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MIES VAN DER ROHE'S PARADOXICAL SYMMETRIES

Robin Evans

Buildings are not always better than pictures show them to be, nor are they necessarily more significant than the theories that spring up around them. It all depends. One of Mies van der Rohe's most famous works, the Barcelona Pavilion of 1929, has been used to illustrate this point. In his study of its critical history, Juan Pablo Bonta showed why the actual pavilion came a poor third against photographs of it and writings about it. The pavilion's existence had been brief — only six months — and it had received modest coverage by the press; yet, more than a quarter of a century after being dismantled, it was raised to the status of masterpiece — mostly by critics who had never seen it. Bonta then asked two very pertinent questions: why had it taken so long and, in the absence of the pavilion itself, on what basis were judgements being made? After reading Bonta's book, I began to see the pavilion as a mere phantom, its reputation built on the flimsy evidence of a few published photographs and an inaccurate plan (Fig. 1).¹ Then I visited the building after it had been reconstructed on the original site in 1985–6.

ASYMMETRY

If one thing lay beyond dispute, it was the pavilion's asymmetry. This may be understood as a response to its site, which was at the

end of a long plaza, the major lateral axis in a vast array of monumental and symmetrically disposed buildings erected for the 1929 Barcelona Exposition.² The asymmetrical pavilion straddled this axis, cancelling the symmetry at precisely the point where affirmation was demanded (Fig. 3). Corresponding to it, at the other end of the plaza, was the stolidly symmetrical façade of the pavilion representing Barcelona. We know that Mies chose this site in preference to the one originally offered. Though it was on the main thoroughfare, the first site was not implicated in the axial layout of the Exposition. Mies deliberately placed his building on the axis, sliding it in between two existing elements of the symmetrical scenery: a screen of Ionic columns in front, and a flight of steps behind. As he developed the design, he kept drawing the axial line through the plan of the pavilion, measuring the asymmetries against it (Fig. 2).³ The flight of steps leading up the steep slope immediately beyond gave dramatic emphasis to the local obliteration of symmetry, since anyone descending it would be presented with an axial view along the full extent of the plaza, and their eye-level raised above Mies's floating and displaced roofs and walls in the foreground.

Few modern buildings have been so deliberately antagonistic towards their surroundings. Loos's unadorned Michaelerplatz block,

confronting the Imperial Palace in Vienna, alone stands comparison. Observation of the Barcelona Pavilion *in situ* indicates that it is related to its context by being at odds with it. In these circumstances the asymmetry must be considered aggressive, not accommodating. Yet Bonta has shown that, at the time, the pavilion's asymmetry was associated with the conciliatory political stance of the Weimar Republic.

There is another, more recent political interpretation of Mies's *Repräsentationspavillon* for the German Reich. Much has been written about his willing collaboration with the Nazis between 1933 and 1937.⁴ Although exoneration has been attempted (he was just a man who loved his country, he was not interested in politics), some of the mud sticks.⁵ But does it stick to his buildings? This is where Mies's silence is so hard to interpret. Is it a refusal to give in, or a failure to respond? Giedion describes Mies as standing quiet but firm in his enlightened modernity, as night descended around him,⁶ but José Quetglas, in a clever piece of writing that makes it seem almost as if the Barcelona Pavilion itself precipitated the Third Reich, identifies its useless, silent, marmoreal, vacant qualities as 'premonitory symbols of Prussian militarism — medium of the Hitlerian hordes who will begin to operate immediately after the crisis of 1929'.⁷ But how was the pavilion premonitory? Did it help give rise to the Hitlerian hordes, or is it just that, after they arrived, the pavilion would call them to mind?

As to the former question, such a thing is possible. A climate of opinion and a climate of desire may arise from the cumulative effect of unstated suggestions, and from the subliminal promptings of what is seen and felt; therefore, a building could, whether intentionally or not, be an agent of political indoctrination. But any mute influence from the Barcelona Pavilion that might have inclined towards Nazism would surely have been trifling in comparison with what inclined towards the opposite direction. Hitler certainly did not like this building.⁸

The asymmetry, the tranquil horizontal disposition, the absence of insignia (Mies refused to put the German eagle on the green marble wall facing the axis) are suggestive less of chauvinism than of its deliberate effacement. Writing in 1929, Rubio Tuduri paraphrased the speech made at the opening ceremony by the German Kommissar, Georg von Schnitzler: 'Here you see the spirit of the new Germany: simplicity and clarity of means and intentions all open to the wind, as well as to freedom — it goes straight to our hearts. A work made honestly, without pride. Here is the peaceful house of an appeased Germany!'⁹

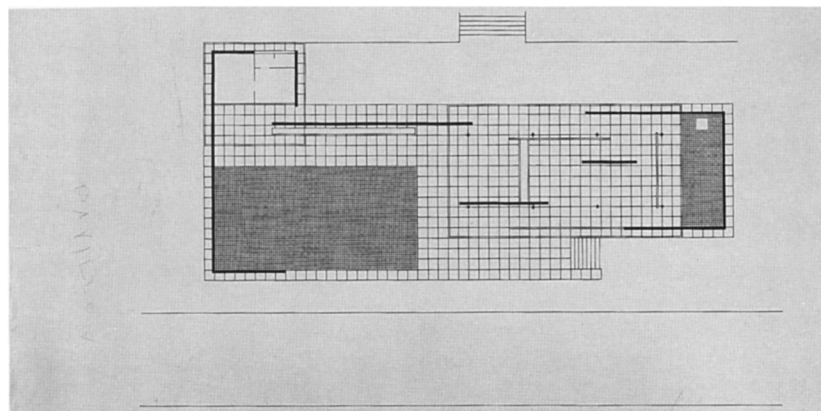
Adamant in its denial of the accepted means of establishing monumental order, the pavilion, read as a metaphor for a nation's disposition, turned something all too readily associated with humiliation into a thing of disarming beauty. The Weimar Republic's stance of conciliation towards the other nations of Europe was expressed in a violent repudiation of symmetry, because symmetry was an architectural convention associated with imperiousness, authority and national aggrandizement. The result: belligerent tranquility, an architectural oxymoron. Mies liked that kind of thing (less is more).

Five months later, in October, the end of the Weimar Republic was in sight. This was the period when few things roused Nazi ire more than the supine posture of Germany in the international community, especially the Weimar government's continuing acceptance of disarmament and reparations.¹⁰

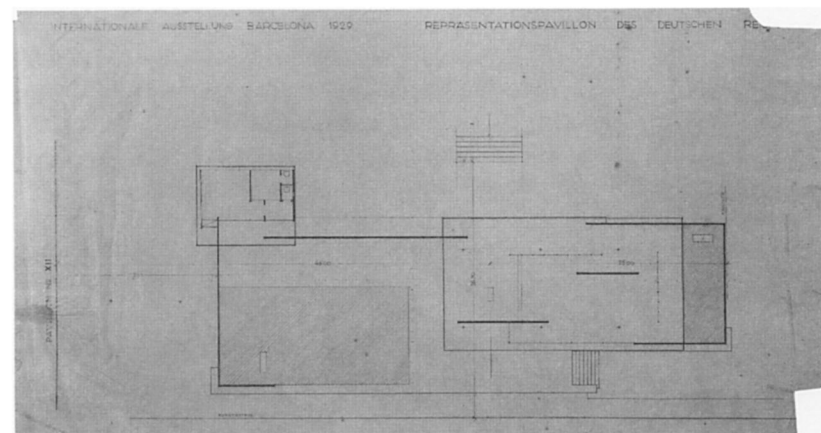
As to the latter question — if the Barcelona Pavilion calls to mind anything that followed, it would be a small-town American drive-in bank, not Hitler's hordes. There is more to say about the politics of the pavilion, but let us put aside the subject for now.

In the meantime it would be useful to know a bit more about the nature and extent of the pavilion's asymmetry. A lot depends on

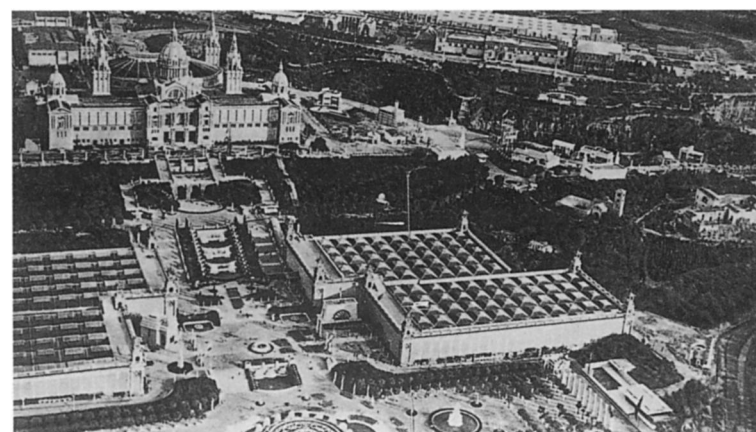
how you define symmetry. The architectural conception of symmetry is quite restricted in scope. Architects do not normally entertain the physicist's conception of it, which can be exemplified in things which display no visible symmetry. As it happens, there is a rare exception within easy reach of Barcelona: Gaudi's Colonia Güell Chapel. Although the chapel lacks formal regularity, it was designed to accord with certain equations in statics. We are talking, therefore, of the type of symmetry which can exist in a principle.¹¹ Architectural usage also customarily excludes Vitruvius's more general concept of symmetry, Hambidge's 'dynamic symmetry', as well as serviceable varieties of symmetry dealt with in mathematics,



1. Ludwig Mies van der Rohe: *German Pavilion, International Exposition, Barcelona, 1928–9. Floor plan. Final scheme. Made for publication in 1929. Ink, pencil on paper. 57.6×98.1 cm.*



2. Ludwig Mies van der Rohe: *German Pavilion, International Exposition, Barcelona, 1928–9. Floor plan. Second preliminary scheme. Pencil, coloured pencil on tracing paper. 47.8×87.4 cm.*



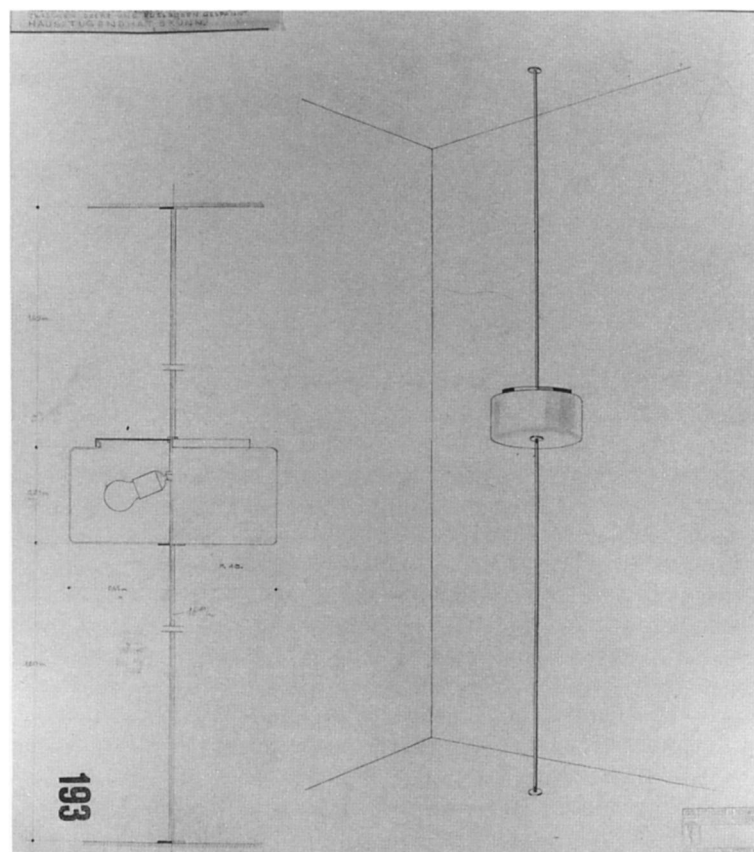
3. Aerial view, *International Exposition, Barcelona, 1929. The German Pavilion is at the bottom right of the photograph.*

such as rotational symmetry. What architects mean, when they talk about symmetry, is reflective symmetry, also called mirror symmetry. In spite of its restricted definition, this kind of symmetry is remarkably pervasive, and almost impossible to eradicate from modern buildings. There are multitudes of reflective symmetries in the Barcelona Pavilion. In fact, every component — walls, pools, windows, paving slabs and roof plates (all rectangular) — has at least three planes of reflective symmetry.

The asymmetry of the pavilion resides in the overall composition of its components, not in the components themselves, which are rather more symmetrical and homomorphic than is usual in a build-



4. Ludwig Mies van der Rohe: *German Pavilion (reconstruction), Barcelona, 1929*.



5. Ludwig Mies van der Rohe: *Tugendhat House, 1928–30. Lamp placed on rod stretching from floor to ceiling. Perspective and section. Pencil on tracing paper. 64.1 × 55 cm.*

ing. One kind of order is substituted for another. Hitchcock and Johnson recognized this in 1932, when they proposed regularity as a substitute for symmetry. Standardization, they wrote, ‘gives automatically a high degree of consistency in the parts. Hence modern architects have no need of the discipline of bilateral or axial symmetry to achieve aesthetic order. Asymmetrical schemes of design are actually preferable aesthetically as well as technically. For asymmetry certainly heightens the general interest of the composition.’¹² According to them, asymmetry was a reaction not so much against classical architecture as against modern architecture itself, which was already endowed with an overwhelmingly repetitive order in its components. In the Barcelona Pavilion reactions against both classical and modern occur simultaneously and *in extremis*, as if David had set out to behave more casually while slaying Goliath.

RATIONAL STRUCTURE

Symmetry came and went in Mies’s work, so it could be argued that neither symmetry nor asymmetry is central to an understanding of his development. His lifelong concern was with the logic of structure and its expression. Were we to look in this direction, we might find fewer paradoxes, and all those epithets like universal, clear, rational, etc., might more easily fall into place.

Mies later recalled that he first realized the wall could be freed of the burden of the roof while designing the Barcelona Pavilion. The function of the column was to support the building; that of the wall was to divide space. Logic at last, of a sort.¹³ The plan shows this clearly: eight columns, symmetrically arranged in two rows, support the roof slab, while the asymmetrically disposed walls slide away from the columns, away from each other, and out of alignment within the orthogonal matrix. A principle turns into a fact.

Well, this is not *actually* true, nor is it *apparently* true, except in the plan. Pass over the decided lack of candour in the construction, with its brick vaults beneath the podium and its armature of steel concealed in the roof slab and the marble walls — walls which give a tell-tale hollow ring when tapped. Ignore this, because, whenever such an observation is made about any of Mies’s buildings, it always elicits the same response: Mies was not just interested in the truth of construction, he was interested in *expressing* the truth of construction. The most celebrated examples of this twice-stated truth are for the most part the later American buildings: the Lake Shore Drive apartments, Crown Hall, and so on. Should we say, then, that the Barcelona Pavilion was an early but none too successful attempt to get these two versions of structural truth to accord with each other, so that the building would express this newly discovered principle? I think not, for two reasons: first, because the principle is expressed very badly in the pavilion and, secondly, because the pavilion is so refined and so beautiful.

A colleague who was with me in Barcelona suggested that Mies should have left a gap between the walls and the ceiling.¹⁴ Technical objections to one side (the roof would probably collapse), it would certainly have illustrated an idea more vividly. Frank Lloyd Wright also offered improving advice. In 1932 he wrote to Philip Johnson that he would like to persuade Mies ‘to get rid of those damned little steel posts that look so dangerous and interfering in his lovely designs’.¹⁵ Both of these recommendations seek to clarify what appears to be structurally ambiguous. Either the walls are interfering with the roof, or the columns are interfering with the walls. When you look at the pavilion instead of its plan, when you see those little steel posts, cruciform and cased in chrome so as to dissipate their meagre substance into attenuated smears of light, you cannot seriously regard them as the sole means of support (which they are not), or even as the principal means of support (which they are). Considered thus, they do indeed look ‘dangerous’.

Now turn to the photographs from 1929 and to the only surviving perspective from Mies's hand which is not just a sketch (Fig. 4). The photographs show shimmering columns even less substantial in appearance (because more reflective) than those in the reconstruction, while in the foreground of the perspective two vertical lines that indicate a column are drawn so close together that they look more like a stretched cord than a compressed column — wherein lies a clue.

One of the light fittings designed for the Tugendhat House in 1930 is mounted on a strand of cable stretched between floor and ceiling (Fig. 5). Imagined in this way, the columns of the Barcelona pavilion make more sense. All but one are located near a wall. The walls appear to rest on the podium, and the roof appears to rest on the walls. The elements are assembled, but not held together. The columns appear to perform this task, like bolts tying the roof to the floor and clamping the walls tightly in between. This intuited structural relation between the parts is not, I would maintain, entirely imaginary (in high winds the columns may indeed perform in tension, as bolts do), but its relation to the truth is less significant than its coherence as a fiction.

Considered in the light of the explanation offered by Mies and his Chicago School followers, the Barcelona Pavilion structure is at once deceitful and nonsensical. A principle was discovered and then obscured, which does not sound particularly rational or particularly expressive. The structure *can* make apparent sense, but only if we relinquish the official explanation. The columns hold the roof down on to the walls, as if it were in danger of flying away. They hold it down more surely than they hold it up. Even the redoubtable rationalist Hilberseimer needed miracles to help sustain his friend Mies's structures, which he held to be rational in the same way that Hagia Sophia was rational. In this fine work of engineering, he wrote, the dome seems 'to hang on golden ropes from heaven'. He was quoting Procopius, a firm enough historical foundation, but where is the rational foundation for this effect?¹⁶

There are two reasons why we may think the Barcelona Pavilion is a rational structure: Mies said it was, and it looks as if it is. It looks rational because we know what rationality looks like: precise, flat, regular, abstract, bright and, above all, rectilinear. This image of rationality is unreliable, however. The Güell Chapel has none of these attributes, yet it is consistent and logical in structure and construction. The entire chapel was to have been scaled up from an inverted funicular model made of wires draped with paper and fabric. Gaudi spent ten years, from 1898 to 1908, developing this model, which hung from the ceiling of a workshop. Each of the funicular wires represented an arch. As they intersected, these arches changed shape. The model grew into an elaborate, distended web of tensile force vectors, each modified by all the others. Gaudi tinkered with it until the whole thing was tantamount to a continuous surface. The model was wholly in tension. Turned upside down, it would produce a structure wholly in compression, thus avoiding persistent tension, against which masonry has little resistance.¹⁷ This is a rational structure. By contrast, the structure and construction of the Barcelona Pavilion is piecemeal and inchoate.

We believe that Mies's buildings exhibit a sublime rationality because so many people have reported seeing it there. These sightings are only rumours. The whole matter resides in recognition. I recognize plant life when I see it, and I recognize rationality in architecture when I see it, because I begin to understand, after much practice, what the word is applied to. I am then tempted to think that all things bearing the same name, whether or not they are architecture, must share an essential property, but this is not necessary, nor, in this instance, is it likely. We may choose to believe that squarish, simple things are tokens of rationality in some wider sense, and that



6. Ludwig Mies van der Rohe: 860 Lake Shore Drive, Chicago, 1948–51.

curvaceous, complicated things are tokens of irrationality, but our highly developed powers of visual recognition are exercising no more than a prejudice when we go out hunting for items to pin these terms on to. Yet, while prejudices may be without foundation, they are not without consequence. The belief that we can identify rational structure by these visual signs has rendered us insensitive to the two incompatible ideas of structure, both of which we think we see. Within the word structure is a latent oxymoron. In Mies's architecture this trivial confusion of thought is turned into an incredible apparition.

The structure of a sentence is not the same sort of thing as the structure of a building. I have been treating the Barcelona Pavilion structure as a means of holding its own weight off the ground. This kind of structure is about gravitation, mass, and the transmission of loads through solids; it is concerned with concrete, physical things, even though our understanding of it is achieved by means of abstractions such as vectors and numbers. The other kind of structure is also present. We refer to the pavilion's gridded structure or its orthogonal structure, and yet these structures have nothing to do with material or weight. They refer to organizing formats which may be imposed upon, or discovered in, material objects, but which remain conceptual, like the structure of a sentence.

'The language of architects is notorious for its imprecision, pretentiousness, and addiction to cliché', admits Peter Gay, in a last-ditch attempt to gain us some sympathy.¹⁸ Architectural critics are just as guilty. I have sometimes wondered whether these failings conceal some advantages. 'Great things are never easy', utters the oracular Mies, quoting Spinoza.¹⁹ Take the two distinct ideas in the word structure, and then make a building in which they appear to blend together as effortlessly as they do on the page. That is a way of taking advantage. It is not easy. Is it great?

.At Barcelona, Mies could have divorced the structure from the enclosure in accordance with the well-known principle. He did not do so. Instead, everything in the pavilion gives the impression of being implicated in the transmission of structural forces. We begin to lose track of what does what, and already the building refuses to declare the downward thrust of its own mass.

Look at the Lake Shore Drive Apartments (1948–51), where, twenty years later, every effort was made to deny that structure has anything to do with weight, heaviness, crushing, distension or bending (Fig. 6). The towers do not stand there. They hang. Not even that. I am searching for a word that does not convey any idea of gravitation. There are plenty of words that suggest lightness and

there are plenty of buildings that do the same. Lightness implies dynamic, but only partial, escape from ponderous immobility. The towers at Lake Shore Drive do not represent a remission of mass. They do not rise against the pull of gravity; gravity does not enter into it. They make you believe, against reason, that they do not partake of that most pervasive and relentless of all natural forces. So the result is not the exhilarating levitation of an object (a familiar effect), but a gentle, dreamy disorientation in the observer.

The steelwork is painted matt black. It does not look like steel. It does not even look like paint. It just looks black. Black things ought to look heavy, but this one doesn't. The twelve black pillars around the open perimeter under the towers seem uninvolved in the business of support, because they end in a milk-white soffit, giving no indication that they penetrate through it. The soffit, uncannily bright even in the dullest weather because it picks up the reflection of the sky from the travertine pavement, terminates every potentially load-bearing member from both directions, leaving them eccentrically connected by the thickness of a flange (a hair's breadth), and reveals the situation in luminous high contrast. Of course these are load-bearing structures, but it has been made to look as if that were a scurrilous libel.

Since the mechanical structure of a building is nothing but a response to gravity, any architectural expression of mechanical structure would surely declare the transmission of load, not conceal it. Yet conceal it Mies does — always and in all ways. How, then, have his buildings maintained their reputation as expressions of structural truth and structural rationality? We need only return to the double meaning to find this out: as the buildings suppress all association with the stresses and strains of load-bearing structure, they begin to look more like conceptual structures. Conceptual structures are notable for their independence from material contingency. Think of a mathematical grid; it is not subject to gravity. Any substance, even the most adamant, changes shape when a force passes through it. A mathematical grid, on the other hand, cannot change shape in any circumstances. The two kinds of structure could never be exactly identical. In order to look like a conceptual structure, a load-bearing structure must brazenly deny the fact of its burden. 'To me', said Mies, 'structure is something like logic':²⁰ a flaccidly ambiguous statement from a man whose buildings are taut with the same ambiguity.

If Mies adhered to any logic, it was the logic of appearance. His buildings aim at effect. Effect is paramount. In the period between its being dismantled and its resurrection, the Barcelona Pavilion was re-

nowned for the transcendent logic of its determining grid. Yet, as Wolf Tegethoff ably demonstrated, even before the rebuilding had taken place, the basic 110-centimetre-square paving grid looks regular, but in fact it adapts to local events. Varying between 81.6 centimetres and 114.5 centimetres, it adjusts to the dimensions of the very elements it supposedly ordains.²¹ Tegethoff discovered this from a drawing made by the pavior, which had dimensions on it. Nobody sees the difference. The unyielding abstraction was secretly tailored, and measured equality was sacrificed for the sake of apparent consistency.

The very word apparent still languishes in the shadow of Plato's disdain.²² We tend to assume that appearance lies some distance from the truth. But the grid of the pavilion suggests that there might be circumstances in which appearance is the final arbiter. If what we seek is appearance, then appearance must be the measure of truth, at least temporarily. That is what happens when things are made to be looked at. Appearance is never the whole truth, but it is true to itself, and it is made more evidently so by the visual arts, especially when they play tricks with sight. Plato was wrong. These tricks do not deceive us; they sharpen our perceptions. Our perceptions of appearance are remarkably stable, so much so as to be virtually moribund. Visual art strives to tease them back to life. Language, too, is stable, but not completely so. Mies's pavilion suggests how, in this constant effort at resuscitation, vision can be revived by means of an elixir concocted from prosaic ambiguities — the ambiguities of everyday language.

Those of us who are wary of words would judge the excellence of a work of visual art by the degree to which it is unsullied by them. This cannot be right. It simply reverses a recurrent phobia, well expressed by St Augustine when he lamented the domination of thought by images, noting that, while no one says they listen to a picture, everyone says, when they understand something that has been spoken, that they see what is meant.²³ Attempts to prove either that the visual arts are languages or that they are independent of language are equally wide of the mark. In the whole gamut of art, only vision and language count for much, and each is deeply imbued with the other. If we wish to find a zone of sense that is uninflected by words, we should not look to vision. Any other sense — sound, the medium of speech, even smell — would serve better.

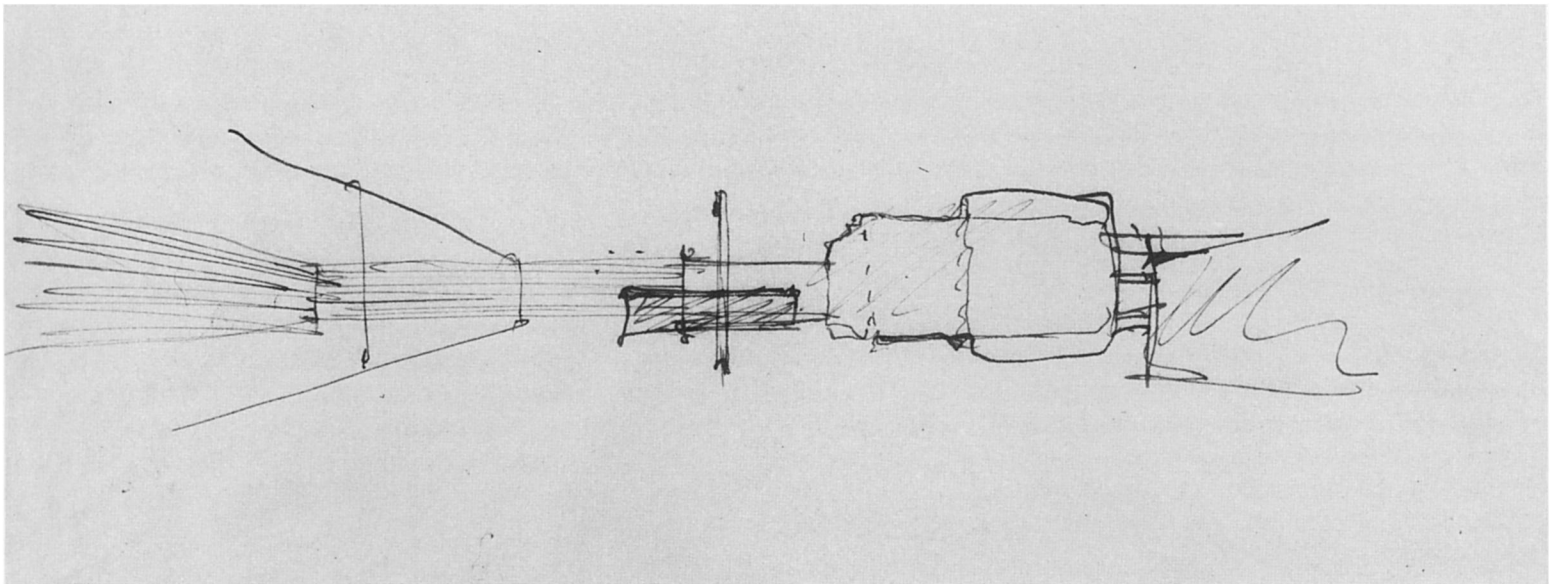
And, while we are on the subject of words, why call the Barcelona Pavilion a pavilion? Caroline Constant makes a convincing case that it is more like a landscape than a pavilion.²⁴ Regarded as a landscape, the Barcelona Pavilion is small, she writes, although it appears to be large. But Christian Devillers believes that this is not just a matter of appearance: it is much larger — 175 feet long — than you would think.²⁵ How big it is depends partly on what you call it. Rubio Tuduri was surprised, in 1929, to find a national pavilion that did not look like a giant, inflated monument. He thought it looked more like a domestic building.²⁶ If that is how it is seen, it surely is a rather large house. At the same time, it is, as Constant maintains, a very small landscape.

EXTREMES OF VISION

Yet its uncertain size is not due only to its uncertain title. 'His powerful drive toward universality had produced an almost unprecedentedly generalized open plan', Franz Schulze writes of Mies's brick country house of 1924.²⁷ This remark could also apply to the Barcelona Pavilion. If we turned it upside-down and said that his powerful drive towards particularity had produced a closed plan, it should prove false; if it does not, we have another paradox on our hands. Yet Quetglas has described the pavilion as being confined — well on the way to the 'obstinate closure' of the later courtyard houses. He claims that, 'With Mies we find a con-



7. Ludwig Mies van der Rohe: *German Pavilion (reconstruction), Barcelona, 1986.*



8. Ludwig Mies van der Rohe: *Court House*, c.1931. Interior perspective. Ink on tracing paper. 21.3×29.9 cm.

stant desire to construct segregated, closed spaces, defined only by the horizontal planes.²⁸ The problem is that we are being offered two extreme options: either the vertigo of universal extension, or the claustrophobia of living in a crack.

The plan looks extensive. The section looks compressed. The building gives the impression of being neither. Vistas along the length of the pavilion are bracketed at both ends by walls. From within, you get diagonal glimpses of the foliage on the hillside through tinted glass, on which, as Quetglas notices, the scene seems to impinge like a picture, pulling it closer still (Fig. 7). The only extensive view would have been down the plaza, but in 1929 this was seen through a row of Ionic columns a few yards away. Vision is not so much confined as impeded. The dark glass of the pavilion prevents you from seeing clearly beyond. Add to this a floor and a ceiling, and you are left with a variegated, horizontal strip in middle ground, sandwiched between two broad, blank bands above and below. Mies is often criticized for pressing architectural space between flat, horizontal sheets. That is all he ever did.

During the 1920s Dr Marius von Senden was gathering evidence to prove that the congenitally blind have no conception of space. He obtained statements from congenitally blind persons who had been operated on and were thus able to see. One of the respondents described his extreme perplexity on looking upward. Von Senden's opinion notwithstanding, this respondent must have had, it seems to me, a highly developed sense of space when blind. He had understood it to extend wherever he could walk. It was sheath-like, defined horizontally by the limits of his own locomotion, and vertically by the extent of his own body.²⁹ What dismayed and disturbed him, when he was able to see, was the realization that space carried on upward, vertiginously, far beyond his reach. Mies's spaces are practically indistinguishable from this blind man's sheath of space.

There is another way to describe this same geography. The conventional gesture for signifying the act of peering at a remote horizon is an arm raised, with the hand flattened just above the eyes (an almost instinctive response to glare) (Fig. 9): that is, in order to see at a distance we create a version of the Miesian horizontal slice. Oddly, the shape of sightless space and the shape of space made for extended vision are nearly the same, and this is the source of yet another group of paradoxes in Mies's work. Whether seascape, prairie or desert, a vast and vacant scene tends to concentrate visual interest on the horizon. The same thing happens in the Barcelona Pavilion, as it does in many of Mies's buildings.³⁰ The scene is quite



9. Joshua Reynolds: *Self-portrait*, 1747.

intimate, but there is always a presentiment of great distance, evoked by this subtle but powerful affinity with a broad landscape (Fig. 8). The effect is enhanced by the unexpected brightness of the ceiling, achieved by exactly the same means as at Lake Shore Drive.

Mies dismissed the observation made by Patrick Barr in 1936, and often repeated since, that his plans of the 1920s tended to resemble De Stijl paintings, such as van Doesburg's *Rhythm of a Russian Dance*, with the comment that architecture is not the same as painting.³¹ Certainly his plans do sometimes look like a composition by van Doesburg, but this likeness is visible only in these abstract documents. No such resemblance would strike a person wandering around the pavilion, because the De Stijl configuration is experienced from within the picture plane, so to speak. What Mies said about architecture being different is indubitably true. If a composition derived from a painting were laid flat, as if it were the plan of a building, its intelligibility would be reduced, and in all likelihood it would turn into something different.

Such is the case at Barcelona. The interesting thing is that, while the result is in some degree painterly, it is the abstractions of an earlier age that are recalled, not ours. The horizon line became prominent in perspective drawing. Alberti's own demonstrations of the

technique, which he was the first to describe, included a seascape, presumably because it revealed the recession of the idealized ground plane into this idealized line. The basic elements of Alberti's perspective were planes pointing towards the horizon: 'I say that some planes are thrown back on the earth and lie like pavements on the floors of buildings; others are equidistant to these. Some stand propped up on their sides like walls'.³² From this statement alone, we can see that the Miesian 'free' plan, as experienced, has far more to do with the compositional discoveries of perspective painting than the anti-perspectival ambitions of the De Stijl artists (Fig. 10).

Alberti made his scenic perspective demonstrations inside boxes.³³ He maintained that, 'if the sky, the stars, the sea, mountains and all bodies should become — should God so will — reduced by half, nothing would appear to be diminished in any part to us'.³⁴ However, to propose a connection between the ideas of Alberti and the Barcelona Pavilion is not to accuse Mies of historicism, for no such exploration of the horizon, or of relative scale, ever occurred in Renaissance architecture.

PHYSICAL BUT BODILESS

Another aspect of the pavilion that is reminiscent of a De Stijl painting is its colour. It took Mondrian twenty years of painstaking subtraction to get from landscape painting to the purity of his mature canvases. His ambition was to remove all contingency. Mies took the painted planes of primary colour that were left and reinvested them with — I was going to say as many contingencies as he could muster, but it would be more accurate to say *half* as many. Panels of blue, yellow and red on a white ground would turn into panels of dark green verd-antique marble; filigreed grey-green Tinian marble; and grotesquely varicose orange onyx dorée, on a ground of creamy, pock-marked travertine.

The potential humour in this is heightened by another diverting manoeuvre. Let's assume that it was in the cause of honesty and of truth to materials that Mies rejected painted surfaces of pure colour in a building that had been commissioned, after all, by Georg von Schnitzler, director of a paint and dyestuffs cartel.³⁵ When the

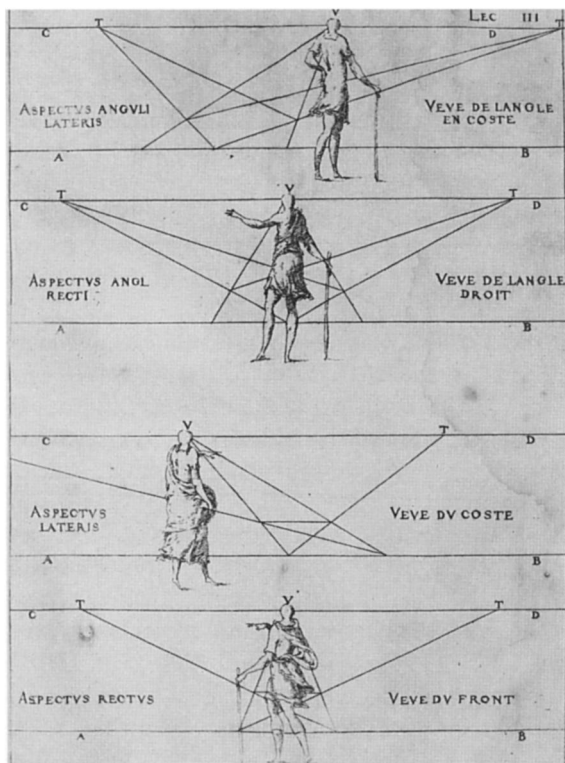
Bauhaus fundamentalist Hannes Meyer encouraged architects to paint 'without a brush', using the colours of the materials themselves,³⁶ I doubt that he had in mind sheets of luxurious ornamental stone hung on steel trellises — although it could be said that this was just another way of applying a decorative coat. What Mies did with colour destroyed 'ideas' and 'influences' with a parodist's precision. So is the pavilion a joke at the expense of both realism and idealism, since its architecture implies neither? This seems unlikely. Mies's behaviour has the same pattern as humour, considered in context, but it is not funny. What it shares with humour is the element of the unexpected.

Western tradition and modernist polemics have together conspired to convince us that abstraction is achieved by the removal of corporeal properties. That is why Arthur Drexler conjured up Plato to help explain why Mies's architecture seeks 'an absolute and unvarying principle, assumed to be independent of the senses through which its manifestations are perceived'.³⁷ Mies's own statements lend further credibility to this view, as do drawings and photographs of his buildings. Experienced directly, they could hardly be said to draw attention to their own solidity. It is nevertheless quite false to portray their physical incarnation as merely a sign of something beyond.

Some material properties of the Barcelona Pavilion, such as mass, are suppressed, but others are accentuated to the point of sense saturation. This need not surprise us. Kasimir Malevich pointed out that, as things become simpler, emptier, the mind dwells on the little that remains. He wanted to create a 'desert' in which all attention would be focused on this remainder. Figures like the square and the circle, and colours like black and white, were admissible precisely because they were of little intrinsic interest.³⁸ What is left, wrote Malevich, is feeling. The materialists among us might say that what is left, in his work, is paint — deftly applied, feathery strokes of paint that is now cracking (never evident in photographic reproductions). The effort to eliminate sensual properties makes one hypersensitive to their presence. That is why twentieth-century abstract painting has oscillated between glorification of the material surface and denial of it; between Pollock and Mondrian. But there are a large number of works, the Barcelona Pavilion among them, that belong to another class. They adopt the procedure of abstraction in order to reveal properties that are neither formal nor material. They do this by accentuating colour, luminosity, reflectiveness and absorption of light.³⁹

Light is physical, but it has no mass; gravity has barely any grasp on it. Light has provided a major escape route from the hylomorphism that dominates so much of our thinking and perception, by limiting our consciousness of physical reality to two principles: form and matter.

The most striking properties of the pavilion have to do with the perception of light and depth. That is one reason why the drawn elevations give no idea of what it is like (Fig. 11), and that in turn is one reason why it was a surprise to find, right in the middle of the pavilion, a slim, opalescent, luminous box of glass (Fig. 12).⁴⁰ Bonta found a first-hand description that said it felt gloomy under the canopy, and he agreed that anyone could see, from a cursory look at the drawings, that it would be.⁴¹ Despite its brightness, the luminous box is surrounded by obscurity. Where is it in the photographs, descriptions and drawings of 1929? There is enough information to confirm that it was constructed, but evidence of it was then minimized. Mies, reportedly unhappy with the shadows it cast, turned off the electric light inside it during the opening ceremony.⁴² What the photographs show is that the slot in the roof, which let in such a quantity of daylight, was also screened. But then Mies made a similar luminous wall behind the dining alcove of the Tugendhat House.⁴³



10. Plate from Jacques Androuet du Cerceau's *Leçons du perspective positive*, 1576.

Now, in the reconstruction, it looks like a vacant body-light for advertising, a premonition of American commercialism, signage with no sign, augury of Mid-western pathos; it is beautiful (again).

Both the forms and the materials of the pavilion are merely instruments for the manipulation of light and depth. The combination of polished marbles, chrome and tinted glass — all smooth and highly reflective — denies access to the solids beneath. So it is appropriate that the walls of the pavilion ring hollow to the knuckles.

Of these, the onyx wall was the most exotic, improbable and expensive (Fig. 4). Many critics regard it as a centre-piece but, according to Mies, the choice of the onyx was accidental. In direct consequence of this chance event, another decision was taken which, I maintain, did more to establish the paradoxical coherence of the whole than anything else. Thirty years later, Mies recalled:

When I had the idea for this building I had to look around. There was not much time, very little time in fact. It was deep in winter, as you cannot move marble in from the quarry in winter because it is still wet inside and would easily freeze to pieces. So we had to find dry material. I looked round the huge marble depots, and in one I found an onyx block. This block had a certain size and, since I had only the possibility of taking this block I made the pavilion twice that height.⁴⁴

Although it had been earmarked for vases in a luxury liner, he persuaded the management to set it aside for him by paying for it on the spot. To judge from his comment about it, Mies had only a casual interest in the height of the ceiling — though he chose, at much the same time, an almost identical height for the Tugendhat House, and for quite a few projects thereafter.

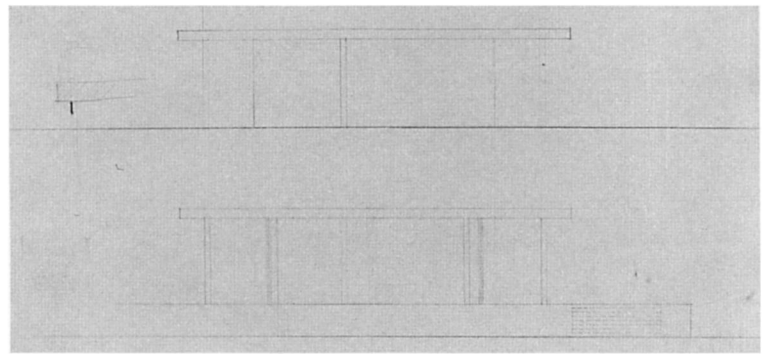
THE HORIZON

Perusing the slides I had taken of the reconstructed pavilion, I found it difficult to decide which way up they went — an artefact of photography, no doubt. Then I changed my mind. It was not an artefact of photography, but a property of the pavilion itself, a property of which I had not been conscious while there. The photographs had made it easier to discern. Soon after, I was looking at some student sketches of the pavilion, and I discovered that someone else had experienced the same difficulty. He had inadvertently begun to caption his drawing the wrong way up.

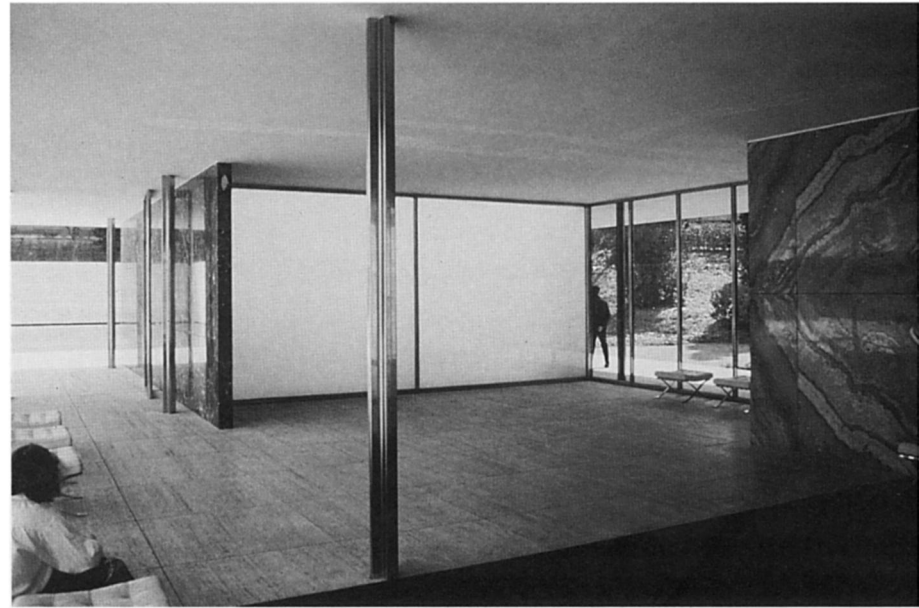
Disclosed in our pictures of the pavilion was something quite different from the effect noticed by Kandinsky, and exploited by cartoonists ever since, that non-figurative forms have no privileged orientation. At Barcelona the reversibility derives from the most unlikely source: symmetry. It is unexpected because Mies had gotten rid of vertical bilateral symmetry (the kind we expect) making a conspicuous show of its absence. He then reintroduced it, in quantity, in another dimension, where no one would think of looking for it: horizontally. Horizontal symmetry is inadmissible in classical architecture. There is parity between right and left, and there is disparity between up and down. Things should not look the same when up-ended. The world turned upside down is an image of disorder, domestic or political.⁴⁵ We understand these metaphors, but what kind of world is it, we might ask, that could be turned upside down without our noticing? This is the most serene of derangements.

Although incomplete, the horizontal symmetry of the Barcelona Pavilion is very powerful. Its overwhelming strength is attributable to one simple fact: the plane of symmetry is very close to eye-level. For a person of average height, the dividing line between the onyx panels is indistinguishable from the horizon line. If we believe Mies's recollections, then we must accept that this is a coincidence. There is, however, some evidence to suggest that Mies was soon aware of the implications of his choice, and that it altered his perception of what he was doing.⁴⁶

Alberti called the horizon line the centric line, a term he also used



11. Ludwig Mies van der Rohe: *German Pavilion, International Exposition, Barcelona, 1928–9. Two exterior elevations. Pencil on tracing paper. 39.9×62.1 cm.*

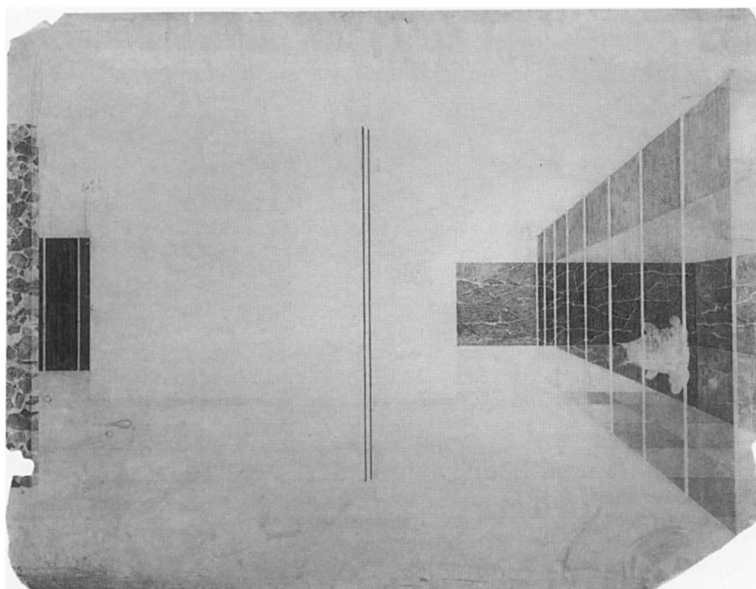


12. Ludwig Mies van der Rohe: *German Pavilion (reconstruction), Barcelona, 1986.*

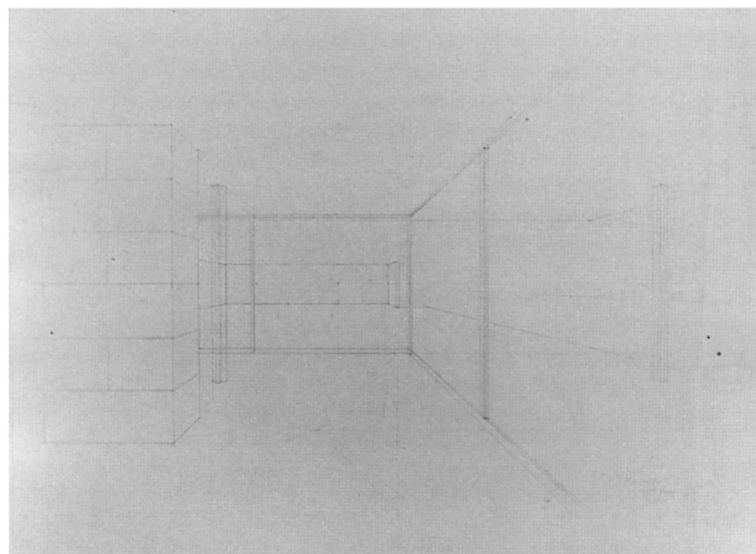
to describe the diameter of a circle. This indicates that he envisaged it as cutting the field of vision into two equal parts, at eye-level.⁴⁷ The plane of symmetry constructed this way, in this dimension, is far harder to escape than is vertical symmetry. The dead-centre, frontal view of a vertically symmetrical object is privileged, but occasional; most of the time we see such symmetries from oblique angles, and so the retinal images of the two sides are not actually the same size. In Mies's pavilion the plane of symmetry is almost impossible to escape. The eyes are delivered into it by virtue of normal ambulant posture, and so the retinal images of the lower and upper halves are rendered equal. The only way to avoid this is to stoop, sit or squat. I have since looked at as many photographs as I could find of both the original and the reconstructed pavilion. They show that, although nobody ever mentions this commanding plane, most people (and their cameras) occupy it. If the photographs contain figures, notice how their eyes hover around the horizontal joint between the onyx slabs. If not, notice, first, how many elements reflect across this line, then look at the receding contours of obliquely viewed surfaces and notice how nearly identical are the angles from floor and ceiling to the horizon — a property of all perpendicular, rectangular planes in perspective, viewed from mid-height. Notice the difficulty of distinguishing the travertine floor, which reflects the light, from the plaster ceiling, which receives it. If the floor and the ceiling had been of the same material, the difference in brightness would have been greater. Here, Mies used

material asymmetry to create optical symmetry, rebounding the natural light in order to make the ceiling more sky-like⁴⁸ and the ambience more expansive.

The only carefully constructed perspective drawing of the pavilion which survives (Fig. 13) indicates that Mies was conscious of this property. It shows the onyx wall divided exactly in half by the horizon. Turned sideways, the drawing reveals a bilaterally symmetrical outline. Such also is the case with Mies's perspective of the Tugendhat living room, although in that house he used three bands of onyx panelling in the free-standing wall, so that the horizon line would not be visible to advertise the equality of upper and lower portions, as it was at Barcelona. Observers will be more likely to notice what is happening to their vision when their eyes scan this line (all the other marbles at Barcelona were also laid in three bands). The accidental source, and sole measure, of the powerful but subliminal symmetry was thus erased in the Tugendhat house, which Mies built slightly later. The Barcelona Pavilion has 312 centimetres of headroom; the Tugendhat house has 317.5 centimetres. The Esters/Lange house, begun in 1927, had a similar ceil-



13. Ludwig Mies van der Rohe: *German Pavilion, International Exposition, Barcelona, 1928–9. Interior perspective. Pencil, conté crayon on board. 99.1 × 130.2 cm.*



14. Ludwig Mies van der Rohe: *Hubbe House, 1935. Interior perspective. Pencil on tracing paper. 54 × 80.6 cm.*

ing height (306.25 centimetres), but did not exploit horizontal symmetry, while perspectives for a number of subsequent projects show it clearly and consistently, including the Gerike house, the Ulrich Lange house, the Hubbe house (Fig. 14), and the three courtyard houses. In the drawings, Mies was more inclined to incorporate figurative sculpture than human figures. Often the eye-level of the statue is removed from the horizon line, either by overscaling, as with the Kolbe statue at Barcelona, or because of its recumbent posture. Mies never acknowledged his interest in this phenomenon. It is significant, however, that Le Corbusier, who proclaimed the horizontal line of vision to be an essential feature of man, disallowed the double Modulor height (366 centimetres) for interiors, explaining that he wished to avoid the equalization of floor and ceiling.⁴⁹

The implications of this re-establishment in one plane of a property so completely eradicated in another are not immediately obvious, but it is reminiscent of other tergiversations practised by Mies. Abstraction, materiality, spirit, structure, symmetry, asymmetry — no concept was safe in his hands. Bonta, studying the critical fortunes of the original pavilion, reached the conclusion that it was only an 'idea' that had been promoted to greatness. But what I saw in the reconstruction was a building that ate ideas.

REFLECTIONS ON THE CRITICAL FUNCTION

It ate new ideas as well as old ones. The reflective properties of the Barcelona Pavilion have been for the most part treated as incidental. One writer even complained that they had 'frequently blinded critics to the significant architectural values of his (Mies's) work'.⁵⁰ By contrast, Manfredo Tafuri, Michael Hays and José Quetglas have recently given more emphasis to reflectiveness in their analyses of Mies's buildings, especially the pavilion. They see it as an aspect of Mies's obdurate silence. A reflective building is an echo, not a statement. In *Fear of Glass* Quetglas dramatizes the plight of a lone occupant of the Barcelona Pavilion, displaced into his own virtual images.⁵¹ In *Critical Architecture* Hays presents reflection as the key to the pavilion. Elaborating ideas put forward in more general terms by Tafuri,⁵² he discusses the way reflections confuse the picture of reality. The virtual and the real become hard to distinguish, thus exemplifying the immanent chaos of modern life. For Hays and Tafuri reflectiveness is the means by which Mies creates a silent theatre of the world, whilst maintaining critical distance from it. For all three, reflections break up the calm and isotropic space of ordinary perception. 'The fragmentation and distortion of the space is total. Any transcendent order of space and time that would confer an overarching unity on to this assemblage is systematically and utterly dispersed',⁵³ writes Hays of this 'montage of contradictory, perceptual facts'. While I would certainly endorse this shift of attention, I find myself disagreeing with these critics' interpretations of the pavilion's reflectiveness.

Reflections are often a source of confusion, and numerous works of art and architecture, including certain projects by Mies, have exploited this: the Glass Skyscrapers of 1922 for instance,⁵⁴ and the glass exhibit for the *Deutsches Volk / Deutsche Arbeit* exposition of 1934 (the one project Mies built for the Nazi government). Cylinders of glass stood in serried ranks, refracting images of each other and of their background, as they became lens-like. Extruded reflections bounced all over the place. In certain circumstances the play of light in the Barcelona Pavilion can also be confusing (Fig. 15). But can the pavilion as a whole be described in terms of ruptures and dislocations? Perhaps only the columns can — the columns that hold it up, or down.⁵⁵

Mirrors can destroy coherence, but they can also reveal it. There were numerous demonstrations of this capability in the seventeenth

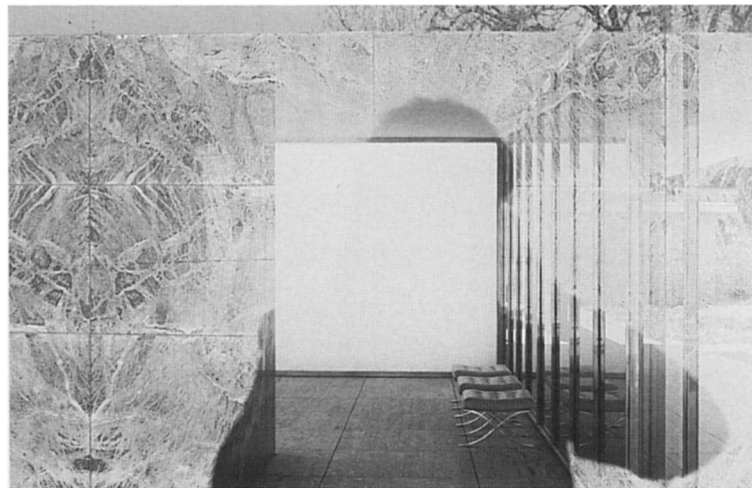
century. They combined anamorphoses (the projection of distorted and illegible images) with catoptrics (the study of mirrors). By placing a cylindrical or conical mirror over the centre of projection, the warped image would be restored to its proper shape. Most of these tricks transformed continuous distortions into recognizable images by means of curved mirrors, but in Jean Dubreuil's *Perspective pratique* (1651) a prismatic mirror was used.⁵⁶ The plane surfaces of the prism reflected only certain parts of the image on which it stood. Dubreuil used this device to change a medley of heads turned at various angles into a single pair of profiles, transforming the multiform into the binary (Fig. 16). The purpose of the anamorphic projection was to obscure the image; the purpose of the mirror was to permit its retrieval. The mirror finds what is hidden. That is why many of the surviving examples of anamorphoses portray secret or illicit subject-matter — sexual, political or religious.⁵⁷ Reflected images in the Barcelona Pavilion work in a similar fashion: they restore a secret that has been erased from the tangible form of the building.

It must be admitted that the usual effects of reflection are disruptive and confusing. However, when a construction reflects itself more than it reflects its surroundings and where, moreover, these reflections are always into plane surfaces parallel or perpendicular to one another, the result is quite different. In such circumstances an asymmetrical arrangement becomes virtually symmetrical, like Siamese twins, whenever a reflective plane cuts through it.

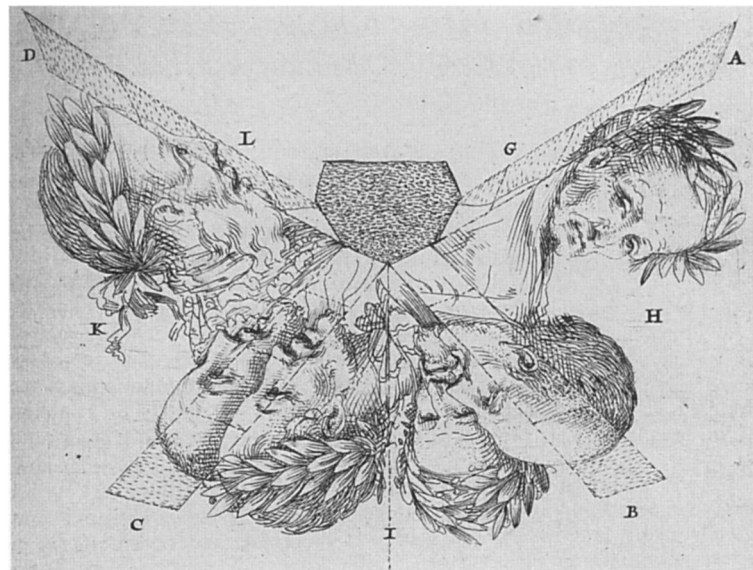
One example of this pairing provides evidence that Mies took advantage of the effect I have described, while he was designing the pavilion. Viewed from the northeast, the podium — the podium we are so often told is never overridden by the walls that rest on it — appears as no more than a thin strip along the front of the building (see p. 56). Beyond this, the Tinian marble enclosing the small pool cuts straight into the ground. Something left incomplete? Another accident? Mies repeatedly drew the rim of the podium so that it extended around the entire perimeter of the building, he approved a much later redrawing that showed it thus, and he drew it that way for publication in 1929 (Fig. 1).⁵⁸ But the second preliminary scheme⁵⁹ indicates that, even in the early stages of design, Mies was thinking of it much as built, except that he first drew the spur of the podium so that it returned much further round the corner of the Tinian wall (Fig. 3).

The view from the northeast contains one of several 'Siamese twins' created by the pavilion's reflections of itself. The two halves straddle a shining vertical plane of grey-green marble, extended into panels of glazing. Three white elements cling to this surface: a narrow, U-shaped bracket at the far end of the site, contrasted against the dark wall of the exhibition hall; a long wing-like strip balanced on top of the knife-edge of the reflective wall surface; and, below this, the stranded spur of the podium. The wall is inset to the depth of one travertine paving slab. The line of slabs doubles itself in reflection. Because the continuation of the spur beyond the end of the wall is also two slabs wide, the mirror symmetry of these three pieces — half real, half virtual — is perpetuated beyond the end of the reflective plane.⁶⁰ The illusion of symmetry extends a little way into reality — a triumph of the optical over the planimetric. Mies made this adjustment later on. The drawings suggest that initially he introduced the discontinuous podium for its own sake, then adjusted the projecting spur of the podium in order to pick up the symmetry (Fig. 17).

First, symmetry is eliminated (in the composition of plan and elevation), then it is smuggled in sideways as an optically constructed symmetry between floor and ceiling, and finally it is re-admitted in its normal orientation as a family of fictions (in reflections). Mies did not dispense with symmetry in his radical



15. Ludwig Mies van der Rohe: *German Pavilion (reconstruction), Barcelona, 1929.*

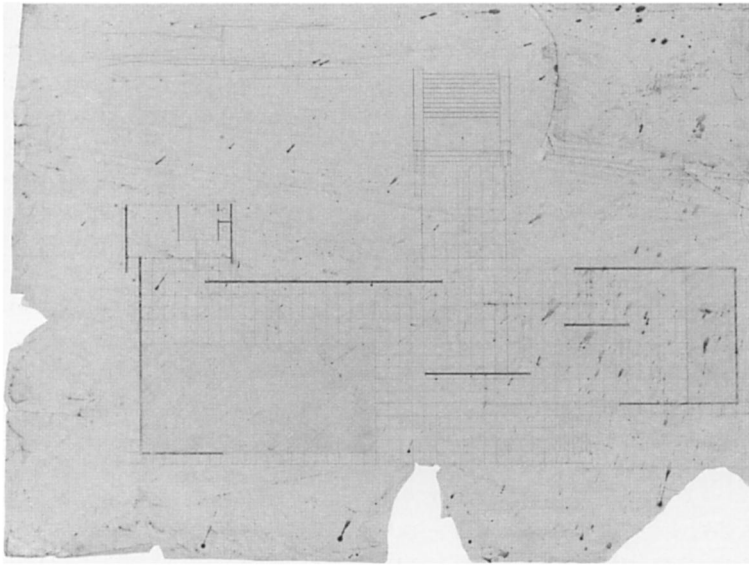


16. *Prismatic anamorphosis to reduce six heads to two profiles, from Jean Dubreuil's Perspective pratique, 1651.*

European works, only to restore it later in the USA. Symmetries were never present in greater strength and numbers than they were in the Barcelona Pavilion, which turns out to be a veritable Trojan horse filled with them (Fig. 18). The presence of symmetry in, say, a paving slab can be so obvious as to be beyond recognition; its presence across the optical horizon of the pavilion can be so unexpected as to be also beyond recognition. Thus symmetry in the Barcelona Pavilion is utterly prosaic, or nearly inconceivable. Removed from its normal, normative middle ground, it is harder to recognize, impossible to avoid.

According to Tafuri and Hays, Miesian reflections are a way of breaking things up; according to me, a way of creating coherence. Both kinds of reflection occur in the Barcelona Pavilion. Which prevails? For the sake of argument, assume the latter. What, then, happens to the idea, promoted so forcefully by Tafuri and Hays, that Mies's architecture takes a critical stance by dismembering our too coherent picture of reality? It would not apply, but this does not necessarily mean that the building is not critical. It may be critical in other ways.

Then, again, it may not. In some circles the critical function of art is now taken for granted: a work of art is judged to be good in so far as it is critical. This somewhat uncritical acceptance is facilitated by assuming that any difference between one thing and another can be



17. Ludwig Mies van der Rohe: *German Pavilion, International Exposition, Barcelona, 1928–9. Floor plan. Pencil, coloured pencil on tracing paper. 51.8×69.2 cm.*



18. Ludwig Mies van der Rohe: *German Pavilion (reconstruction), Barcelona, 1986. The small pool court. Four kinds of reflective symmetry can be observed here. The pool court itself is bilaterally symmetrical. When reflected in the green-tinted glass wall (left), it is duplicated into quadrilateral symmetry. The horizontal symmetry is emphatic. The pool makes another reflection, below, from the resulting eight-part symmetry.*

formulated as an implied criticism, and indeed it can. It can equally well be called an accident, an instance of plurality or contrast. Any work of art or architecture may be surrounded by critical intentions. It may also elicit critical responses that would never otherwise have occurred. For all that, it may yet be possible to show that a work of art cannot be essentially critical. While it need not negate, it must affirm — even if all it affirms is its worthiness to enter our consciousness. However, if the critical function is taken to be the measure of art, then art blends into commentary and, once again, the analogy with language steals in. The Barcelona Pavilion is not analogous to language. Its relationship to language is predatory, not mimetic.

Art has so often been portrayed as being against the world, because it is obliged to affirm by being untypical or unreal. Ordinary existence seems bland by comparison. That is why criticism, disappointment, frustration, disdain, repugnance can frequently be inferred from the affirmative work. And that is why the pavilion, full of positive attributes, may still cast a long negative shadow.

In their interpretation of Mies, Tafuri and Hays have taken the old idea of aesthetic distance and reformulated it as critical distance.⁶¹ The two kinds of distance may be described in similar terms, but they originate in opposite tendencies. Critical distance is maintained for the purpose of scrutiny; aesthetic distance is maintained for the purpose of adulation. Critical distance reveals blemishes; aesthetic distance is prophylactic. Let us return now to the politics of the pavilion's beauty. I would argue that Mies is holding the world at arm's length, less to contemplate its absurdity than to avoid its odour.

DISTRACTION

Alberti thought it prudent to build beautiful buildings, because beauty preserves things from assault. He asks, 'Can any Building be made so strong by all the Contrivance of Art, as to be safe from Violence and Force?' and he answers that it can, since 'Beauty will have such an Effect even upon an enraged Enemy, that it will disarm his Anger, and prevent him from offering it any Injury: Inasmuch that I will be bold to say, that there can be no greater Security to any Work against Violence and Injury, than Beauty and Dignity.'⁶² Beauty turns vulnerability into impregnability, and it is easy to see from this example that the beauty and dignity of buildings was the same kind of beauty and dignity that women were supposed to have, and probably for much the same reason. Alberti implies that an army regards a monument like man regards a woman, and not much separates Alberti's views on the subject from those of Jean-Paul Sartre five hundred years later. In *The Psychology of Imagination* Sartre explains how beauty puts things out of reach, prompting feelings of 'sad disinterest'. 'It is in this sense that we may say that great beauty in a woman kills the desire for her. . . To desire her we must forget she is beautiful, because desire is a plunge into the heart of existence, into what is most contingent and absurd.'⁶³

Although the terms attractive and beautiful are considered almost synonymous, beauty, as described by Alberti and Sartre, is not attractive; it is, to coin a word, 'distractive'. The kind of beauty that dominates Western consciousness quells desire for a thing by diverting attention from the thing's use (or abuse) to its appearance. The beauty of the Barcelona Pavilion is also distractive, but it is not diverting attention from its own vulnerability; the Barcelona Pavilion distracts the entranced observer from what is troubling elsewhere. This is the architecture of forgetting.

From what is Mies's architecture distracting us? The question is almost meaningless. The abstraction, the silence, the vacancy of the pavilion makes it hard to determine what has been removed. Isn't this the point? If we could easily tell, then the effort of escape would have been worthless. Even if we could delve into Mies's personality in order to discover what his architecture allowed him to forget, it wouldn't necessarily tell us what it allows us to forget, or what it will allow others to forget. The question is almost meaningless — but not quite. Forgetting is a social activity. Ignorance can be constructed socially, just as knowledge can. The collective practice of forgetting produces innocence — the kind that we construct to protect ourselves from others, and others from ourselves, not the kind that is lost.

I would make two guesses about what the Barcelona Pavilion helped Mies and his contemporaries forget: politics and violence. Thucydides, who actually fought in the wars he chronicled, said he preferred the art of forgetting to the art of memory. His preference for amnesia has a psychological explanation. As a situation gets worse, attention is either completely engaged by it, or completely withdrawn. Thus John Willett writes of artists in Weimar Germany: 'Even at the calmest and apparently sanest moments of the mid-1920s the more sensitive amongst these people reflected an uneasy

precariousness which was often electrifying. “I felt the ground shaking beneath my feet”, wrote George Grosz in his autobiography many years later, “and the shaking was visible in my work”.⁶⁴ But it was not visible in Mies’s architecture. Insulated from seismic disturbance, the pavilion gives no indication of it, and therefore the tremors seem not to exist.

History tells us that much was at stake. To forget too much in Weimar Germany was to open the door to barbarism, in the effort to escape knowledge of the threat. No doubt there was a lot of this kind of forgetting. It is all too clear that art can soothe a troubled conscience. What I am trying to suggest is that there is another kind of collective forgetting, potentially constructive, which has been conveniently forgotten in twentieth-century accounts of art — although much of modernism exemplifies it. Suppose I were to claim that the distractions supplied by art have been essential to the development of our equilibrium, our humanity, our enlightenment. Would I be claiming too much? I doubt it. Art always presents a challenge, but not every challenge leads to exposure or revelation. Forgetting can also be a challenge. This was the message of the Eumenides.

By virtue of its optical properties, and of its disembodied physicality, the pavilion always draws us away from consciousness of it as a thing, and draws us towards consciousness of the way we see it. Sensation, forced into the foreground, pushes consciousness into apperception. The pavilion is a perfect vehicle for what Kant calls aesthetic judgement, where consciousness of our own perception dominates all other forms of interest and intelligence. But, he insists, out of this apparently purposeless activity, we construct our own destiny. Take away five and add ten. Oblivious to the tremors that beset the present, we intimate a pattern for a potential future. Distraction is not amnesia, it is displacement.

However, it might seem that Mies was more intent on displacement into the past than into the future. Colin Rowe interpreted the more explicit symmetry in Mies’s later work as a return to the conventions of classicism.⁶⁵ Several of the ways the pavilion encourages the conscious savouring of our own perception involve symmetries which go unnoticed. Does this not suggest that Mies, who was certainly a master of equivocation, covertly reintroduced the hieratic formation of bilateral symmetry to counteract the freedom and democracy signified by the pavilion’s asymmetry? The Trojan horse introduces foreign troops by stealth. This subterfuge fits in with everything so far said about Mies’s predilection for conflating opposites, and confirms that a profound authoritarianism lurks just beneath the bright surface.

It is generally believed that bilateral symmetry asserts unity by emphasizing the centre. Monumental architecture has been demonstrating this for millennia. Hegel declared that symmetry is the primordial manifestation of symbolic art, the first embodiment of the human spirit in sensuous form. By its symmetry, ‘architecture prepared the way for the adequate actuality of God’, he wrote.⁶⁶ The social order of theocracy, tyranny and aristocracy seems locked into this formal arrangement. Bruno Zevi speaks for generations of modern critics, when he claims that, ‘Once you get rid of the fetish of symmetry, you will have taken a giant step on the road to a democratic architecture.’⁶⁷ Our idea of bilateral symmetry comes from familiar examples: from the great architectural monuments of the past and also, according to Blaise Pascal, from the human face. The king’s portal and the mouth have a lot to answer for. Both, sitting astride the plane of symmetry, tend to obscure the fact that the production of bilateral symmetry is a twinning operation, not a centralizing activity. There is nothing inherently hierarchical in bilateral symmetry; quite the reverse. Only by adding a third term between the duplicated halves do we turn the equalization into a

graduated hierarchy. This third term is an inessential extra, which is why Siamese twins or a pair of semi-detached houses better illustrate bilateral symmetry than do the human face or the Palace of Versailles. The transformation of bilateral symmetry in monumental architecture is a spectacular instance of the mute politics embodied in appearances. When we have rid ourselves of the prejudices established over the centuries by means of architecture, we may recognize that bilateral symmetry is a way of creating equivalence, not privilege. The hidden symmetries of the Barcelona Pavilion will then appear in a different light. Most are bipartite. None emphasize the centre. Maybe that is why they had to be hidden. If the symmetries had been identified and named, this might have led to a false insinuation, and might have obscured the properties of the thing it was meant to describe. The building that ate so many words would have fallen victim to a word.

The symmetries in the Barcelona Pavilion are of an entirely different order to those of monumental classicism. To appreciate them we must revise our understanding of the word symmetry. Pascal summed up the classical view in a single sentence: ‘Symmetry is what we see at a glance, based on the fact that there is no reason for any difference, and based also on the face of a man: whence it happens that symmetry is only worked in breadth, not in height or depth.’⁶⁸ The symmetries in the Barcelona Pavilion are not seen at a glance; there are good reasons for their presence; they are not like the face of a man; and they are worked in other dimensions than breadth.

POSTSCRIPT

I refrain from commenting on the reconstruction of the pavilion, except to applaud those responsible. Others regard the issues of its authenticity and reproducibility as significant, but I am unable to see why.

I thank the students of the Polytechnic of Central London and Harvard University Graduate School of Design, Christian Devillers, Jonathan Greigg, Elizabeth Yates-Burns, Jeff Kipnis, Jerzy Soltan, Mary Wall and especially Caroline Constant, for much helpful discussion and advice.

Notes

1. Juan Pablo Bonta, *Architecture and its Interpretations* (1979), pp. 131–224.
2. Ibid. pp.171–4, and Wolf Tegethoff, *Mies van der Rohe: The Villas and Country Houses* (MoMA/MIT Press, 1985), pp. 72–3.
3. MoMA, *Mies van der Rohe Archive*, part 1, vol. 2. In plan 14.2, the axial line is used as a datum from which to measure the different length of the pavilion podium extending in either direction; in 14.3 a plinth for sculpture is aligned on it; in 14.7 and 14.20 it is integrated as the centre-line of the paving grid.
4. Sybil Moholy-Nagy, ‘The Diaspora’, *Journal of the Society of Architectural Historians*, vol. 24, no. 1 (March 1965), pp. 24–6; Elaine Hochman, *Architects of Fortune* (New York, 1989).
5. Howard Dearstyne, letter in response to the article by S. Moholy-Nagy, *JSAH*, vol. 24, no. 3 (October 1965), p. 256.
6. S. Giedion, *Space, Time and Architecture* (Cambridge, Mass., 1954), p. 548.
7. José Quetglas, ‘Fear of Glass’, *Architectureproduction, Revisions*, edited by B. Colomina and M. Hays, p. 150.
8. Hochman, p. 203.
9. ‘Voilà l’esprit de l’Allemagne nouvelle: simplicité et clarté de moyens et d’intentions tout ouvert au vent, comme à la franchise — rien ne ferme l’accès à nos coeurs. Un travail honnêtement fait, sans orgueil. Voilà la maison tranquille de l’Allemagne apaisée!’, Bonta, p. 155. For Nicholas M. Rubio Tuduri, see ‘Le Pavillon d’Allemagne à l’Exposition de Barcelone par Mies van der Rohe’, *Cahiers d’art*, vol. VIII–IX, (Paris, 1929), pp. 409–11. Reprinted in Fundació Publica del Pavelló Alemany, *El Pavelló Alemany de Barcelona de Mies van der Rohe* (Barcelona, 1987), p. 42.
10. Peter Gay, *Weimar Culture* (New York, 1970), p. 139.
11. Herman Weyl, *Symmetry* (Princeton, N.J., 1952), p. 77. Commenting on Kepler’s search for order manifest in forms, Weyl writes: ‘We still share his belief in a mathematical harmony of the universe . . . But we no longer seek

- this harmony in static forms like the regular solids, but in dynamic laws.’
12. H.-R. Hitchcock and Philip Johnson, *The International Style* (New York, 1966), pp. 59–60.
 13. It is difficult to understand why this realization of 1929 should so often be cited, as if Mies had achieved some completely new insight. The principle had been announced some years earlier by Le Corbusier.
 14. Jonathan Greigg.
 15. Franz Schulze, *Mies van der Rohe: A Critical Biography* (Chicago, 1985), p. 158.
 16. Ludwig Hilberseimer, *Mies van der Rohe* (Chicago, 1956), p. 16. The quote was taken from Procopius, *Buildings*, I, i, 46. Adrian Gale, who worked with Mies towards the end of his career, observes a similar effect in the American work. He describes how the interior space of Crown Hall seems to be gripped within the vice-like external frame, which threatens to pull the roof down to the floor. The threat requires preventive resistance, and the only force the mind can introduce to keep them apart is in the sandwiched space itself, as if it were substantial and elastic. A. Gale, in *Mies: An Appreciation*, *AD Architectural Monograph* no. 11, edited by Sandra Honey (London, 1986), p. 96.
 17. Isidre Puig Boada, *L'Església de la Colònia Güell* (Editorial Lumen, 1976).
 18. Gay, p. 101.
 19. Acceptance speech on receiving the AIA Gold Medal, 1960. See Peter Serenyi, abstract, *JSAH*, vol. 30, no. 3 (October 1971), p. 240.
 20. Peter Blake, 'A Conversation with Mies', *Four Great Makers*, p. 93.
 21. Tegethoff, pp. 81–2.
 22. Plato, *The Republic*, book 10, sec. 1.
 23. Saint Augustine, *Confessions*, book 10, sec. 35.
 24. Caroline Constant, 'The Barcelona Pavilion as Landscape Garden: Modernity and the Picturesque', to be published in *AA Files* no. 20.
 25. In conversation.
 26. See note 9.
 27. Schulze, p. 116.
 28. Quetglas, p. 133.
 29. Marius von Senden, *Space and Sight: The Perception of Space and Shape in the Congenitally Blind Before and After Operation*, translated by P. Heath (Glencoe, Ill., 1960).
 30. MoMA, *Mies Archive*, part 1, vol. 2, 2.320–2.323.
 31. Patrick H. Barr Jr., *Cubism and Abstract Art* (New York, 1986) (reprint), pp. 156–7. Barr notes the similarity in their 'broken, asymmetrical' character.
 32. Leon Battista Alberti, *On Painting*, translated by J. R. Spencer (New Haven, 1966), p. 52.
 33. M. Boscovits, 'Quello ché dipinturi oggi dicono prospettiva', *Acta Historiae Artium* (Budapest, 1962), vol. 8, p. 246.
 34. Alberti, *On Painting*, p. 54.
 35. *Mies: An Appreciation*, p. 39. Georg von Schnitzler, Commissioner General of the Reich, who picked Mies to design the pavilion, was a director of the IG Farben cartel.
 36. 'The New World' (1926), in *Hannes Meyer: Buildings, Projects and Writings*, edited by Claude Schnaidt, p. 95. Quoted by Michael K. Hays in 'Reproduction and Negation: The Cognitive Projects of the Avant-Garde', *Architectureproduction, Revisions 2* (Princeton, 1988), p. 161.
 37. Arthur Drexler, *Mies van der Rohe* (New York, 1960), p. 9.
 38. Kasimir Malevich, *The Non-Objective World*, translated by H. Dearstyne (Chicago, 1959).
 39. The most modern works of this type tend to be sculptures and installations from the 1960s onward. Mies's efforts are therefore remarkable on three counts: for being early, for being architecture, and for exploiting far more subtle optical phenomena than other artists, such as László Moholy-Nagy, who were working with light and reflection in the 1920s and 1930s.
 40. Constant regards it as vying for centrality with the onyx wall (the traditional candidate); Quetglas, as part of a binary centrality that circulates round the black carpet as well as the light wall. It would be wrong to give the pavilion a centre it does not want, but there is one characteristic, other than its odd brightness, that makes the luminous wall more prominent than the onyx wall: it is the only surface, other than the two 'brackets' at either extremity, which is transverse. All the others are oriented along the length of the pavilion. The long view down the building, from end to end, is decidedly dominant, once the visitor mounts the podium. The luminous wall is therefore turned into the field of vision, filling it far more extensively for far more of the time than any other single element. By comparison, one has to make an effort to face the onyx wall. For me, this effort was prompted by the knowledge that it was indeed of central importance. Its reputation had preceded it.
 41. Bonta, p. 145. The observation was made by Platz in 1930.
 42. *Mies: An Appreciation*, p. 69. I am indebted to Matilda McQuaid, of the MoMA Mies van der Rohe Archive, for information on the construction of the light wall in 1929.
 43. MoMA, *Mies Archive*, part 1, vol. 2, 2.320–2.323.
 44. Onyx quote: Bonta, p. 151, but cited from Carter, 1961.
 45. See, for example, Christopher Hill, *The World Turned Upside Down: Radical Ideas During the English Revolution* (Harmondsworth, 1975).
 46. MoMA, *Mies Archive*.
 47. Alberti, *On Painting*, pp. 44, 58.
 48. Often Mies's ceilings seem to get light from nowhere. In the exhibit for the glass industry at Stuttgart in 1927, Mies, using many of the materials he would use again at Barcelona, installed a false ceiling of taut strips of white fabric sewn together. This was top-lit to create a luminous surface.
 49. Conversation with Jerzy Soltan, 1989.
 50. Peter Carter, *Mies van der Rohe at Work* (1974), p. 24.
 51. Quetglas, pp. 128–31.
 52. Manfredo Tafuri, *Architecture and Utopia*, translated by B. L. La Penta (1979), pp. 148–9; Tafuri, *The Sphere and the Labyrinth*, translated by P. d'Acerno and R. Connolly (MIT, 1987), pp. 111–12, 174–5. Michael K. Hays, 'Critical Architecture: Between Culture and Form', *Perspecta* 21, 1981.
 53. Hays, *ibid.* p. 11.
 54. This property was noticed early on. Arthur Korn's *Glass in Modern Architecture*, first published in 1929, although giving preference to sparse, rectilinear examples, remarks that 'Glass is noticeable yet not quite visible. It is the great membrane, full of mystery, delicate yet tough. It can enclose and open spaces in more than one direction. Its peculiar advantage is in the diversity of the impressions it creates.' (introduction to the first edition).
 55. The glass doors also add to the confusion, but Mies removed them for the opening ceremony. It is significant that the columns, which are supposed to ensure the stability of the pavilion, are the only elements rendered unstable by their reflectiveness.
 56. Jean Dubreuil, *Perspective pratique*, second edition (Paris, 1651), pp. 144–6.
 57. Jurgis Baltrusaitis, *Anamorphic Art*, translated by W. J. Strachan (Cambridge, 1977).
 58. The redrawing was done by Werner Blazer. The drawing for publication in 1929 is illustrated in: MoMA, *Mies Archive*, part 1, vol. 2, 14.6.
 59. MoMA, *Mies Archive*, part 1, vol. 2, 14.2.
 60. There is a slight difference between the depth of the reflection and the depth of the projecting spur, arising from the need to accommodate the thickness of the Tinian wall.
 61. K. Gilbert and H. Kuhn, *A History of Esthetics* (London, 1956), pp. 269–70.
 62. L. B. Alberti, *The Ten Books of Architecture*, translated by Bartoli/Leoni, edited by Rykwert (Tiranti, 1955), book VI, chapter 2, p. 113.
 63. Jean-Paul Sartre, *The Psychology of Imagination* (Citadel, N.J.), conclusion, p. 282.
 64. John Willett, *The New Sobriety: Art and Politics in the Weimar Period* (London, 1978), p. 16.
 65. Colin Rowe, 'Neo-“Classicism” and Modern Architecture I & II', *The Mathematics of the Ideal Villa* (1982), pp. 119–58.
 66. G. W. F. Hegel, *Hegel on the Arts*, edited by H. Paolucci and F. Ungar (New York, 1979), p. 64.
 67. Bruno Zevi, *The Modern Language of Architecture* (Seattle, 1978), p. 15.
 68. Blaise Pascal, *Pensées* (London, 1940), no. 28.

Acknowledgements

Figs. 1, 3, 5, 8, 11, 13, 14, 17: Collection, Mies van der Rohe Archive, The Museum of Modern Art, New York. Gift of Ludwig Mies van der Rohe; Fig. 2: Fundació Pública del Pavelló de Barcelona de Mies van der Rohe, Barcelona; p. 56, Figs. 4, 6, 7, 12, 15, 18: photographs by the author; Fig. 9: National Portrait Gallery, London.