such standing stones tend to be interpreted not only as markers but also as symbols of the chieftains themselves and of their manhood.

Such symbolism in the identification of places may have been subconscious but all through history, at the behest and with the collusion of their patrons, architects have used allusion, allegory, association and metaphor deliberately. They have used architecture to convey, openly or subliminally, messages, meaning, propaganda, status.

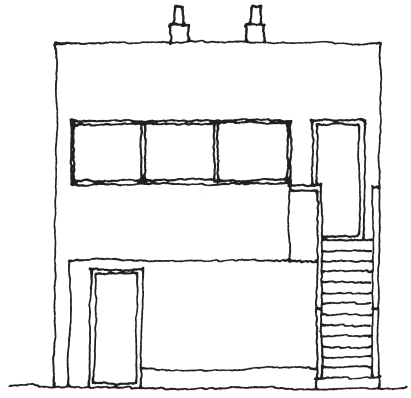
When wealthy Renaissance gentlemen wanted their villas fitted with porticoes in the form of Roman temples, they were not just asking for practical porches that would help keep out the weather, nor were they merely wanting to extend the experience of moving





When Renaissance architects built villas with ‘temple’ fronts they were not only building a practical house, they were using architecture to draw allegorical allusion to a particular period of history that they admired, and with which they wished to be associated.

When eighteenth-century architects built rustic cottages, they were alluding to a particular imagined way of life – the romantic rural idyll.

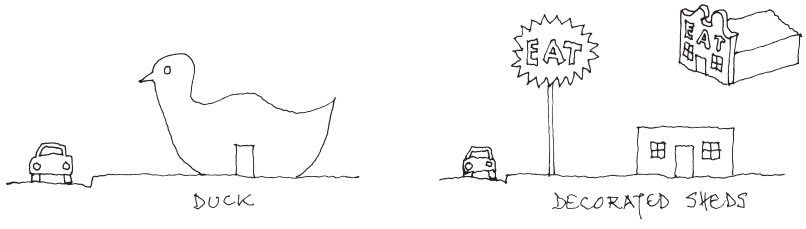


When Modern architects stripped their buildings of overt historical allusions, maybe they sought to avoid symbolism. But nevertheless their work symbolised their rejection of history, their forward-looking attitude and their attempts to re-invent architecture from first principles.

from outside to inside their houses. They were seeking to associate themselves, through the style of their houses, with a historical age they considered heroic.

When nineteenth-century English gentry built houses for their estate workers in the style of rustic cottages, they wanted to evoke the idea of simple rural life, as well as perhaps to reaffirm through architecture the lower social status of their employees.

When architects in the first half of the twentieth century wanted to turn their backs on history and explore architecture at the level of basic and modifying elements, they stripped their work of stylistic ornamentation. Even so, such buildings can be interpreted as symbolic expressions of Modernism. To use the analogy of fashion: if the Renaissance villa was dressed as a Roman temple, and the estate worker's house as a country cottage, then even the naturism of the Modernist house could be interpreted as a fashion statement.



'We shall emphasize image – image over process or form – in asserting that architecture depends in its perception and creation on past experience and emotional association and that these symbolic and representational elements may often be contradictory to the form, structure, and program with which they combine in the same building. We shall survey this contradiction in its two main manifestations: 1. Where the architectural systems of space, structure, and program are submerged and distorted by an overall symbolic form. This kind of building-becoming-sculpture we call the duck in honor of the duck-shaped drive-in, "The Long Island Duckling", illustrated in *God's Own Junkyard* by Peter Blake. 2. Where systems of space and structure are directly at the service of program, and ornament is applied independently of them. This we call the decorated shed.'

Robert Venturi, Denise Scott Brown, Steven Izenour – *Learning from Las Vegas*, 1977 (2nd edition), p. 87.

One might want to try to escape the symbolic dimension of architecture because it seems fickle, rhetorical, prone to variable interpretation. It may be interesting to interpret the symbolic meaning of dreams but often divergent interpretations of the same dream are possible and one has no way of determining which (if any) interpretation is (in whatever sense) right. Just as in other media, the symbolic meaning of works of architecture can be open to variable interpretation. A single work might be interpreted in different ways by different people, even if its architect intended no symbolism at all. And even when symbolism is intended, the message sent may be interpreted differently in the minds of its recipients.

Fickleness of interpretation has less scope when, as in the case of the Minoan tomb or prehistoric standing stone, the symbolism is deeply rooted in the human psyche, or when, as in the case of the house that looks like a temple or another that looks like a cottage, the language of symbolism is so well established that it is shared and understood by all (within a particular culture). To use the analogy of language: words are symbols; it is through familiarity that we come to share an understanding of their meanings, though new or unfamiliar words can still cause problems. In architecture it can be problematic to use symbolism that

is not widely shared. People who have the resources to produce works of architecture may operate with a symbolic language which is different from that accepted and understood by those who will encounter their buildings, though the dialectic interplay may be dynamic – unfamiliar symbolism may come to be widely accepted and understood with time.

Symbolism plays its part in the identification of place. Within a shared cultural language of symbolism, the appearance of a house will match people's expectations of what a 'house' should look like, a church will look how people think a 'church' should look, a bank will look like a 'bank'. Each is read as a symbol of itself; a symbol which, like Venturi's 'duck', identifies its place and purpose. Challenging expectations about how different building types should look is no doubt healthy and vital, but if it causes confusion it will usually provoke complaint.

The symbolic dimension of architecture is a powerful one. Individuals, multinational corporations, local and national governments, all take interest in what their buildings say about them, and may use them as advertisements for the image they want to project. Built in the 1880s, the Eiffel Tower has become a symbol of Paris and French culture, just as the Parthenon has been a symbol of Athens and ancient Greek culture for over two thousand years and St Peter's has been a symbol of Rome and Roman Catholicism for five centuries. In the 1970s the Sydney Opera House (by Jørn Utzon) became a cultural symbol for Australia. In the 1980s Richard Rogers revitalised his client's image with the Lloyds Building in the city of London. And in the 1990s the fortunes of the northern Spanish city of Bilbao were revived when Frank Gehry's Guggenheim Museum attracted huge attention. In some cases (the Parthenon and St Peter's, for example) the architects of these iconic buildings raised a shared symbolic language of architecture to a new level; in others, symbolic power derives in part from shocking newness.

The many dimensions of architectural elements doing more than one thing cannot be covered adequately here. They are too rich and complex. This is a characteristic of architecture at all scales and types, and from all periods of history. When an ancient Mycenaean king hung his shield on a structural wall of his megaron, he was using an architectural element to do two things at once. If that wall was also the side of his bed-place, then it was doing three. Whether he made his megaron look like his ancestors', or if he made it look radically different (maybe *not* in the shape of a duck), it was also a symbol of the identity he wished to present to the rest of the world.

A cave that is used as a dwelling is architecture, just as much as is a built house, by reason of having been chosen as a place.

USING THINGS THAT ARE THERE

… the temples and the subsidiary buildings of their sanctuaries were so formed in themselves and so placed in relation to the landscape and to each other as to enhance, develop, complement, and sometimes even to contradict, the basic meaning that was felt in the land. From this it follows that the temples and other buildings are only one part of what may be called the ‘architecture’ of any given site, and the temple itself developed its strict general form as the one best suited to acting in that kind of relationship.

Vincent Scully – *The Earth, the Temple, and the Gods*, 1962, p. 3

USING THINGS THAT ARE THERE

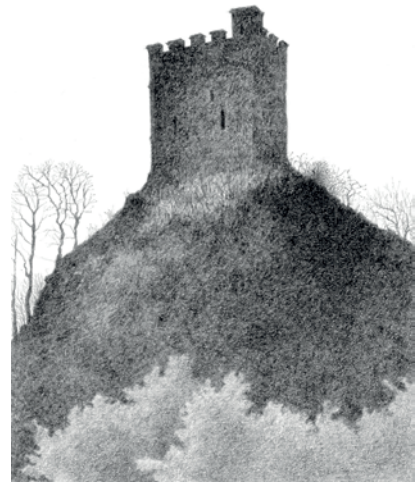
A long time ago, in this small crevice in a huge rock face (right, in the Carnarvon Gorge in Queensland, Australia), a family laid the dead body of a small child, wrapped in bark. They marked the place with stencils of their hands, made with pigment. This grave is as much a piece of architecture as is the Great Pyramid of Giza (and more poignant). It is architecture by choice. Although architecture is always an activity of the mind, it does not follow that architecture always entails building something physically. As identification of place, architecture may be no more than a matter of recognising that a particular location is distinguishable as a place – the shade of a tree, the shelter of a cave, the summit of a hill, the mystery of a dark forest.

In daily life, we are constantly recognising places, thousands at any one moment. This is how we know where we are, where we have been and where we are going. With many of these thousands of places we do not interact; they are left unchanged except for the recognition itself, which may be fleeting and hardly acknowledged. Some places stay in the mind. They are acknowledged because of some particular distinction: a fine view, shelter from the wind, the warmth of the sun; or through association with a particular event: falling off a bicycle, fighting with a friend, making love, witnessing a miracle, winning a battle.

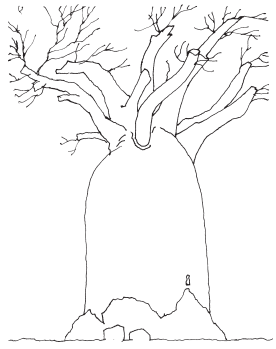
The next significant step in a relationship with place is that you might choose to use it for something – the shade of that tree for a brief rest on a long and arduous walk, the cave as a hiding place, the hill top to survey the surrounding countryside, the darkest part of the mysterious forest for some spiritual ritual. The recognition of a place may be shared with other people; the memory and use associated with it then becomes communal. In these ways places acquire significance of many kinds – practical, social, historical, mythical, religious. The world has many, many such places: the cave in Mount Dikti on the island of Crete, believed to have been the birthplace of the Greek god Zeus; the route of the Muslim pilgrimage – the hajj – in and around Mecca; the mount from which Christ delivered his sermon; the stretch of boulevard in Dallas, Texas, where President Kennedy was shot; places in the Australian outback that are identified and remembered in the 'songlines' of aborigine culture and so on.

Recognition, memory, choice, sharing with others, the acquisition of significance: all these contribute to the processes of architecture. Of course architecture also involves building – the physical alteration of a part of the world to enhance or reinforce its establishment as a place. Recognition, memory, choice, sharing… operate at the rudimentary levels of identification of place. Architecture makes more difference when it proposes and puts into effect physical changes to the fabric of the world.

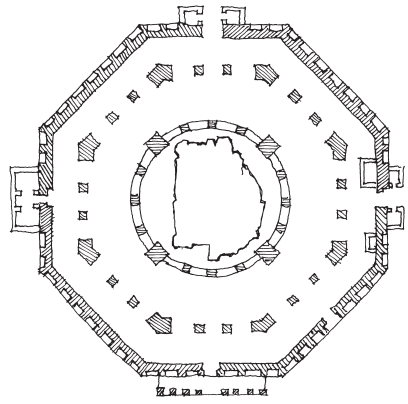
Even a crevice in a rock face may become a subtle and moving work of architecture.



Castle builders throughout history have built their fortifications on sites which, though often powerfully dramatic, were chosen primarily for their defensibility. Even if identically rebuilt somewhere else, such buildings could never be architecturally the same.



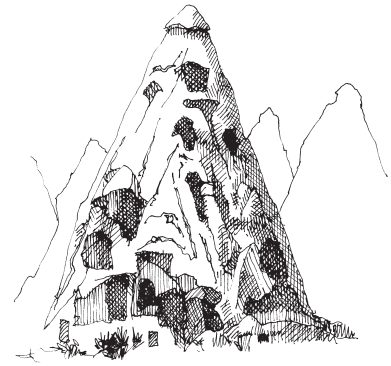
African baobab trees have thick trunks and soft wood. With space carved out inside, they can be made into dwellings.



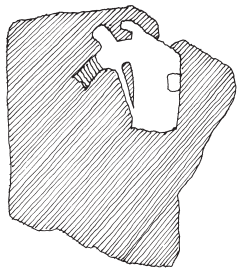
The Dome of the Rock in Jerusalem is built over a rock that is sacred to Jews, Christians and Muslims.

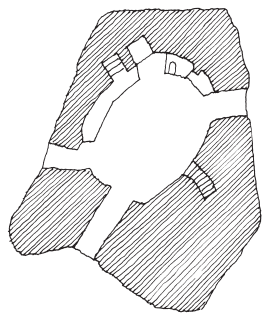
Architecture always depends on things that are already there. It involves recognising their potential or the problems they present; it involves, maybe, remembering their associations and significances; it involves choice of site and sharing with others. Fundamentally all terrestrial architecture depends upon the ground for its base, something that we perhaps tend to take for granted. In a flat and completely featureless landscape the establishment of a place would have to be an arbitrary decision; though once established the place would provide a catalyst for other places. The irregular shape of most ground, together with the water-courses that flow through it, the wind that blows across it and the things that grow on it, all under the sun, often suggest places that are seeds of architecture. Dealing with them, taking advantage of them, mitigating their effects, exploiting their character can be important challenges. In the untouched landscape, architecture can involve using hills, trees, rivers, caves, cliffs, breezes from the sea: things said to be 'provided by nature'.

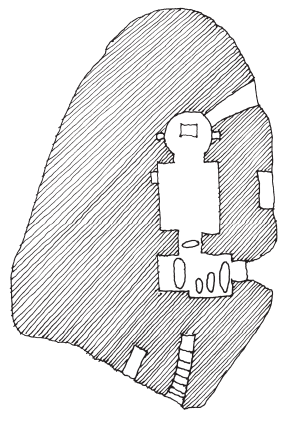
Examples of the ways natural features or elements contribute to architecture are innumerable. They can be aesthetically and intellectually engaging in the way they symbolise a symbiotic relationship between people and their conditions. People have lived in caves since time immemorial. They have altered them, flattened their floors, extended them by excavation, enclosed their entrances, built outwards from them to make them more commodious. It is said that proto-people descended to the ground from the trees. People still make houses in trees. Since ancient times too people have used the walls of caves and of cliff-faces as places for the display of images – wall paintings and carvings. Through history people have found ways to cool and dry their dwellings with natural breezes and warm them with the sun. Domineering or frightened people have chosen hills and craggy rocks as places for fortresses or defensible villages. The constant need for water and food has led people to build near rivers and adjacent to fertile land. The examples are innumerable.

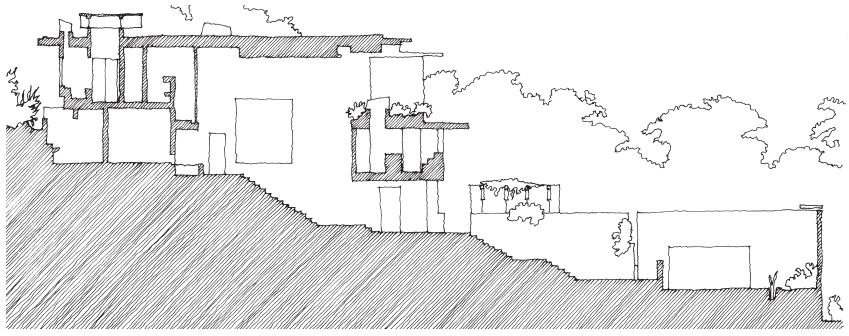


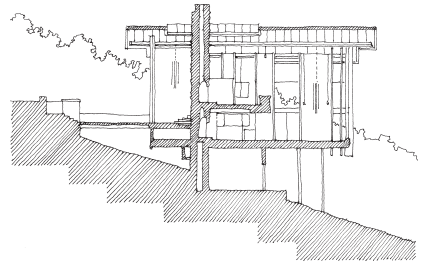
Simeon the Stylite lived in a cave dwelling within one of the volcanic cones of the valley of Göreme in Anatolia. The caves were extended and refined by carving into the rock. (The plans of such a house are shown below.)







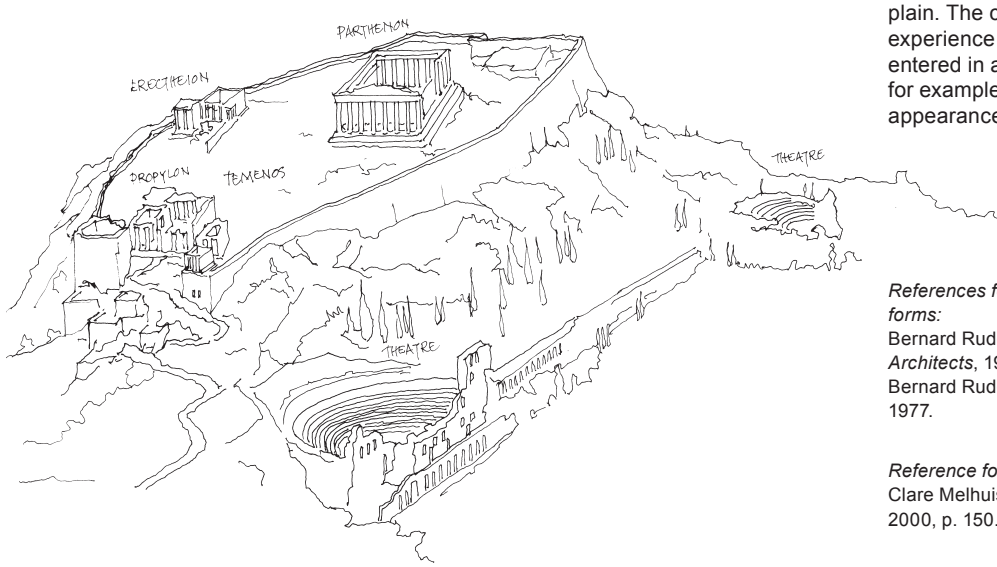




Since ancient times, many architects have either had to contend with the problems caused by having to build on sloping ground, or taken advantage of them. Two approaches are illustrated in the sections above, both from twentieth century buildings. In the Lutz Residence (Shell Knob, Missouri, 1978, above right), the architect Fay Jones has created a platform on which the house stands. You enter across a bridge, and by the time you reach the other side you find yourself raised above the ground. Donovan Hill, by contrast, uses the ground slope in a different way in his 'C' House (above, Brisbane, Australia, 1998). Here the levels inside the house follow the slope downwards in a series of terraces.

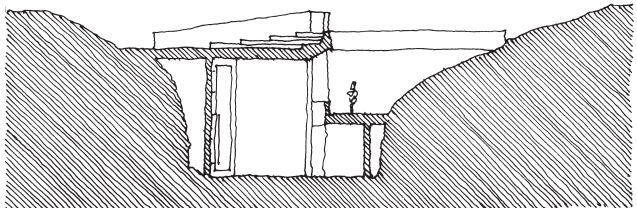
Each of the major buildings on the Acropolis in Athens (below) identifies (takes advantage of) a place that was already there in the landscape. The Parthenon identifies the highest point of the rocky outcrop, dominating the city around; the Erectheion stands on a sacred site associated with an ancient olive tree; the Propylaea mark the easiest access onto the summit from the plane below; and each of the theatres occupies an accommodating bowl of land where spectators probably watched performances even before they were fitted out with formal performance areas and stepped seating. Archaeologists have found remnants of much earlier temples on the Athenian Acropolis, suggesting that this rocky hill had been used as a place of refuge, safe-keeping and worship for hundreds of years before the present temples were built some two and a half thousand years ago.

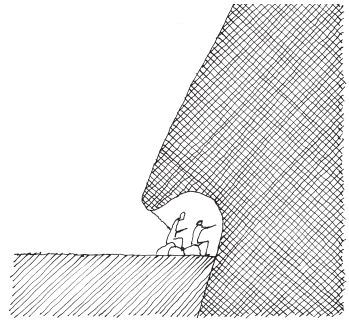
In the case of the monasteries at Meteora in Greece, the choice of site was an important ingredient in the architecture. They would not be the same on a flat plain. The choice of site affects the experience of them – the way monks entered in a basket hauled up by a rope, for example – as well as their dramatic appearance.



References for architecture using natural forms:
Bernard Rudofsky – *Architecture Without Architects*, 1964.
Bernard Rudofsky – *The Prodigious Builders*, 1977.

Reference for the 'C' House:
Clare Melhuish – *Modern House 2*, 2000, p. 150.





In 1988 Sverre Fehn designed a small art gallery to be inserted into a large cleft in natural rock (above left).

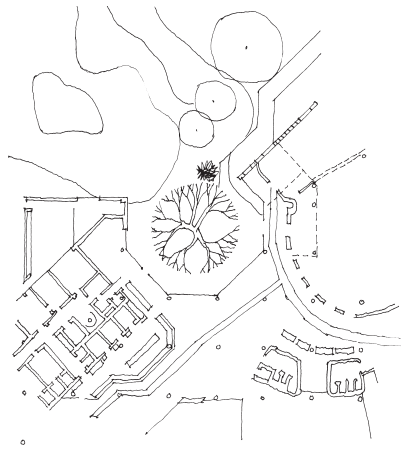
Reference for Sverre Fehn art gallery:
Christian Norberg-Schulz and Gennara Postiglione – *Sverre Fehn: Works, Projects, Writings, 1949–1996*, 1997, pp. 198–200.

At the base of Ayer's Rock in central Australia (above right) there are some natural alcoves, apparently carved out by wind erosion. Each provides a place of shade, stones to sit on, and also a surface on which to draw. Some of them appear to have been used as schoolrooms.

This cottage in Leicestershire (UK, below) was designed in the 1890s by Ernest Gimson. It was built hard against a natural rocky outcrop, which contributes part of the enclosure of the house and also affects the levels of its floors. The land, as found and chosen, is an integral part of the work of architecture.

Reference for Stoneywell Cottage:
W.R. Lethaby and others – *Ernest Gimson, His Life and Work*, 1924.

In designing the Students' Union building at Stockholm University in Sweden (right), built in the late 1970s, Ralph Erskine used a particularly fine tree, already on the site, to determine the position of an outside space taken like a bite out of the plan of the building. The tree, with the contours of the ground, contributes to the place and to the views from inside the building.



Reference for the Student Centre by Ralph Erskine:
Peter Collymore – *The Architecture of Ralph Erskine*, 1985.

The drawing at the top of the next page is a section through part of a small dwelling in Mexico, designed by Ada Dewes and Sergio Puente. It was built in the mid-1980s. The designers used basic elements of architecture to make a number of places. In concert with modifying elements and things already on the site, these are used to achieve the complete experience of the house. The house is built amongst trees on the steep side of the valley of a fast-flowing river. The first element of the house is a horizontal platform built out from the slope. This is approached from above by steps; and there is a stepped path (stair) down from it to the river below. This platform is further defined by a single screen wall on the upslope side, through the middle of which it is entered. It also has a roof over it supported by the screen wall and by two columns. The

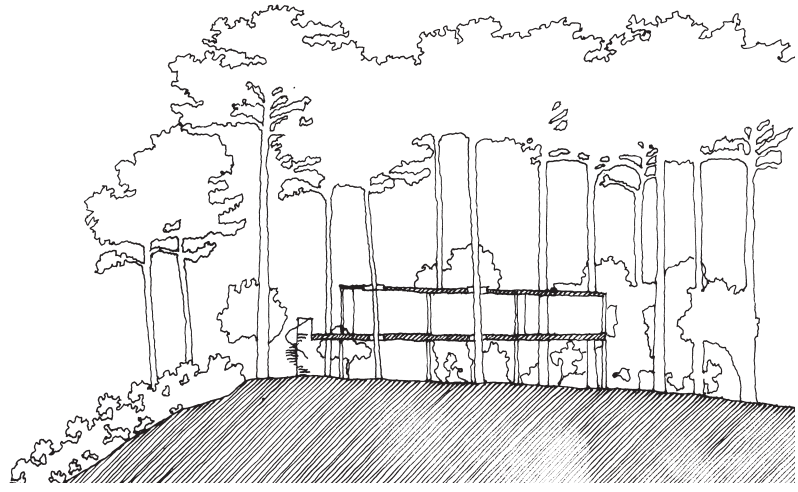
The built form of this small house (La Casa del Ojo de Agua) in Mexico is elemental and minimal. It depends on the surrounding trees for its completion. The living space, above the bedroom, has only one built wall. The forest provides the others and its roof.

other three sides of the platform, which is a bedroom, are enclosed only by mosquito netting, keeping out biting insects but allowing in the calls of the birds in the trees. Steps in the platform lead to a shower room below. The roof of the bedroom is also the floor of the living room above. This 'room' has only one wall, a vertical extension of the screen wall below, through which it too is entered; the other 'walls' and its 'roof' are provided by the canopy of trees around.

The house below was built on a wooded site in France. Its main floor is lifted on columns, a full storey above the ground. Its architects – Lacaton Vassal – did not cut the trees down but built the house amongst them and around six of them in particular, which gives the interior a special character.

Using natural things that are already there is part of what has been termed, by Christopher Alexander, the 'timeless way of building'. This is as relevant today as ever, though in regions of the world that have been inhabited for many centuries one is less likely to have the opportunity to use natural features and elements, and more likely to have to relate to existing products of architecture.

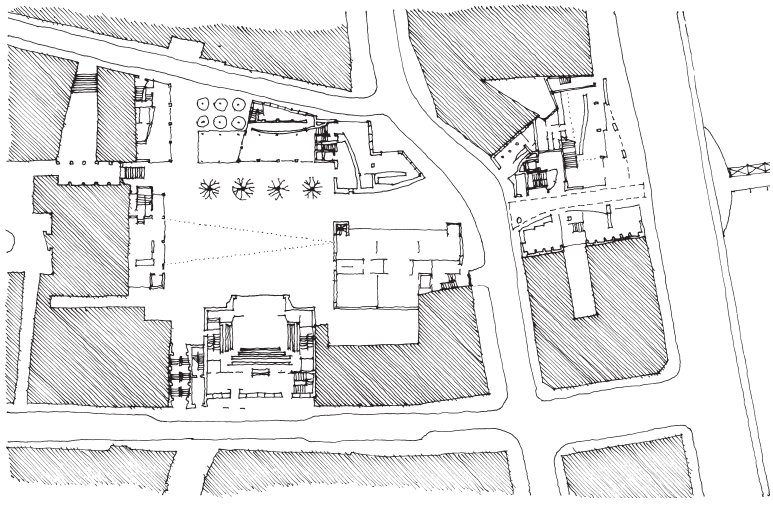
References for La Casa del Ojo de Agua:
(Dewes and Puente) – 'Maison à Santiago Tepetlapa', in *L'Architecture d'Aujourd'hui*, June 1991, p. 86.
Simon Unwin – *Twenty Buildings Every Architect Should Understand*, 2010, pp. 7–14.

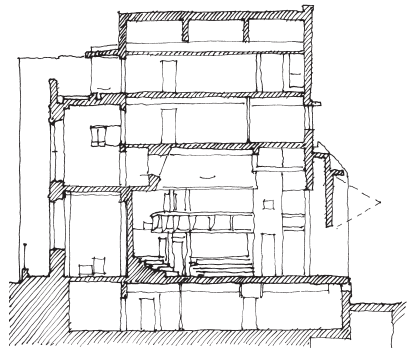


A section through the house at Cap Ferret near Bordeaux, designed by Lacaton Vassal, shows how existing trees are retained and incorporated into the design.

Reference for the house at Cap Ferret, near Bordeaux, by Lacaton Vassal:
Clare Melhuish – *Modern House 2*, 2000, p. 190.

Reference for the 'timeless way of building':
Christopher Alexander – *The Timeless Way of Building*, 1979.





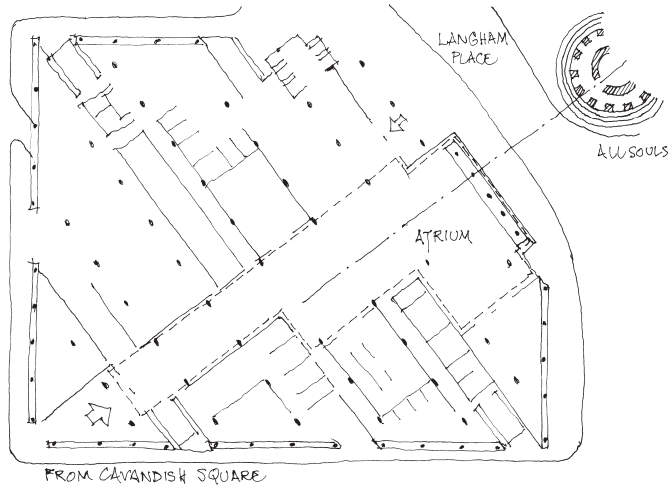
When Group ’91 architects won the competition to redevelop the Temple Bar area of Dublin in the early 1990s, they designed a series of interventions that used and fit in with existing buildings, streets and squares. The result, which fuses new buildings with old, was richer in character and more sympathetic to the history of that part of the city than would have been achieved by comprehensive redevelopment.

The drawing (above left) shows Meeting House Square with the plans of Group ’91’s interventions. (Notice how it can be used as a outdoor cinema.)

The Ark, by Shane O’Toole and Michael Kelly (two of the Group ’91 architects) at the bottom of the plan (section above) has a performance place that may be opened to the square outside.

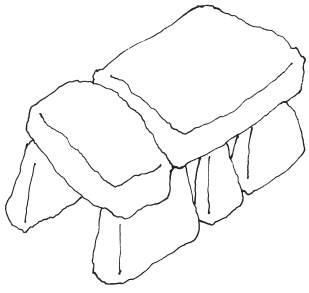
Reference for Group ’91 in Temple Bar:
Patricia Quinn (ed.) – *Temple Bar: the Power of an Idea,* 1996.

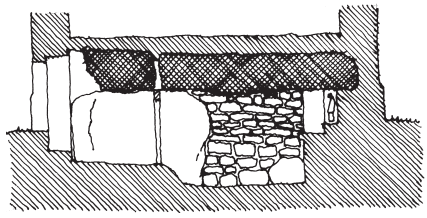
On a crowded beach, if there is a small space left amongst other people’s towels, wind-breaks, barbecues, deck-chairs, sunshades, etc., you make your own settlement, accommodating yourself to the space available, the direction of the sun and wind, the route to the sea, as best you can. Designing amongst existing buildings – in a village, a town, a city – involves interacting with what is already there. In cities the task is to make places in spaces between existing buildings and relate them to the places around. When Foster Associates designed a new Radio Centre for the BBC (below, not built) they took care to fit the building into its site at Langham Place in London – the junction between Regent Street and Portland Place and on the urban route between Regent’s Park and Piccadilly Circus designed by John Nash in the early nineteenth century. Not only is the building’s plan shaped to fit the site like a jigsaw piece, thus providing walls to define the adjacent roads, but it also provides a path, passing through the building from Cavendish Square into Langham Place. The design has a six-storey atrium at its heart; this is oriented towards Nash’s All Souls Church across the road, which the large glass wall frames like a picture, using the church to add character and identity to the space within the building.

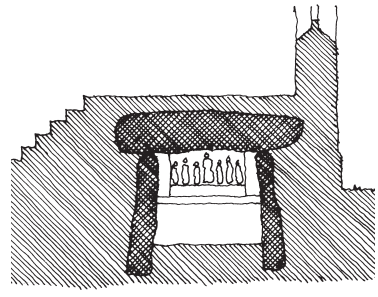


The atrium of the proposed BBC Radio Centre at Langham Place in London (left) was to have been oriented towards All Souls Church, using it as a focus for the space.

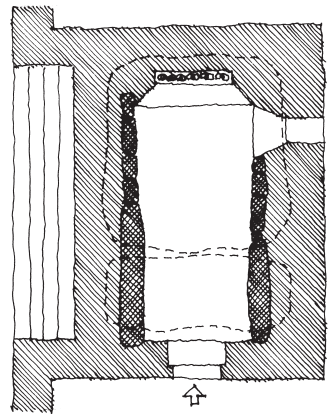
Reference for BBC Radio Centre:
(Norman Foster) – ‘Foster Associates, BBC Radio Centre’, in *Architectural Design 8*, 1986, pp. 20–27.







Maybe buildings that are already there count as part of nature. This is more so when the buildings are very old. In Brittany, north-western France, there is a small chapel attached to a church (above and right). It is called the Chapelle des Sept-Saints (Chapel of Seven Saints) and is near Plouaret. It is a Christian chapel but it has been built around an ancient dolmen – a stone age burial chamber or temple built of huge megaliths or very large stones (above left). The chapel uses the space (place) established by the earlier builders thousands of years earlier. It is curious that a pagan building should be used in this way. Maybe it was economical to use a space that had already been enclosed; but maybe this chapel identifies a place that has been used for worship continuously for many centuries, from pre-Christian through to Christian times.

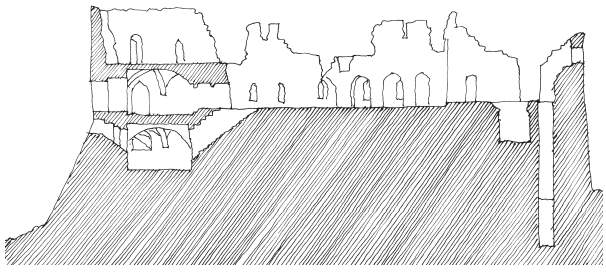


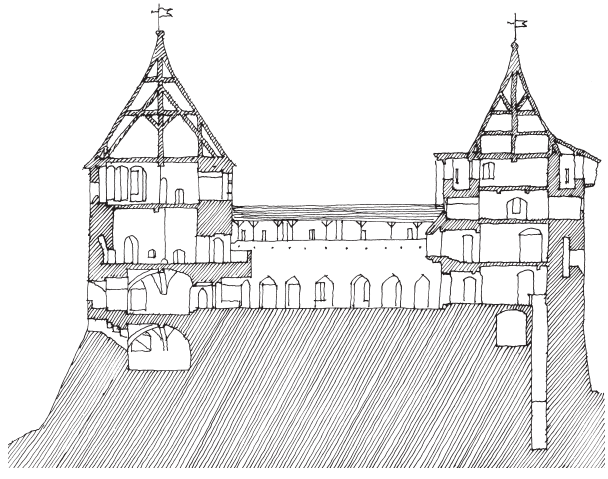
The Chapelle des Sept-Saints (above) is built around an ancient burial chamber.

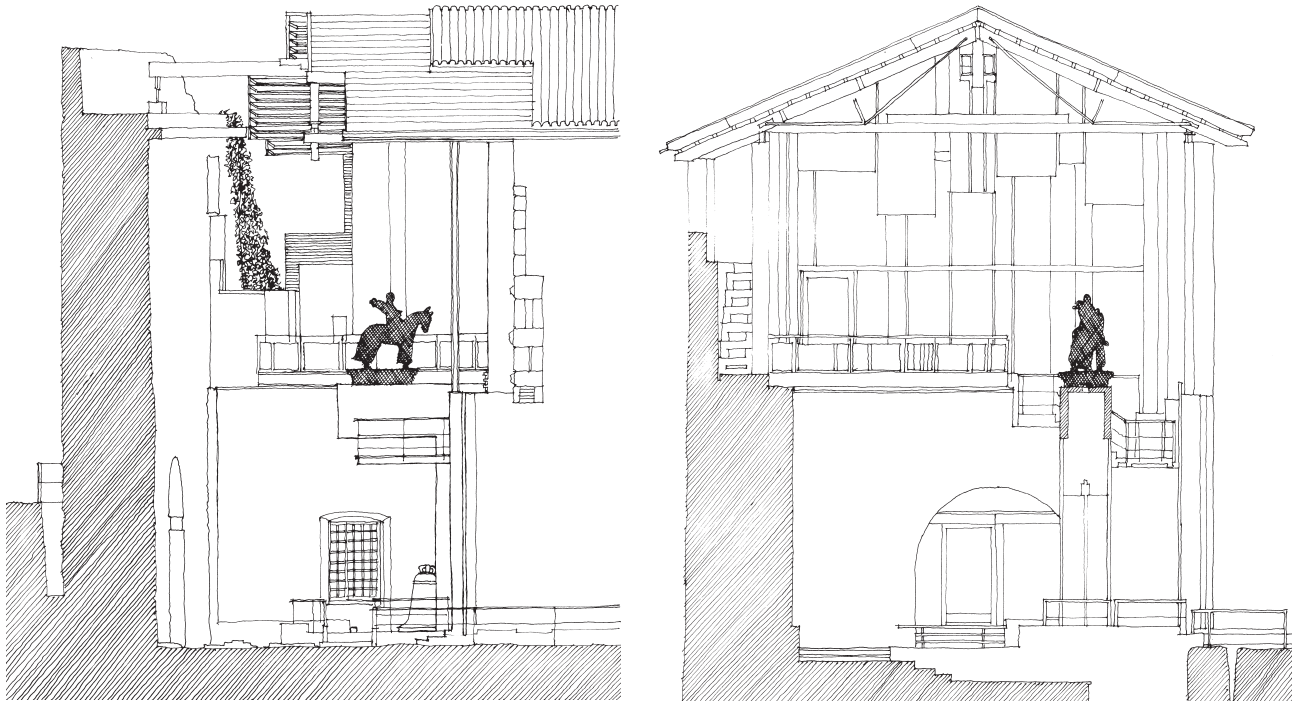
Reference for Chapelle des Sept-Saints:
Glyn Daniels – *Megaliths in History*, 1972, p. 30.

Sometimes architecture involves using an existing building or its ruins. When the Victorian architect William Burges was given the commission to design a hunting lodge a few miles north of Cardiff for the Marquess of Bute, he was presented with the ruins of a Norman castle as the starting point (below left). His reinterpretation of the castle (below right) grew from little more than a ground plan, already there in stone. Using these remains as a base, physically and creatively, Burges designed his own version of a medieval castle. The result is a collusion of the past with Burges's present. Castell Coch (The Red Castle) is not an accurate reconstruction of the original castle. In the 1870s when it was built, it was a new building (except, that is, for the foundations), but one in which Burges took prompts from what was already there. His imagination benefited from working on a base and on a

References for Castell Coch:
John Mordaunt Crook – *William Burges and the High Victorian Dream*, 1981;
David McLees – *Castell Coch*, 2001.





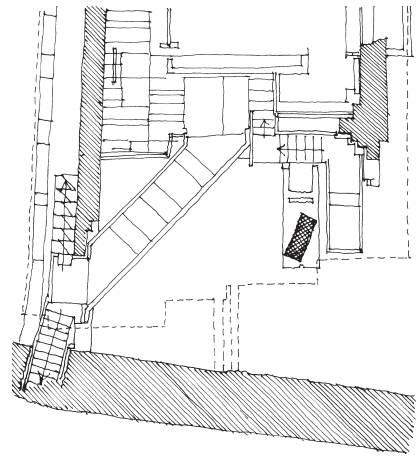


Cangrande space, sections

site (the castle overlooks the Taff Valley running north from Cardiff) inherited from seven centuries earlier. His intention was to make a romantic recreation of a medieval place as an entertainment for his client and an ornament in the landscape.

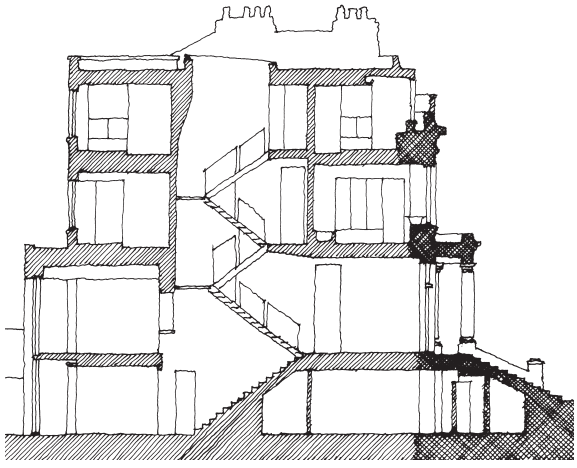
In the late 1950s and early 1960s the Italian architect Carlo Scarpa was given a commission that involved refurbishing an old building and making it into a new work of architecture. His base (there was more remaining of it than Burges had at Castell Coch), was a fourteenth-century castle – the Castelvecchio (Old Castle) – in the northern Italian city of Verona. Scarpa's attitude to the past and how its built remains might be used architecturally was different from that of Burges. It was not his intention to realise a romantic image of the past but rather to use the remains of the past as a stimulus to present aesthetic interest and poetic interpretation. In dealing with and remodelling the Castelvecchio, Scarpa created an architectural experience that is of the present but also exploits accidents and collisions, juxtapositions and relationships that were in the building before he came to it. To these he has added interventions from his own responsive imagination as one more historical layer – belonging to the mid-twentieth century – on a building that already had many from various earlier periods. The result is more complex and poetic than a restoration. Perhaps the most impressive place in Scarpa's Castelvecchio is the 'Cangrande space', named after the equestrian statue it frames (above and right). This is a place that had not existed in the castle before but it is deeply conditioned both by the existing fabric of the old stone walls and by an appreciation by Scarpa of the historical changes that had occurred in that particular part of the building.

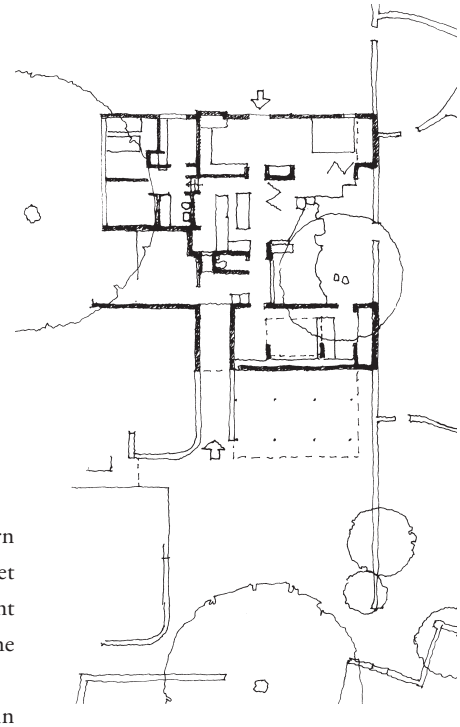
The way something that is there is incorporated in a work of architecture can be an expression of a conflict in ideologies between those people with influence over what gets built. When Peter Aldington designed and built three houses in the English village of Haddenham in the 1960s (opposite page, right) he was keen to exploit the existing stone



Upper level plan (at a different scale)

Reference for Castelvecchio:
Richard Murphy – *Carlo Scarpa and the Castelvecchio*, 1990.





This is the plan of Peter Aldington's own house, Turn End, in Haddenham, England.

walls and trees in his own composition. But when Rick Mather designed this modern house in Hampstead, London (above), with its high white atrium and glass stairs, we get the impression that he would rather not have had to incorporate the existing Victorian front elevation. This condition had been imposed on him by the planning authorities so that the design would not disrupt the existing street and upset the neighbours.

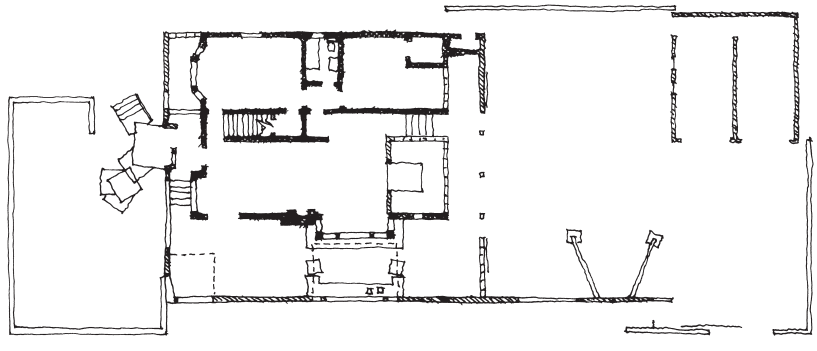
Frank Gehry adopted a different attitude when he adapted his own house (below) in Santa Monica at the end of the 1970s. He started with a conventional suburban house and set about subverting its ordinariness. He screened and shrouded the house with materials unusual in such situations, distorted its geometry with non-orthogonal additions and ignored the traditional uses of the rooms. The new kitchen is positioned just outside one of the bay windows of the original house and retains for its flooring material the tarmac of the driveway that was there previously. Some parts look like a stage set, others like a defensive base for the military. The result may be interpreted as a witty critique of suburban American culture.

In some works of architecture there is a profound harmony between what was there and what has been added. When the Danish industrialist Knud Jensen commissioned Jørgen Bo and Vilhelm Wohlert to design the Louisiana Art Museum north of Copenhagen, there were various existing feature of the site that he wanted the architects to use in their design. He wrote:

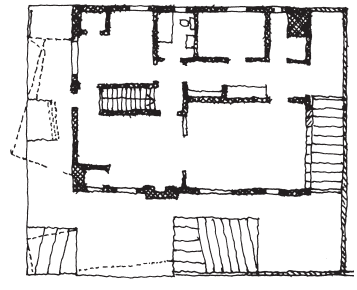
Reference for Turn End:
Jane Brown – *A Garden and Three Houses*, 1999.

Reference for the house in Hampstead, above left, by Rick Mather:
Deyan Sudjic – *Home: the Twentieth Century House*, 1999, p. 186.

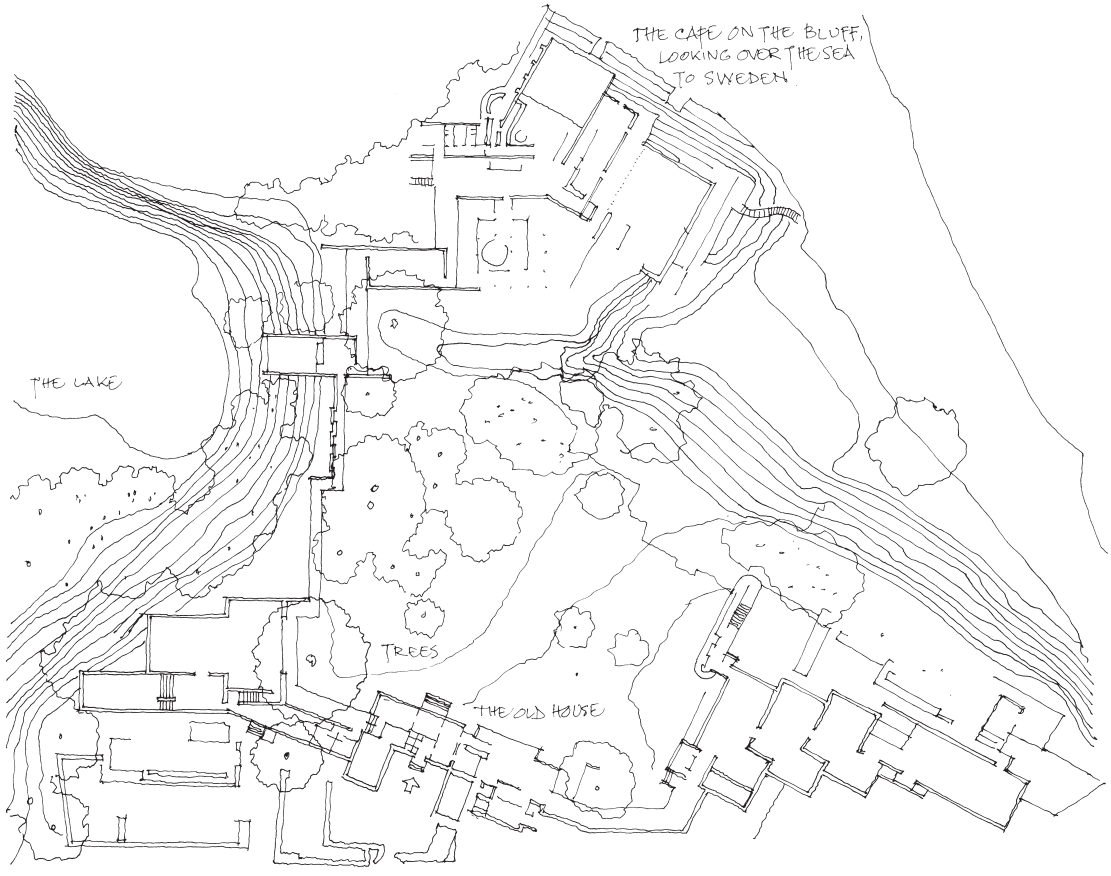
Reference for the Gehry House in Santa Monica, below:
ibid., p. 88.



Gehry House, ground floor plan



Gehry House, upper floor plan



The ground plan of the Louisiana Art Museum in Denmark, designed by Jørgen Bo and Vilhelm Wohlert. An old house is used as the entrance; the galleries and the cafeteria respond to other places on the site. One of the galleries is positioned to enjoy a view across the lake.

> 'First, the old house had to be preserved as the entrance. No matter how elaborate the museum might become in later years…. Second, I wanted one room… to open out into that view, about two hundred metres to the north of the manor, overlooking our lush inland lake. Third, about another hundred metres farther on, in the rose garden – on the bluff overlooking the strait and, in the distance, Sweden – I wanted to have the cafeteria and its terrace.'

The first phase of the art museum that was built in response to Jensen's brief occupies the left two-thirds of the plan (above). It uses all the innate features of the site that he identified. The old house, at the middle-bottom of the plan, is the main entrance. The route through the museum passes through some galleries and then north along a stepped series of walkways to one particular gallery that has a large glass wall looking out over the lake. The route continues through more galleries to the bluff, where there is a cafeteria looking out across the sea to Sweden. The architects also used other features already on the site, especially some of the mature trees and the contours of the ground as well as the lake and views. This building, the architecture of which takes its visitors on a tour of its site and of places that were already there, could not be the same anywhere else. The underlying ideas – the laying out of a route, the use of pairs of walls to frame views etc. – could well be applied elsewhere but they would produce a different building because of the differences in location. The site, with its trees, lake, views and topography, is essential to the specific architecture produced.

Reference for Louisiana Art Museum:
Michael Brawne – *Jørgen Bo, Vilhelm Wohlert, Louisiana Museum, Humlebaek*, 1993.