



Top:  
Mies van der Rohe at the opening of  
the First International Dada Fair  
Otto Burchard gallery, Berlin, 30 June 1920



Bottom right:  
George Grosz and John Heartfield  
First International Dada Fair, Berlin, 1920



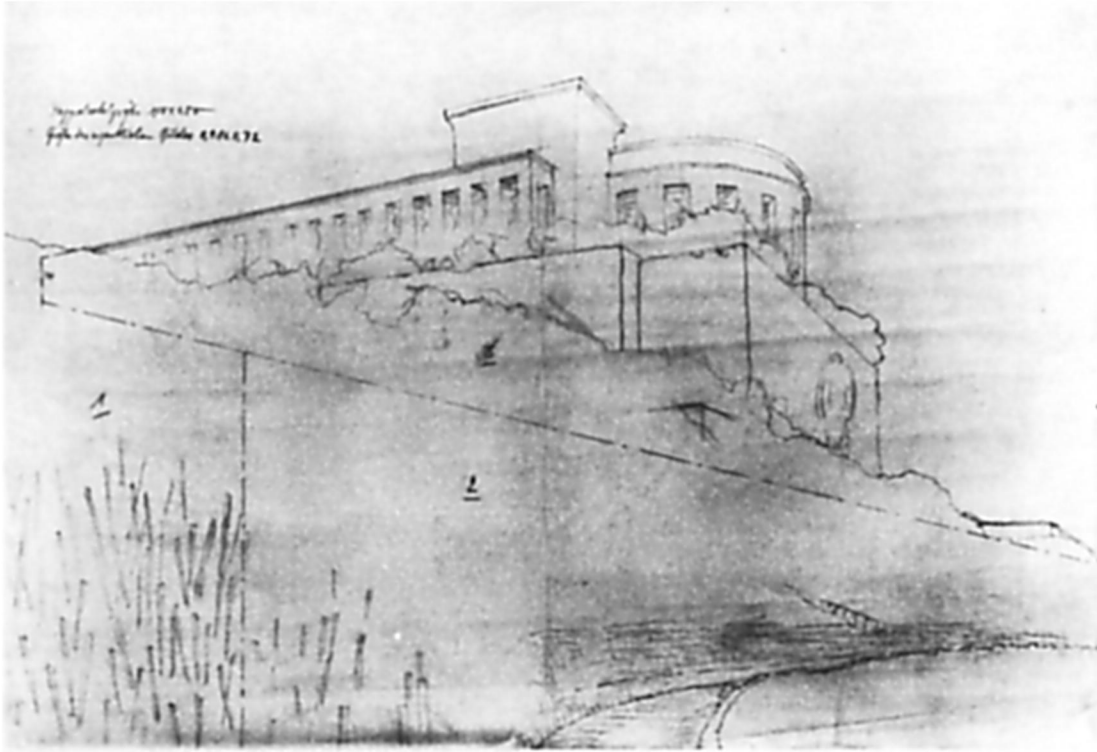
Bottom left:  
First International Dada Fair, Berlin, 1920  
Hannah Höch and Raoul Hausmann are on the left



Top:  
 German military engraving and photomontage,  
 c 1899, signed and inscribed by Hannah Höch:  
 'The Beginning of Photomontage'

Middle:  
 Friedrich von Thiersch, photomontage  
 of a proposed castle at Hohenaschau, 1899

Bottom:  
 Henry Peach Robinson,  
*Fading Away*, 1858, photomontage



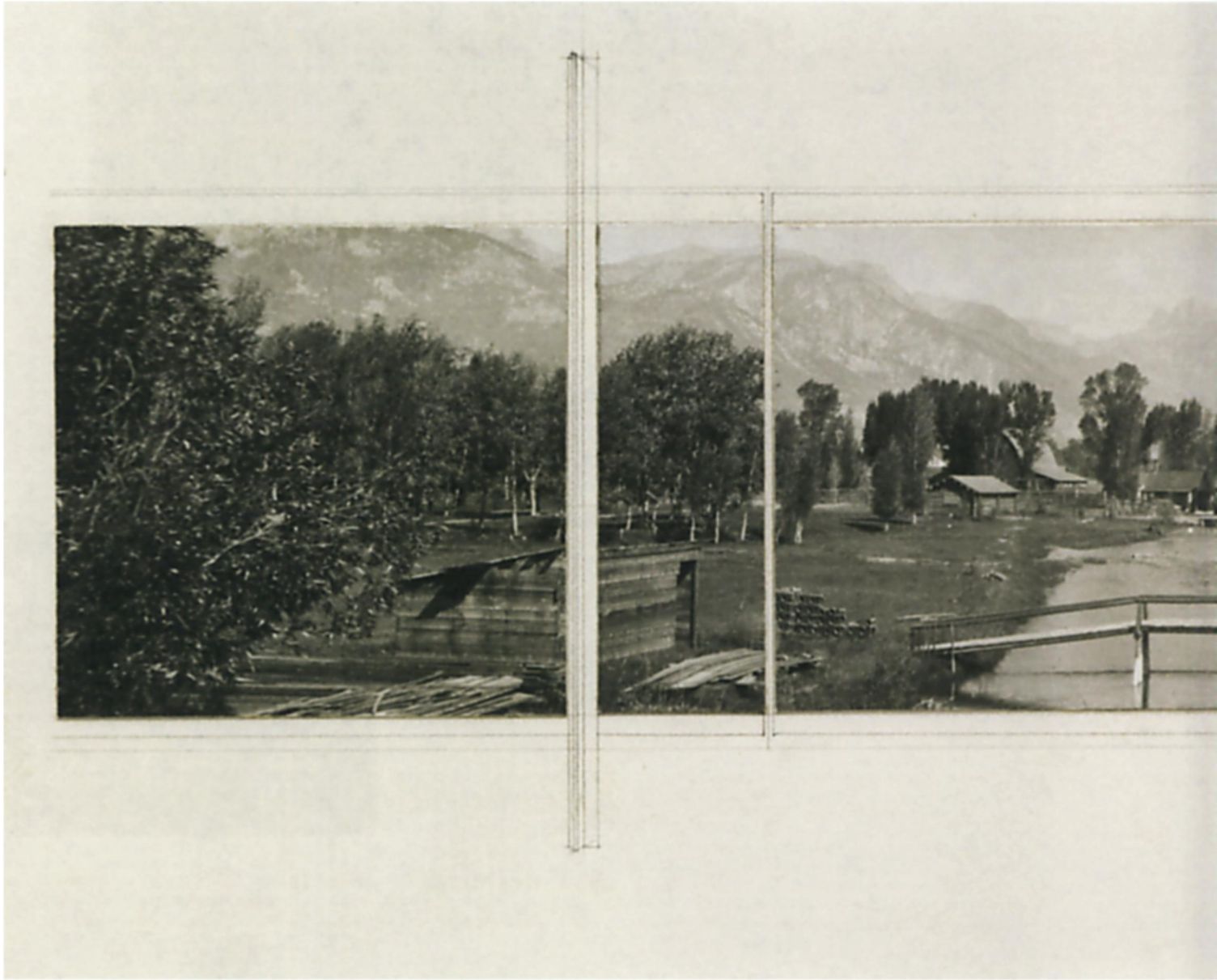
Mies van der Rohe and Ewald Mies  
Sketches and photomontages for a  
Bismarck Monument, Bingen, 1910  
© ProLitteris, Zurich, 2010

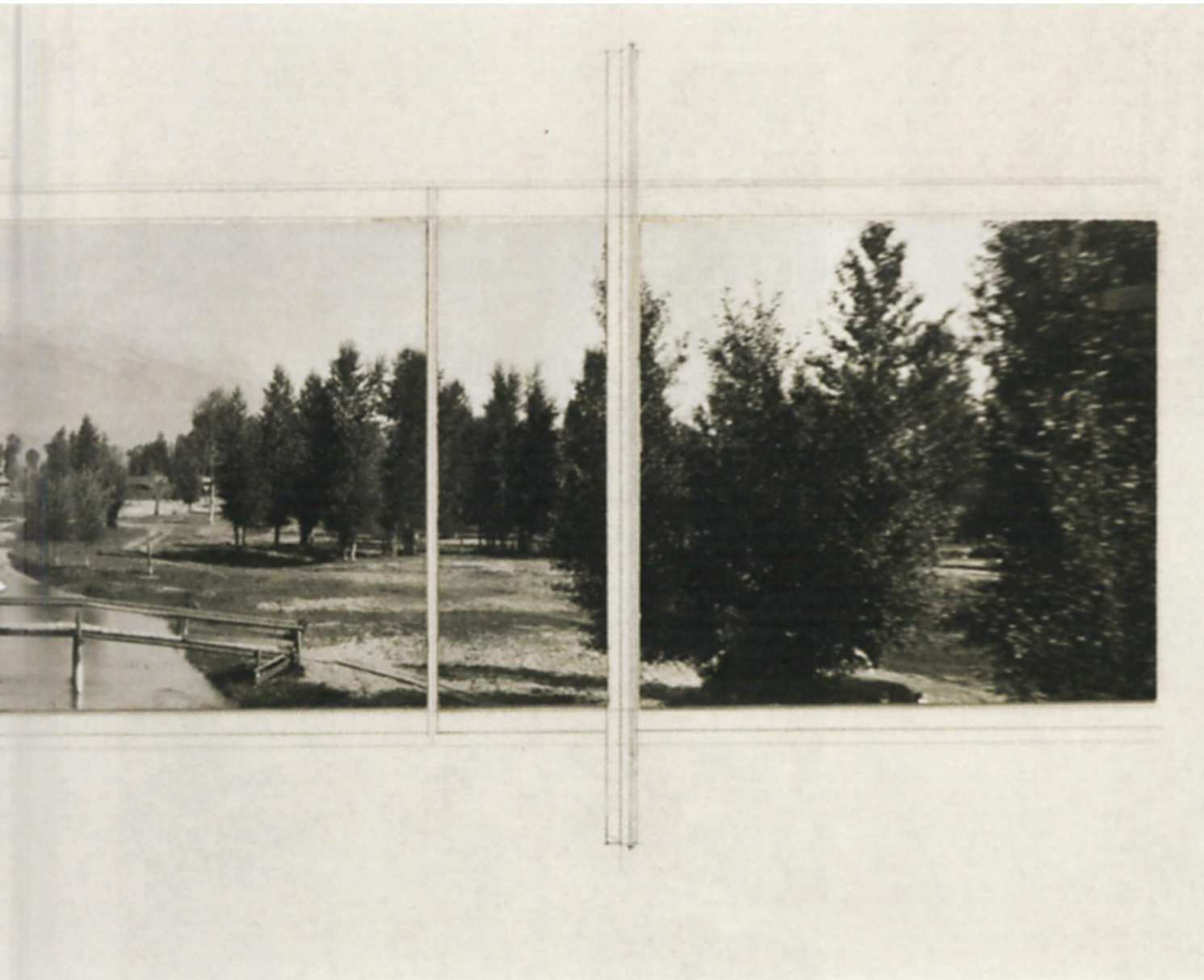


**Mies van der Rohe and Ewald Mies  
Sketches and photomontages for a  
Bismarck Monument, Bingen, 1910  
© ProLitteris, Zurich, 2010**

**Photomontages for a Bismarck Monument,  
Bingen, 1910, Rudolf Bosselt (top),  
Hans Poelzig and Theodor von Gosen (bottom)**







**Mies van der Rohe, Resor House,  
Jackson Hole, Wyoming, 1937-41  
Photocollage of interior view looking  
out onto the landscape  
© The Museum of Modern Art,  
New York / Scala, Florence**





Top:  
Raoul Hausmann, *Dada in Everyday Life*  
(*Dada Cino*), 1920 © ProLitteris, Zurich, 2010



Middle:  
Mies van der Rohe, Friedrichstrasse skyscraper  
project, Berlin, 1921-22 © ProLitteris, Zurich, 2010



Bottom:  
Mies van der Rohe, Glass Skyscraper project,  
1922, *Cahiers d'Art* 3, 1928  
© ProLitteris, Zurich, 2010

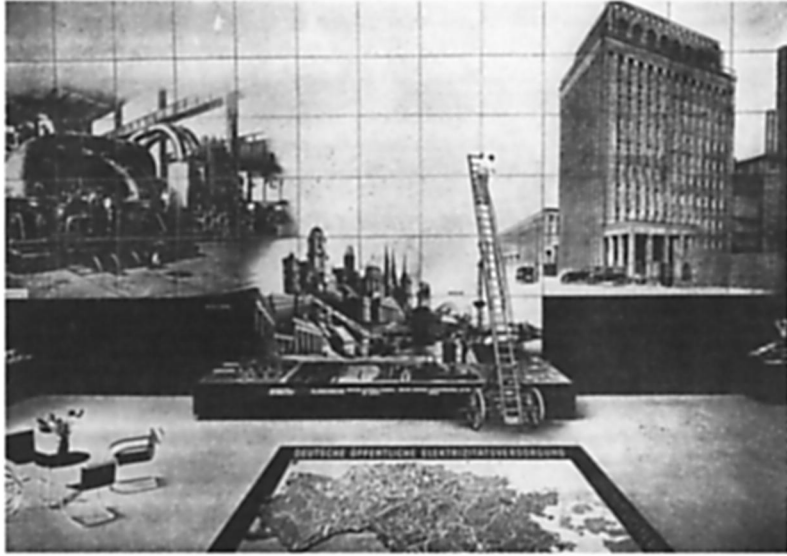


Top:  
Mies van der Rohe, IIT campus  
photomontage, Chicago, 1947  
Site photo Hedrich-Blessing  
© ProLitteris, Zurich, 2010



Bottom:  
Cover of *G* (June 1924)  
© ProLitteris, Zurich, 2010





Top:  
 Mies van der Rohe, German Electricity Pavilion,  
 International Exhibition, Barcelona, 1929  
 Interior architecture by F Schüler, photography  
 by E Blum, Published in *Die Linse*, September 1929  
 © ProLitteris, Zurich, 2010

Middle:  
 'Blossom Room' at Huyler's restaurant in Chicago  
 Mural photographs by Drix Duryea  
 From *The Architectural Record*, July 1936

Bottom:  
 Mies van der Rohe (with George Danforth  
 and William Priestly), Resor House photocollage  
 featuring Paul Klee's *Colourful Meal*, 1939  
 © ProLitteris, Zurich, 2010



**Mies van der Rohe in the dining room  
of his Chicago apartment, 1965  
Photo © Werner Blaser**

### *A Snapshot*

A photograph taken in June 1920 shows Ludwig Mies van der Rohe among the visitors to the First International Dada Fair held in the Otto Burchard gallery in Berlin. In it we see a rather well-behaved group of young men in spotless suits; the sole woman in the photograph makes the only explicit statement for 'reform' clothing with her loose skirt – she is apparently pregnant – while the checked cap of a man in the background speaks of a certain Bohemian attitude. Despite its apparent informality, what we are looking at here, however, is not a random sample of the *jeunesse dorée* of the Berlin bourgeoisie, but some of the most outspoken and ferocious critics of Wilhelmine society. The photograph is labelled on the back by the artist Hannah Höch, who identified its protagonists, from right to left, as '1. [Johannes] Baader 2. Unknown 3. Mies van der Rohe 4. [Rudolf] Schlichter 5. Wieland Herzfelde 6. John Heartfield's wife 7. Dr Burchard (host) 8. child of John Heartfield, Tom Heartfield. Himself behind (invisible) 9. [Raoul] Hausmann 10. [Otto] Schmalhausen (oz) 11. Höch.'<sup>1</sup> This image, one could argue, is of almost diagrammatic significance for the architectural culture of the Weimar Republic. Of all the artistic movements active in the republic's early days, Dada was undoubtedly the single most radical. The Dadaists' primary artistic impulse was to destroy the ossified forms of bourgeois taste and develop a new aesthetics of fragmentation. Their art reflected the traumatic experience of the war and the end of the *ancien régime* through a poetics of iconoclasm, although the initial aesthetics of negation were soon replaced by a more constructive paradigm.<sup>2</sup> However, the aims of the Dadaists went far beyond this, for art was only the primary instrument and weapon in what they saw as their real struggle, which was to radically change society. Read against this political programme, the conforming attitude of the crowd assembled in Burchard's gallery seems rather astonishing. Is this a group of political and artistic radicals indulging in the comforts of the bourgeois salon? Or is perhaps the whole Dada attitude merely a performance, a sort of petty and well-contained rebellion sprung from the nurseries of the very same Wilhelmine society they were attacking? Whatever the answer, the bourgeois and the bohemian universes do not seem to be as totally at odds with each other as the accounts of the Dada protagonists suggest. Rather, they form the dialectical but necessarily interdependent opposites of Janus-faced modern life. And Mies seems to be perfectly at ease with this.

The historiography of modern architecture has tended to associate Mies with two main issues. On the one hand he is considered to be the architect who pushed the idea of the flowing interior to its limit and thus paved the way for a modern conceptualisation of space. On the other, given his background as the son of a stonemason and his non-academic training in a vocational school, he is seen as the ultimate representative of the tradition of the master builder, a craftsman whose own architectural language emanated from his intuitive sense for materials. By contrast, the role of visual media as a key element of his architectural discourse and production has been given scant attention.<sup>3</sup> But faced with this lacuna, one can, perhaps, challenge some received perceptions, since neither truth to materials nor mastery of space seem to be the real issues with Mies. Rather, what makes his contribution to modernity so significant is his command of media and his appreciation of the fact that architecture is

# Mies Montage

Martino Stierli

primarily about representation rather than space. Indeed, Mies's fame is based to a considerable extent on the production and presentation of image architectures and architectural images – on what was often labelled, pejoratively, not least by Mies himself, 'paper architecture'. Within this context, the many photomontages and photocollages produced by Mies deserve a closer investigation, for his use and perfection of these media gave him the means – both graphic and epistemological – to revolutionise architectural representation and to elaborate his own conceptualisation of space.<sup>4</sup>

### *Collage or Montage?*

Collage and montage are generally considered to be among the chief means of representation in modernity, but many accounts fail to make a clear distinction between the two, regardless of the fact that collage and montage signify two different things. (Often, too, they are considered only from the bias of specific artistic media, such as painting, photography or literature.) Artistic collage emerged around 1910 and is closely linked to the work of such painters as Pablo Picasso or Georges Braque, whereas montage, and in particular photomontage, in the sense of a high-art practice, was 'invented' only after the First World War in the circle of the Berlin Dadaists – though the exact circumstances of this invention are subject to much mythmaking by the protagonists themselves. Importantly, (photo)montage was conceived as both extending and opposing collage. This element of opposition is most clear in the semantic allusion of 'montage' to industrial production. The motto of the first International Dada Fair read 'Art is dead! Long live the machine art of Tatlin!' Accordingly, photomontage was a response, not to romantic concepts of artistic invention, but to the new possibilities of mechanical reproduction. A formalistic reading tends to de-emphasise the political content of montage, whereas a more semantic interpretation accentuates it. Given that most of the Berlin Dada circle sided openly with the radical Left, the dialectical, content-driven impetus of their work seems evident. Montage and collage – as counter-concepts to perspectivalism – cannot simply be relegated to the field of artistic techniques, but should instead be seen as 'symbolic forms' for modernity, in a Panofskian sense.

That said, it is possible to differentiate between collage and montage on the basis of three key notions. First, the inclusion of heterogeneous elements is characteristic of both collage and montage, but their juxtaposition in the production of visual meaning is mainly the preserve of montage – contrast, rather than unity, is the source of the montage's productive power. Second, collages draw their artistic force from the inclusion of objects or their fragments from outside the confines of art; montages, on the other hand, are made up of representations – usually photographic.<sup>5</sup> Collage is symptomatic of a fundamental crisis of representation, directly presenting fragments of reality rather than representing them, whereas montage is the affirmation of the work of art in the age of technical reproducibility – hence, it embraces representation, albeit in an altered sense. Finally, montage and collage have different qualities of visuality and tactility. The inclusion of 'reality fragments' (Peter Bürger) means that collage is subject to tactile perception; montage, conversely, is not.

Mies's own architectural representations seem to fall into both of these categories. His visualisations of the skyscraper projects of



the early 1920s are based on photography and should be labelled 'photomontages', not least on account of their dialectical implications. His later images, by contrast, do not rely on the elaborate juxtaposition of individual elements and often include materials such as cut-outs of reproductions of artworks, wooden veneers or even glass panels: they should therefore be identified as 'photocollages'. It could be said that in Mies, then, the competing traditions of the artisanal and the avant-garde were brought together in a unique way.

#### *Montage Before Montage*

The famous Friedrichstrasse photomontages have led to the common perception of Mies as a lone architectural visionary who came up with a powerful means to represent his architectural ideas almost *ex nihilo*. It is possible to argue, on the contrary, that Mies's 'genius' emerges from his awareness not just of developments in architectural representation as early as 1900, but of certain vernacular traditions, particularly in late-nineteenth-century German military and popular cultures. Mies was, in other words, not the great classicist he is always thought to be, but is in fact deeply rooted within vernacular culture and, paradoxically, it is precisely his most utopian architectural visions that are the most revealing of these subconscious links to anonymous tradition.

The earliest instance of the use of photomontage in Mies's *oeuvre* dates back to one of his first known projects: his entry, alongside his brother Ewald, in the 1910 competition for a national monument honouring Bismarck on a site overlooking the Rhine at Bingen. Two photomontages have survived, both of which show the project embedded into the context of the Rhine valley's romantic landscape. One of them displays the design as seen from the riverbank, looking up at its elevated hillside location; the other is from a much closer viewpoint, along a fictitious approach on a nearby footpath. Both visualisations combine a photograph of the site with one of the models produced for the competition, the second image being augmented by watercolour. A sketch indicates the three different segments out of which the final montage was assembled. On both of them, two forms of image manipulation can be distinguished: drawing onto or overpainting photographs, and the basic collage/montage technique of cutting and pasting image fragments. The organising committee had provided all of the competition participants with photographs of the landscape, so it is not surprising that a number of other entrants also submitted photomontages.<sup>6</sup> As a matter of fact, the competition brief asked not only for various plans and sections, but specifically requested 'perspective views, inserted into exposures [of the building site] to be obtained from the committee'.<sup>7</sup> While photomontages in the strict sense of the term were not required, the manipulation of photographs was apparently already a common practice, and Mies may well have been aware of such image manipulation techniques through his father's stonemason's workshop.<sup>8</sup>

Retouched or cut photographs were widely used in architectural representations as early as the 1890s, very often with a manipulated or deleted background.<sup>9</sup> So-called '*machine retouche*' (*Maschinenretouche*) was frequently employed to isolate photographed objects from distracting backgrounds or nearby buildings<sup>10</sup> – a strategy reminiscent of the nineteenth-century conservation practice of isolating monuments from their apparently unworthy surroundings, in the sense of 'constructive destruction'. Graphically manipulated photographs were also used to illustrate the impact of a projected building on the existing cityscape or landscape. The earliest known example,

from 1899, shows the design for a new castle at Hohenaschau by the Munich architect Friedrich von Thiersch.<sup>11</sup> When Mies was employed briefly in Bruno Paul's office in 1907, he worked as a draughtsman for Friedrich's nephew Paul, who recommended him to Peter Behrens, where he had been the office manager before.<sup>12</sup> Mies may very well have first come into direct contact with such new forms of architectural representation through Thiersch's office. In contrast to Thiersch's visualisations, however, Mies's depictions of the Bismarck monument are photomontages in the proper sense, since they combine different photographs in a single image. His early use of this technique appears to be quite unparalleled at the time, and becomes all the more striking when one considers that the 'invention' of photomontage is usually attributed to postwar Berlin Dada circles. In any case, the official genealogy of photomontage is a little unclear, as the manipulation and montage of photographs dates back to the inception of the new medium in the mid-nineteenth century. In 1858, for example, the British photographer Henry Peach Robinson produced a work titled *Fading Away* based on a montage of five individual negatives. Already by the end of the nineteenth century there was a popular tradition of vernacular photomontages, in the form of comic postcards, private albums and military mementos.<sup>13</sup> That the Dadaists were familiar with this tradition is affirmed by a 'work' (an *objet trouvé*, to be more precise) signed and labelled by Hannah Höch as 'The Beginning of Photomontage' ('Der Beginn der Fotomontage'). The Dadaists deliberately referred to such artefacts from popular culture in order to irritate and challenge received conceptions of art. Avant-garde montage, it seems, has more in common with eclectic image practices than is generally presumed – a fact clearly demonstrated by Mies's Bismarck monument montages.

Generally speaking, early examples of architectural photomontages seek to achieve the maximum visual integration of the project into its scenic or urban context. The point of using this then state-of-the-art representational technique was not to contrast the individual fragments or elements but, on the contrary, to integrate them, so as to smooth out the inconsistencies in the images. Nevertheless, the Aristotelian unities of place and time, normally a given in photography, are transgressed since a number of different vantage points and levels of reality are integrated into a single depiction.<sup>14</sup> The aim is to induce in the observer a kind of 'reality effect', to borrow Barthes' term. But appearances can be deceptive: with photomontage, the idea of even mechanical representation seems to have come to an end, for what it offers is truly virtual. Photomontage turns out to be the historical forerunner of digital rendering practices in which the boundaries between reality and fiction are increasingly blurred.

#### *The Dada Encounter and the Berlin Skyscraper Projects*

Even if Mies experimented with photomontage at an early stage, a clear shift of intention in his use of the medium can be discerned from the early 1920s, starting with his famous designs for the Friedrichstrasse skyscraper competition and a glass skyscraper. This shift, one could argue, is directly linked to his association with the Berlin Dadaists and his adoption of their image politics. In 1919 Mies is supposed to have had a cathartic experience which fundamentally changed his outlook on architecture: the rejection of his entry for the 'Exhibition for Unknown Architects' ('Ausstellung für unbekannte Architekten') organised by Walter Gropius. Mies had submitted his 1912 project for the Kröller-Müller house in Wassenaar in the Netherlands, an unbuilt commission inherited



from his former employer, Peter Behrens. That he resorted to a pre-war design cannot be explained solely by his military service from 1915 to 1918, but seems to mirror a real productive crisis. Gropius's refusal of the project came as a wake-up call. According to Mies's own account, he was told: 'We can't exhibit it, we are looking for something completely different.'<sup>15</sup>

However, it is questionable whether the radical shift in Mies's *oeuvre*, epitomised by the famous 'Five Projects' of the early 1920s, can be attributed to this experience alone. Rather, it is striking how Mies – up to then an inconspicuous and little-known architect – all of a sudden developed an interest in avant-garde art practices. The importance of this exchange with these artists was something Mies himself emphasised retrospectively. According to Gene Summers, who questioned him about the reasons for his epiphany, 'He had just gotten back to Berlin where so many things were happening in the arts. I am not sure that these were the exact words, but that was the meaning: He said, "I knew that I had to get on with it. I had to make this change".'<sup>16</sup>

As indicated in the snapshot from the 1920 Dada Fair, it was above all the Dadaists who Mies turned to for inspiration. Their prime field for artistic experimentation and expression was photomontage, which they structured as a direct reflection of their aesthetic and political goals. Rejecting traditional aesthetics, and the idea of the work of art as an organic whole, they committed themselves to an aesthetics of selection and assemblage. Another constitutive aspect of montage was its valorisation of the sometimes violent contrasts effected by the assemblage of disparate materials, media and fragments.<sup>17</sup> The Dadaists were initially only concerned with destruction and fragmentation, but soon investigated a new semantics based on juxtaposition.<sup>18</sup> For them, photomontage was not merely a means to represent the industrialised metropolis and its fragmented perception but also a heuristic model for the production of visual meaning. The First International Dada Fair held in Berlin in June 1920 was the first time these new possibilities could be presented to a larger audience. The profound transformation in Mies's architectural language that took place at precisely this moment is clearly a result of his confrontation with Dadaist pictorial grammar. Only through Dada did he learn to understand photomontage as an epistemological tool – an understanding which had direct consequences for his architectural thinking.

Mies's exposure to Dada was largely through his close friendship with Hannah Höch, who was surrounded by a group of artist friends including Kurt Schwitters, Hans Arp, Theo van Doesburg, László Moholy-Nagy and Raoul Hausmann, most of whom Mies also knew personally. His closeness to Höch is affirmed by the fact that he helped her obtain a visa for a journey through Italy in 1920, a trip that proved significant both artistically and personally.<sup>19</sup> On 31 March 1925, when Nelly van Doesburg and Kurt Schwitters gave a joint performance in the house of a Mrs Kiepenheuer in Potsdam, Mies drove Höch there in his car. Höch marks this as 'a memorable day' in her diary: it was most likely the very first public performance of Schwitters' sound poem *Ursonate*, a montage of a stupendous sequence of rings and tones that broke down the boundaries between language and music and relied considerably on improvisation.<sup>20</sup>

Schwitters seems also to have held Mies in great esteem, as he dedicated one of the secret 'caves' in his legendary Hanover Merzbau to the architect, an honour reserved for a select number of friends and prominent figures in the Weimar Republic.<sup>21</sup> Conversely, Mies's

admiration for Schwitters is confirmed by his collection of collages by the artist, a dozen of which he kept in a special cabinet in his otherwise sparsely furnished Chicago bedroom.<sup>22</sup> Besides this, Mies's glass skyscraper project was published in the double 'Nasci' issue of Schwitters' *Merz* journal, co-edited by El Lissitzky. In return, Schwitters contributed to *G* magazine, where Mies played a prominent role. Their mutual friendship is also endorsed by the fact that Mies supplied information on the artist for Robert Motherwell's anthology on the Dada painters and poets, providing several anecdotes about Schwitters' life.<sup>23</sup>

Schwitters had become aware of collage and montage as a new means of artistic expression in around 1918 through Herwarth Walden, the Berlin gallery owner and patron of the German avant-garde. This discovery had a decisive impact: the collage, montage and assemblage of found objects and all kinds of waste gathered from the streets of the city immediately became a key mode of his work. Schwitters had sought to be included in the Berlin Club Dada but was rejected, as the group feared he was too conservative.<sup>24</sup> His peculiar position between the avant-garde and the (petty) bourgeoisie was particularly detested by Richard Huelsenbeck and George Grosz, but was less of a concern to Hausmann and Höch, who saw in him both the 'veritable artist who gave himself over to art up to self-sacrifice' and the 'perfect Babbitt' ('*Spießler*').<sup>25</sup> This rejection led him to withdraw to his hometown, Hanover, where he established his own artistic practice and original take on Dada that he named, with some irony, 'Merz', short for 'Kommerz' (German for 'commerce'). But while Schwitters embraced the Dadaist practice of montage and collage, sharing their interest in the ruins – and pungent critique – of prewar bourgeois society and in the metropolis as both a symbolic form and an artistic repository for modernity, his approach was less dialectic than that of the Berlin Dadaists. Rather, the collages he produced had a strong sense of materiality and a memorial quality – resonating as artistic digests of the modern metropolis as much as they were reminders of a certain transience, in the tradition of the still-life.<sup>26</sup> Through them, Schwitters pursued the poetics of the *objet trouvé* and the aesthetics of the ugly and ordinary. He also used collage as a vehicle for extending the two-dimensionality of the image into space, very much in line with El Lissitzky's contemporary claim that his 'Prouns' were the 'transfer station from painting to architecture'.<sup>27</sup> The work of Schwitters makes it clear that in German artistic discourse around 1920 montage and collage were scarcely universally agreed concepts, but were subject to much heated debate.

Mies, being a keen observer of these disputes, must have been well aware of the potential of montage and collage techniques for the discourse, representation and production of architecture. What he shared with the Dadaists was a fundamental investigation of the modern metropolis as the symbolic form of a new cultural paradigm. But in between the political agitation of the Berlin Dadaists and Schwitters' more descriptive mode of commentary, Mies chose a middle way, which drew its power from a strong belief in change through technological progress, a fact that also manifested itself in his use of then state-of-the-art representational techniques. Photomontage served him as both a frame for study and a means of representing an architectural idea.

Unlike the heterotopic and fragmented handling of space in Dadaist montages or architectural visualisations such as Paul Citroën's famous *Metropolis* series, Mies's Friedrichstrasse photomontages do not break up the consistency of the image space but

remain committed to an illusionistic perspectivalism. In contrast to his own early montages for the Bismarck monument, however, the dialectic principle is now applied purposefully in order to produce a strong pictorial assertion. Rather than integration, these visualisations seek an overt display of difference between project and (urban) context. In the photographs of the model of a glass skyscraper – a project Mies apparently worked on for purely theoretical reasons – the strategy of juxtaposition is exaggerated to the point of caricature. The doughy appearance of the plaster models of characteristic Wilhelminian houses seems to refer less to the real architecture of the metropolis than to expressionist stage-sets such as Hans Poelzig's design for *The Golem* from 1920. Set against the skewed bulk of the houses, the translucent skyscraper appears almost as a sacred vision of light, a monstrosity in the constricted space of the historic city. In contrast to the translucent volume, the row of houses is not executed as a three-dimensional model, but as a two-dimensional backdrop, in the spirit of a film set. It is clearly intended for photographic representation, for the production of a film still, so to speak, in which the skyscraper is the sole *dramatis persona*. Mies clearly played on these different dimensionalities as a further mode of his dialectic approach to architectural representation.<sup>28</sup>

Again, it should be noted that architectural discourse around 1900 had prepared the ground for such operations. Mies's avant-gardism, one could argue, was very much a consequence of turn-of-the-century German aesthetics. His contrast of old and new takes up a key topic of pictorial discourse in German architectural debates of this period, which liked to juxtapose allegedly 'good' and 'bad' examples – as demonstrated by Paul Schultze-Naumburg's *Kulturarbeiten*. This mode of polemical visual argumentation goes back to A W N Pugin's 1836 *Contrasts*, which paired images of towns in different historical periods in order to prove a supposed historical and architectural decline since the Middle Ages. This comparative method was adopted by German architectural discourse, and was particularly favoured in *Heimatschutz* circles around 1900, and as a way for conservative commentators to express their concern about the impact of industrialisation and modernity on urban culture. Mies effectively reversed this argument with his visual polemic against the appearance of the historic city. However, his meticulous approach to setting his skyscraper visions against the traditional city seems to suggest that he was striving for a synthesis rather than mere polemics. The aesthetic rupture is considered not as the problem, but the solution. Mies's montages thus anticipate the concept of the 'Collage City' that Colin Rowe and Fred Koetter developed into an urbanistic *leitmotif* throughout the 1970s, arguing that the contemporary city, with its historically caused palimpsest-like ruptures, was a sort of involuntary collage.<sup>29</sup>

The famous charcoal drawing of the Friedrichstrasse skyscraper is illuminating in another respect. Mies was apparently not at all concerned with Le Corbusier's definition of architecture as the 'masterly, correct and magnificent play of masses brought together in light'.<sup>30</sup> Rather than clarity, blurring seems to be his ultimate goal. Here, Mies seems to mimic the aesthetic practices of turn-of-the-century photography and in particular the pictorialism of Alfred Stieglitz or Edward Steichen, which took painting as a key point of reference. At the same time, the charcoal drawing is also reminiscent of the frottage technique employed by Max Ernst, a method derived from collage.<sup>31</sup> Mies thinks not in terms of volumes, but in a pictorial frame. In this sense, he is acting not as an architect but as

an artist. It could be argued therefore that the montages serve as a sort of intermediary step in Mies's visualisation of an architectural idea. However, the large dimensions of the two extant sheets clearly speak a different language. As Mies understood modernity as the age of media, and modern architecture, by extension, as a matter of representation, these montages were explicitly produced for the purpose of public display.

Although the Friedrichstrasse project pretends to be part of a larger urban setting, any connection between everyday life and the realm of visionary architecture is decisively severed. This is particularly evident in the way the glass volume is tied to the ground. While the charcoal drawing makes a point of contrasting the vertically looming, lucid volume against the dark horizontal plane of the street, the two photomontages showing the project from the north skilfully conceal the relevant intersection from the observer. In both cases, the zone at the foot of the building is hidden behind a construction wall plastered with advertisements, as if to stress the contrast between the realm of architecture and the urban everyday. In a third montage showing the skyscraper from the south, it is a passing car that acts as a visual barrier. The Friedrichstrasse skyscraper thus becomes an inaccessible manifestation, a phantom that seems to float, disconnected, above the urban chaos. It is a sacred manifestation rising out of profanity. The lack of any continuity between the sanctuary of art and architecture and the banalities of everyday life appears to be not so much a coincidence as a key concept of Mies's architectural thinking. Thus, his project for the remodelling of the Alexanderplatz in Berlin, for example, is located within its specific urban context but any communication between the two spheres is denied – and most dramatically in the foreground, where Mies' design clashes brusquely with the existing urban tissue. This montage attitude becomes even more outspoken in his masterplan for the Campus of the Armor Institute, where the entire site seems elevated on a pedestal. The relationship of all these projects and buildings to their context consists in 'being at odds with it'.<sup>32</sup> Much as the Dadaist photomontages fundamentally questioned monocular image space, Mies's montages took a stand against the traditional homogeneous image of the city, aiming to convey the logic of photomontage to real urban space. This urbanistic ideal would have been unthinkable without his encounter with the Dadaist aesthetics and politics of montage, which also provides the foundation for the only plausible explanation of the transition from an early integrative aesthetics to a dialectical conception. Through the latter, Mies led the way to understanding aesthetic tension as a quality that could be made productive for architectural and urban design.

#### *A Cinematic Concept of Montage*

Montage is as much a cinematic as an artistic aesthetic concept. Given Mies's associations with the German film avant-garde of the 1920s, it seems that his continued interest in the visual possibilities offered by the new medium is reflected not only in his architectural representations, but in his architectural thinking generally. Clearly, early film and film theory had a widespread impact on artistic practice. The influence of (Soviet) film theory on the Berlin Dada group in particular is evident in Hausmann's early photomontage titled *Synthetic Cinema of Painting*. Whereas a nascent Hollywood employed montage as a mere technical device for the production of films, Sergei Eisenstein, Dziga Vertov and other Soviet filmmakers saw it as an epistemological device for the production of meaning.<sup>33</sup>



In his 1942 book, *The Film Sense*, Eisenstein described the nature of such montage as 'the fact that two film pieces of any kind, placed together, inevitably combine into a new concept, a new quality, arising out of that juxtaposition'.<sup>34</sup> Contrary to conventional 'continuity editing', this 'intellectual' montage causes the spectator to mentally combine seemingly unrelated images in a sequence whose meaning goes beyond that of the individual images. The effect was discovered and theorised by – and subsequently named after – the Soviet filmmaker Lev Kuleshov. Hans Richter, a decisive figure in introducing Soviet film theories into German discourse of the 1920s, described it in this way:

*The decisive step from the idea of 'musical rhythm' to the method of montage was taken by Kuleshov... He too experimented with an 'accidental' addition of individual sequences without any initial relation to each other. In doing so, he noticed something other than just musical rhythm, namely that this releases a process triggered by the nature of the human brain, which defines the respective meaning of two (or more) sequential events... Kuleshov concluded that film directed the imagination of the spectator through image combinations and this was not only caused by the actors' gestures ... but by the art of combining sequences, that is, montage.*<sup>35</sup>

The most relevant aspect of Eisenstein's writings in relation to Mies and to avant-garde art and architecture in general is not so much his groundbreaking contribution towards the definition of film as an autonomous art form, as his fundamental rethinking of the very idea of the image. Eisenstein developed his theory of the image under the heading of 'cinematism', a term that mirrored his search for the proto-cinematic in art and architecture. Above all, Eisenstein's concern with incorporating time and temporality into the concept of the image led him not only to fundamentally question the received notion of the image as a static entity, but to start understanding aesthetic perception as a sequential process. These thoughts very much challenged the basis of received aesthetic theory since Lessing and Kant.<sup>36</sup> It is striking that Paul Klee simultaneously pursued a very similar idea in his *Pedagogical Sketchbook*, writing: 'the eye must "graze" over the surface, sharply grasping portion after portion, to convey them to the brain which collects and stores the impression'.<sup>37</sup> The writings of both Eisenstein and Klee may be seen as indications of a new, fundamentally different image theory that is based on temporality and differs radically from traditional thinking. This paradigm shift also had a profound impact on the concept of the architectural image, of which Mies's photomontage may be read as a prominent example. As Phyllis Lambert has argued, his habit of producing a series of photomontages of a single design from different viewpoints can be seen as a cinematic approach to space, since it implies movement and sequential perception and, consequently, the 'montage' of individual visual impressions into a coherent image in the mind of the observer.<sup>38</sup>

Mies's keen interest in avant-garde cinematic experimentation is evidenced mainly by his close association with the artist and filmmaker Hans Richter, who he got to know in 1921 through Theo van Doesburg, and his colleague and friend Viking Eggeling, co-founder of *G: Material zur elementaren Gestaltung* in 1923, one of the leading European avant-garde journals in the 1920s. The journal covered all categories of creative production, from photography, typography, design and fashion to architecture and urban design, but featured trends such as sports or jazz as well, in line with its founders' belief that modern artistic production was universal, extending beyond the

confines of the traditional disciplines. Mies contributed both intellectually and financially to the journal from 1923 to 1926, and his studio became one of the main meeting points for the editorial staff during this time.<sup>39</sup> According to Richter's recollections, he was not just any collaborator; rather, 'his person, his work and his active collaboration was more indispensable and decisive for *G* than all of the others'.<sup>40</sup> *G* assembled a group of post-expressionist artists and intellectuals from various fields, among them figures such as Walter Benjamin, George Grosz, Raoul Hausmann and Ludwig Hilberseimer. Most of them shared a constructivist, anti-subjectivist approach based on their conviction that art should merge with science and engineering: they considered artistic production as the equivalent of industrial montage or capitalist production. Mies's contribution to the third issue of *G*, dating from June 1924, affirmed this productivist stance, arguing for standardised and industrialised 'montage' fabrication.<sup>41</sup> It seems that Eggeling, along with Richter, as the two champions of early German abstract constructivist film, were pivotal in triggering Mies's interest in the cinema and its conception of space based on montage. In his memoirs, Richter mused on the musical and cinematic quality of Mies's plans: 'The plans ... looked indeed ... like music, just that visual music we were talking about, which we were discussing, working on and realising in film. This was not only a plan, this was a new language – one that seemed to unite our generation.'<sup>42</sup> Richter understood modern architecture not as an autonomous discipline but as a symptom of a greater concept, manifested as a sort of 'visual music' across different fields of contemporary visual culture. His (and Eggeling's) abstract filmic compositions were based on a governing principle that Richter called *Rhythmus* – a principle, as Gilles Deleuze pointed out, fundamentally different from Eisenstein's dialectic conception of montage.<sup>43</sup> Richter characterised *Rhythmus* as 'articulated time', which he saw as 'the elemental quality of film and its inner structure'.<sup>44</sup> But he also made it clear that he considered montage as proposed by Kuleshov and Eisenstein, as a further, decisive step derived from the idea of musical rhythm.<sup>45</sup> If Richter's theorisation of cinematic aesthetics did not directly link up with Mies's preoccupation with montage, his effort towards a conception of a time-based sequential image certainly did. Needless to say, rhythm had been a keyword in German architectural theory and aesthetics around 1900, helping to establish space as a leading category in the theorisation of architecture.<sup>46</sup> This is particularly clear from the writings of August Schmarsow, whose conceptualisation of architectural space directly anticipates Mies's own thinking on the subject.

A final affirmation of Mies's affinity to film and the cinematic is evidenced by his role as a board member of the German League for Independent Film. His friend Richter had founded something of a predecessor to the league – the so-called New Film Society – as early as 1926–27.<sup>47</sup> Its programmatic aim was to advocate experimental film that explored the artistic possibilities of the medium, rather than playing to a mass audience. The society was short-lived, but through it Richter met Eisenstein personally for the first time. In 1930 he then went on to found, together with the lawyer Otto Blumenthal ('Bental'), the German League for Independent Film, which had more openly controversial aims: 'Against the taste dictate of the corporations! ... Against the subjugation of artistic creation to open or disguised censorship! For artistic, independent film as expression of the time! For a straight representation of reality! For the absolute freedom of word and image!'<sup>48</sup> The rhetoric for artistic

freedom and experimentation was as strong as the commitment to political engagement. The League's programme consisted mainly of Sunday morning screenings at the Rote Mühle theatre on Berlin's Kurfürstendamm. However, it too was only to survive for a short while, becoming inactive after Richter left Germany in 1931. That Mies would lend himself to this association confirms his continuing interest not only in cinema and its heterotopic, montage-based spatiality, but also in the aesthetic and political aims of the avant-garde. The political opportunism he demonstrated in the 1930s completes the image of a complex, ambiguous and sometimes contradictory personality, which earned him the soubriquet 'the Talleyrand of modern architecture.'<sup>49</sup>

#### *Plane vs Space*

Whereas Mies's earlier montages had primarily shown his projects within an urban or scenic context, the 1930s were marked by a decisive shift to interiority that manifested itself in his architectural representations. The most visible sign of this recalibration is Mies's preoccupation with an altogether new building type, the courtyard house, which he studied intensely around 1934–35. This new perspective is perhaps most clearly illustrated in Mies's first American commission, his designs for the Resor House in Jackson Hole, Wyoming of 1937–38, or his similarly unbuilt 1942 competition entry for a Museum for a Small City. If Mies's architecture can be likened to a stage upon which an architectural idea is performed, then the Resor House marks the point at which the observer, formerly kept at a distance, is allowed to enter the stage and become an actor.<sup>50</sup> Rather than extending his exploration towards the refracted spatiality of the avant-gardes, Mies decisively returns to the scopic regime of linear perspective. It is notable, in this regard, that Vitruvius in *De architectura* appears to refer to the scenography of ancient drama as an early form of a system of perspective.<sup>51</sup> Mies's perspectival photocollages clearly comment on and affirm not only this theory of the birth of perspective out of scenography, but also the notion of architecture as a stage. His insistence on conical perspective and his refusal to visualise his architecture through other techniques such as the axonometric underscores his understanding of architecture as primarily a visual medium perceived by the eye. Against the all-encompassing panorama of a sublime landscape, the architectural design is reduced to an almost invisible perceptual device, a few lines forming the merest indication of spatial confinement, rendering architecture an almost invisible perceptual device. The pictorial dimension of the landscape is reinforced through being employed as a frame for a scenic outlook, and transformed simply into an image of itself. As with the linear perspective of early modernity, the ultimate goal is to construct a mechanism that suggests *virtual* depth. The minimalist tropes and the rhetoric of abstraction should not distract us from the fact that Mies's photomontages of interiors are transformations of the gaze afforded to the observer in nineteenth-century panoramas and dioramas – popular devices of forgetting and deception that similarly combine an illusionist representation of a scene with the reassurance of being placed in the calm eye of the storm, beyond time and history. As if to enforce this aestheticising transformation of exterior space into a panoramic vista, the landscape represented in one of the Resor photocollages has nothing to do with the situation found *in situ*, but is based on a reproduction from a popular source – a movie poster, which further illustrates Mies's interest in the cinema as a device for

projecting an illusionistic space. Nowhere is the claustrophobic effect of Mies's spatiality more evident than in this visualisation, which denies us any redemption through a visible horizon line. A recent study by Dietrich Neumann has shown that Mies and his partner Lilly Reich were working together with Walter Peterhans at this time on the patents for a mechanical apparatus for the production of wallpapers depicting illusionistic landscapes based on photography.<sup>52</sup> Is it too daring to conceive of the Resor interiors as entirely enclosed spaces whose back window does not give onto an exterior space but rather its illusionistic representation? The photomurals that Mies used as early as 1929 in his Barcelona Pavilion are telling in this respect. While the abstract, nondescript boxy exterior comments on the immaterial labour of the neo-technical age of electricity, the interior draws on nineteenth-century cultures of spectacle such as panoramas and dioramas and other proto-cinematic devices, except for the fact that Mies used photomurals based on montage rather than a continuous visual narration. The architecture is not an end in itself, but serves as a mere container for a pictorial representation. The architect has turned into a curator or, perhaps, a scenographer. With regard to Mies, the 'vertigo of universal extension' is, as Robin Evans noted, counterbalanced by the 'claustrophobia of living in a crack'.<sup>53</sup> Only two conclusions seem possible: we either find ourselves masters of the totalising gaze in the centre of the panopticon, or unconscious victims of an escapist dream. While the champions of criticality have seen in the 'silent theatre of the world' staged in Mies's architecture a fundamental critique of capitalist consumer culture and its impact on the architectural profession, these observations make it clear that Mies's architecture is really precisely the opposite: it is an architecture of forgetting.<sup>54</sup>

In many of his later photocollages Mies used parts of reproductions of paintings by artists such as Paul Klee or Georges Braque – a reference that seems at first sight to revoke the dogma of the 'naked wall' that he along with Gropius had espoused in the 1920s, and that Bruno Taut had voiced as late as 1931 in his article 'Der Schrei nach dem Bilde' ('The Cry for the Image').<sup>55</sup> However, what Mies was propagating in his photomontages was not the traditional painting hung on the wall as an outlook onto a visionary world but, on the contrary, the use of paintings as solid elements to divide up the space in the manner of a wall. A sense of how this was intended to look can be gained from the hanging system that Mies devised for the Cullinan Wing Addition of the Museum of Fine Arts in Houston (1954), or from the Neue Nationalgalerie in Berlin (1962–68), where paintings seem to float in space and take on the function of spatial dividers. Mies thus executed a double inversion: what had traditionally been a window to a virtual reality becomes architecturally manifest; what would normally be an outlook onto a real landscape is transformed into its illusionistic representation.

Perhaps the most striking feature of Mies's photocollages of this period is their layering. His use of linear perspective is not an end in itself, but a means to arrange flat pictorial surfaces one behind the other in parallel order. The use of collage, with its inherent qualities of overlapping and layering, seems particularly suited to the representation of such a spatial concept. Rather than breaking-up the two-dimensional picture plane as a means to push the image into space – the typical strategy of artistic collage – Mies's peculiar insistence on absolute frontality and flatness reinforces two-dimensionality. The earliest instance of such a changed conception of (interior) space goes back, again, to collages executed for the courtyard house



studies of 1934–35 and to drawings for the Ulrich Lange House. As opposed to the persistent rhetoric of flowing space as first advocated by Philip Johnson and Ludwig Hilberseimer,<sup>56</sup> this space does not extend outwards, beyond the confines of the interior, but ends abruptly where the large window opens up a panoramic outlook. The dichotomy of space and wall, of static and dynamic, may be traced back to Theo van Doesburg's theory of elementary architecture based on planes, as developed in his text 'Zur elementaren Gestaltung' published in the first issue of *G*.<sup>57</sup> Mies's design for a Brick Country House from 1924 could be seen as the first example of a building based entirely on the free disposition of wall slabs.<sup>58</sup> However, unlike this early project, the later photocollages do not rely on the immanent three-dimensionality of nodes or orthogonal axes of coordinates, but are based solely on the parallel layering of individual planes. Here two-dimensionality is treated not as a surrogate for space, but as its very condition.

Mies's specific implementation of such a concept of space based on the layering of planes should be seen in relation to the writings of the German art historian August Schmarsow, who is generally considered the progenitor of the spatial paradigm in modern architectural theory.<sup>59</sup> Contrary to popular belief, Schmarsow's thinking cannot be reduced to the formula 'architecture equals the art of space'. Rather, for Schmarsow, the unfolding of space in the perception and experience of architecture is closely linked to the effect of perspective. 'Therein lies the mysterious charm of the perspectival vista', he writes in 1896, 'The static remote view invites the eye to stay with it in the planar surface, but its renewed enervation provides the stimulus to move forward with the gaze'.<sup>60</sup> In other words, space, whether in painting or architecture, is perceived as a succession of images that is dependent on virtual or real movement. Architecture relies on movement, on being experienced as a temporal succession of visual impressions or images, and bodily movement serves to generate such a sequence of images – or what Schmarsow calls a 'chaining of images'.<sup>61</sup> Even though Schmarsow insists on bodily movement as a prerequisite for the perception of architectural spatiality, his emphasis on image sequences seems to anticipate a cinematic experience. His notion of space is based on the dialectics of space and image, flatness and depth, and it is from this very tension that Mies's photocollages draw their meaning and impact. Schmarsow's theories were of course widely known in German aesthetic and architectural discourse.<sup>62</sup> By the 1920s, his contention that the very nature of architecture lay in the creation of space had become commonplace, and there is no doubt that Mies was aware not only of the genealogy of this idea, but also of Schmarsow's conception of space as a successive layering of images. Seen in this light, Mies's photocollages of interior spaces appear as late visualisations of turn-of-the-century aesthetic theories.

#### *Pictures on the Wall*

A well-known photograph shows Mies towards the end of his life in his Chicago home. It is 1965 and the architect is seen reclining on a cantilevered chair of his own design and in a world he has created. Everything is well balanced; it seems that no element of the composition, not even the glass ashtray on the table, could be taken away without ruining the overall impression of calm and repose. In contrast to the anonymous snapshot from the 1920 Dada Fair, this is a carefully staged portrait photograph taken by Werner Blaser. If the earlier picture had indicated a rebellion, by 1965 Mies has returned to the

relaxed and contented pose of the well-to-do bourgeoisie. It is remarkable that Mies – by this time the most influential and successful living American architect – apparently prefers to live in a traditional brownstone apartment block than a house of his own design. In the background the paintings and collages by Kurt Schwitters and Paul Klee no longer stand for an artistic and social revolution, but are neatly hung on the walls in well-matched frames. Mies only started collecting art after he moved to the United States in the late 1930s. What, then, are we to make of these images? Do they have the function of a memorial: are they virtual windows that afford a melancholic vision of a long-distant past? Whatever we make of them, the revolution has been domesticated. The aims of the avant-garde have been consumed and their artworks have become collectable commodities.

What is significant with regard to Mies's thinking on the relation between image and space is the fact that these images – modern works of art – are displayed in a pre-modern interior or, one could say, they are 'montaged' against the traditional panelling of the walls. Once again we see contrast, the breaking up of a predominant spatial order and the juxtaposition of the pre-modern 'order of things' with a pictorial counter-conception. This configuration would not be possible in one of Mies's designs of steel and glass, as the display techniques employed at the Cullinan Wing Addition or the Neue Nationalgalerie illustrate, firstly for practical reasons – there are hardly any walls to hang pictures on – but, more importantly, for conceptual and aesthetic reasons as well: where a new spatial order is already in place, a visual representation of it, in the sense of a virtual outlook, is no longer necessary or sensible, for it would lead to an aesthetically unbearable tautology.<sup>63</sup> Mies's portrait photograph indicates that he was very aware of this representational logic. The brownstone apartment turns out to be less opaque and contained than it at first seems. It affords a vision of a different visuality and spatiality, as represented in the collages hanging on the wall. It becomes transparent. Mies's apartment is in fact the synthesis of the two great themes of his avant-garde career: the opacity of the brick house and the transparency of the glass house.

But if Mies's is an architecture of forgetting, then what, ultimately, is being forgotten? Not that the architect had to become a furniture designer and develop patents in order to earn his living before he could build on a big scale. Not that he became a curator who arranged flat picture planes in space. Not that he owed much to the visual and spatial experiments and conventions of the avant-garde, which he had first to domesticate in order to make them palatable to his clientele. Not that space is not an end in itself, but only a means for display and performance. Or that Mies never longed to be an outsider, but to be at the centre of society, respected by everyone: his role was not the bohemian, but the bourgeois. Rather, what is forgotten in all this is the figure of the architect. The 1965 portrait makes it quite clear that the architect no longer has a vital part to play in society, and that his hopes and aspirations are restricted to a private realm of elegiac memories. Again, Mies seems to be perfectly at ease with this. The only question is whether in his contentment he is performing a comedy or a tragedy on the death of the architect under late capitalism?

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1. See Hannah Höch, *Eine Lebenscollage*, vol 1, 2nd section, 1919–1920 (Berlin: Argon, 1989), pp 674–75. For a recent, detailed account of Mies's connection with the Berlin avant-garde circles see Detlef Mertins, 'Architectures of Becoming: Mies van der Rohe and the Avant-Garde' in Terence Riley and Barry Bergdoll (eds), *Mies in Berlin* (New York: The Museum of Modern Art, 2001), pp 106–33.
2. K Michael Hays discussed the 'critical' potential of Dadaist photomontage as opposed to constructivism, but his argument seems hardly plausible because he, very much in the tradition of Adorno's negative dialectics, equates 'critique' with 'negation', thereby implying that any constructive impulse automatically leads to affirmation and ultimately commodification. See K Michael Hays, 'Photomontage and its Audiences, Berlin, Circa 1922', *Harvard Architecture Review* 6 (1987), pp 18–31. For a different, synthetic reading of the relationship of Dada and constructivism see John Elderfield, 'On the Dada-Constructivist Axis', *Dada and Surrealist Art* 13 (1984), pp 5–16.
3. See Beatriz Colomina, 'Mies Not', in Detlef Mertins (ed), *The Presence of Mies* (New York: Princeton Architectural Press, 1994), pp 192–221.
4. The extraordinary status of photomontage in Mies's architectural representations is mirrored in a number of specific case studies on the subject. See Neil Levine, 'The Significance of Facts: Mies's Collages Up Close and Personal', *Assemblage* 37 (1998), pp 70–101; Andres Lepik, 'Mies and Photomontage, 1910–38', in Terence Riley and Barry Bergdoll, *op cit*, pp 324–29; Phyllis Lambert, 'Collage and Montage: A Cinematographic Approach to Space', in Phyllis Lambert (ed), *Mies in America* (New York/Montréal: Abrams/Canadian Centre for Architecture, 2001), pp 204–11; Rolf Sachsse, 'Mies montiert', *Arch+* 35 (2005), pp 58–61. An important evaluation of Mies's early photomontages was undertaken by Adrian Sudhalter in an unpublished seminar paper from 1997, see Adrian Sudhalter, 'Mies van der Rohe and Photomontage in the 1920s', seminar paper submitted to Jean-Louis Cohen, Institute of Fine Arts, New York University, December 1997. I am indebted to Adrian Sudhalter for granting me access to her work.
5. See the proposal by Ulrich Weisstein: 'Generally speaking, it is advisable ... to use the terms montage and quotation only where intra-artistic processes (preferably within the same medium) are concerned, whereas collage should be limited to cases where art and reality intersect.' Ulrich Weisstein: 'Collage, Montage, and Related Terms: Their Literal and Figurative Use in and Application to Techniques and Forms In Various Arts', *Comparative Literature Studies* 15 (1978), pp 124–39.
6. See *Hundert Entwürfe aus dem Wettbewerb für das Bismarck-National-Denkmal auf der Elisenhöhe bei Bingerbrück-Bingen*, edited by order of the Denkmals-Ausschüsse (Düsseldorf: Düsseldorf Verlags-Anstalt, 1911), p 5. See also Adrian Sudhalter, *op cit*.
7. *Ibid*, p 12.
8. Rolf Sachsse in particular has pointed out that photographic reproduction and manipulation was in common use in German handicraft around 1900. See Rolf Sachsse, 'Mies und die Fotografen II: Medium und Moderne als Enigma', in Helmut Reuter and Birgit Schulte (eds), *Mies und das neue Wohnen: Räume, Möbel, Fotografie* (Ostfildern: Hatje Cantz, 2008), pp 254–63.
9. The following conclusions are based on an evaluation of *Deutsche Bauzeitung* (1890–1914), *Süddeutsche Bauzeitung* (1902–1914) and *Baumeister* (1902–1914).
10. See Rolf Sachsse (2008), *op cit*, p 256.
11. See Horst Karl Marschall, *Friedrich von Thiersch: Ein Münchner Architekt des Späthistorismus* (Munich: Prestel, 1982), fig 185. I am indebted to Wolf Tegethoff for pointing this project out to me. Better known is Thiersch's slightly later visualisation of a new Kurhaus in Wiesbaden from 1902, which he used as a visual polemic against the existing building. See Winfried Nerdinger and Florian Zimmermann (eds), *Die Architekturzeichnung: Vom barocken Idealplan zur Axonometrie. Zeichnungen aus der Architektursammlung der Technischen Universität München* (Munich: Prestel, 1986), p 143.
12. See Jean-Louis Cohen, *Ludwig Mies van der Rohe* (Basel: Birkhäuser, 2007), p 176.
13. See Dawn Ades, *Photomontage* (London: Thames and Hudson, 1986), p 7, as well as Brigid Doherty, 'Berlin', in Leah Dickerman (ed), *Dada Zurich – Berlin – Hannover – Cologne – New York – Paris* (Washington, DC: National Gallery of Art, 2005), pp 87–112.
14. See W T J Mitchell, *Picture Theory: Essays on Verbal and Visual Representation* (Chicago, IL: University of Chicago Press, 1994), p 163.
15. Mies van der Rohe, interview with Ulrich Conrads, Berlin, 1966, quoted in Sandra Honey, 'Mies in Germany', in *Mies van der Rohe: European Works, Architectural Monographs* 11 (London: Academy Editions, 1986), p 16.
16. Gene Summers in 'Das Mies-van-der-Rohe-Symposium in der Neuen Nationalgalerie, Berlin, am 27. März 1992', in Fritz Neumeyer (ed), *Ludwig Mies van der Rohe: Hochhaus am Bahnhof Friedrichstraße* (Berlin: Wasmuth, 1993), p 46.
17. See in particular Theodor W Adorno, *Ästhetische Theorie, Gesammelte Schriften*, vol 7, edited by Rolf Tiedemann (Frankfurt: Suhrkamp, 2003), pp 231–35 and Peter Bürger, *Theorie der Avantgarde* (Frankfurt: Suhrkamp, 1974), pp 98–111.
18. Raoul Hausmann retrospectively stated in 1931: 'In the medium of photography [the Dadaists] were the first to create from structural elements of often very heterogeneous material or locales a new unity that tore a visually and cognitively new mirror image from the period of chaos in war and revolution; and they knew that their method had an inherent propagandistic power that contemporary life was not courageous enough to absorb and to develop.' Raoul Hausmann, 'Fotomontage', *A-Z* 16 (May 1931), quoted in Benjamin H D Buchloh, 'Allegorical Procedures: Appropriation and Montage in Contemporary Art', *Artforum* 11 (1982), pp 43–56.
19. See Heinz Ohff, *Hannah Höch* (Berlin: Gebr Mann, 1968), p 16; Höch, *Eine Lebenscollage*, vol 1, *op cit*, p 635. Moreover, in 1925 Mies unsuccessfully used his reputation to recommend the city of Berlin's committee of acquisitions to buy two of Höch's paintings titled *Roma* and *Die Journalisten* that she presented in the annual group exhibition of the Novembergruppe. See Eberhard Roters, 'Novembergruppe', in Hannah Höch, *Eine Lebenscollage*, vol 2, first section, 1921–1945 (Berlin: Argon, 1995), pp 74–96.
20. This event is officially dated 14 February 1925, see <http://www.schwittersstiftung.de/bio-ks1.html> > (6 July 2010). However, since Schwitters and the Doesburgs would hardly have jointly performed at the very same place within only a few weeks it seems highly likely that Höch and Mies were indeed present at this important moment. See Hannah Höch, vol 2, *op cit*, p 226. No recollections of the event on Mies's behalf seem to have survived. A few months earlier, Höch had asked Mies, then president of the Novembergruppe, on behalf of her friend Nelly van Doesburg, for a possibility of a performance in the framework of the group's series of evening concerts. See Hannah Höch, letter to Mies van der Rohe, 28 March 1924, Private Correspondence 1923–40, Mies van der Rohe papers, Library of Congress, Washington, DC.
21. See Dietmar Elger, *Der Merzbau von Kurt Schwitters: Eine Werkmonographie* (Cologne: Walther König, 1999), pp 89–99.
22. See Hans Richter, *Köpfe und Hinterköpfe* (Zurich: Arche, 1967), p 74.
23. See Robert Motherwell (ed), *The Dada Painters and Poets: An Anthology* (New York: Wittenborn, 1951), p XII.
24. See Hanne Bergius, *Das Lachen Dadas: Die Berliner Dadaisten und ihre Aktionen* (Giessen: Anabas, 1989), p 284.
25. Hannah Höch, in Hanne Bergius, *ibid*.
26. See Beat Wyss, 'Merzbild Rossfett: Kunst im Zeitalter der technischen Reproduktion', in *Kurt Schwitters: Merz – ein Gesamtweltbild* (Bern: Benteli, 2004), pp 72–84; Meyer Schapiro, 'The Apples of Cézanne: An Essay on the Meaning of Still-life (1968)', in Meyer Schapiro, *Modern Art: Nineteenth & Twentieth Centuries* (London: Chatto & Windus, 1978), pp 1–38.
27. See El Lissitzky and Hans Arp (eds), *Die Kunstisten* (Baden: Lars Müller, 1990), p XI.
28. The doughy appearance of the plaster houses should not be over interpreted as it was, at least partly, a consequence of the very qualities of the material. This is confirmed by other contemporary models as well. See, for example, the illustrations published in connection with the competition for a city and exhibition hall in Hanover in *Deutsche Bauzeitung* 44 (1910), p 555.
29. See Colin Rowe and Fred Koetter, *Collage City* (Cambridge, MA: MIT Press, 1978). Bernhard Hoelzl's teaching at eth Zurich was in many ways indebted to Colin Rowe; he advertised collage both as a design tool and epistemological model.
30. See Le Corbusier, *Vers une architecture* (Paris: Crès, 1923), p 16.
31. See Rolf Sachsse, *Bild und Bau: Zur Nutzung technischer Medien beim Entwerfen von Architektur* (Wiesbaden: Vieweg, 1997), p 149.
32. Robin Evans, 'Mies van der Rohe's Paradoxical Symmetries', in Robin Evans, *Translations From Drawing to Building and Other Essays* (London: Architectural Association, 1997), pp 233–76.
33. The complex montage theories of Eisenstein, Vertov and other Soviet film theoreticians of the time would deserve a more detailed analysis than can be attempted here. For a general discussion see Wolfgang Beilenhoff, 'Nachwort', in Dziga Vertov, *Schriften zum Film*, edited by Wolfgang Beilenhoff (Munich: Carl Hanser, 1973), pp 152–57. See also David Bordwell, 'The Idea of Montage in Soviet Art and Film', *Cinema Journal* 11 (Spring 1972), pp 9–17.
34. Sergei Eisenstein, *Film Form: Essays in Film Theory and Film Sense*, edited by Jay Leyda (New York: Meridian, 1957), p 4.
35. Hans Richter, *op cit*, p 119.
36. See Yve-Alain Bois, in Sergei M Eisenstein, 'Montage and Architecture', *Assemblage* 10 (December 1989), pp 110–31.
37. Paul Klee, *Pedagogical Sketchbook* (1925), trans. Sibyl Moholy-Nagy (New York: Praeger, 1960), p 33, quoted in Yve-Alain Bois, *ibid*, p 113.
38. See Phyllis Lambert, *op cit*, pp 204–11. However, Mies never went beyond producing a series of two for an architectural object, a fact that renders his cinematic approach to space questionable. Conversely, François Albers has drawn attention to the fact that Eisenstein was very much aware of the Berlin experiments with glass skyscrapers from the early 1920s and most probably knew Mies's projects, which inspired him in his unrealised film project tentatively titled *The Glass House* on which he worked intensely throughout the late 1920s. In the *New York Magazine* issue of 29 June 1930, Eisenstein noted the photograph of a model of a glass tower by Frank Lloyd Wright for New York City, which he pasted into his diary adding: 'This is the glass skyscraper "invented in Berlin"!'. See François Albers, 'Formzerstörung und Transparenz: Glass House – vom Filmprojekt zum Film als Projekt', in Oksana Bulgakowa, *Eisenstein und Deutschland: Texte, Dokumente, Briefe* (Berlin: Akademie der Künste, 1988), pp 123–42.
39. For a (disputed) account on the history of the G group by its protagonists see Werner Graeff, 'Concerning the So-Called G Group', *Art Journal* 23 (Summer 1964), pp 280–82, and Raoul Hausmann, 'More on Group G', *Art Journal* 24 (Summer 1965), pp 350–52. See also Franz Schulze, *Mies van der Rohe: A Critical Biography* (Chicago, IL: University of Chicago Press, 1985), pp 89–91, 105–06.



40. Hans Richter, *op cit*, p 69.
41. See Ludwig Mies van der Rohe, 'Industrielles Bauen', *G* 3 (June 1924), pp 8–13, translated in Fritz Neumeyer, *Mies van der Rohe: The Artless Word*, trans. Mark Jarzombek (Cambridge, MA: MIT Press, 1991), pp 248–49.
42. Hans Richter, *op cit*, p 70.
43. See Gilles Deleuze, *Das Bewegungs-Bild, Kino 1* (Frankfurt: Suhrkamp, 1997), p 82.
44. Hans Richter, *op cit*, p 117.
45. *Ibid*, p 119.
46. For the genealogy of spatial theory in connection with visual perception see Mitchell W Schwarzer, 'The Emergence of Architectural Space: August Schmarsow's Theory of Raumgestaltung', *Assemblage* 15 (1991), pp 48–61. More generally, see Cornelis van de Ven, *Space in Architecture: The Evolution of a New Idea in the Theory and History of the Modern Movements* (Wolfeboro, NH: Van Gorcum, 1987). A collection of translations of the most important theoretical texts on the subject can be found in Harry Francis Mallgrave and Eleftherios Ikononou (eds), *Empathy, Form and Space: Problems in German Aesthetics, 1873–1893* (Santa Monica, CA: Getty Center for the History of Art and the Humanities, 1994).
47. Hans Richter, *op cit*, p 145.
48. Deutsche Liga für unabhängigen Film, Berlin, (April) 1931, information pamphlet, quoted in Hannah Höch, *Eine Lebenscollage*, vol 2, *op cit*, p 425.
49. Richard Pommer, 'Mies van der Rohe and the Political Ideology of the Modern Movement in Architecture', in Franz Schulze (ed), *Mies van der Rohe: Critical Essays* (New York: The Museum of Modern Art, 1989), pp 96–146.
50. On the notion of Mies's architecture as a stage, see Manfredo Tafuri, 'The Theatre as a Virtual City: From Appia to the Totaltheater', *Lotus International* 17 (December 1977), pp 30–53. See also José Quetglas, 'Loss of Synthesis: Mies's Pavilion (1980)', in K Michael Hays (ed), *Architecture Theory Since 1968* (Cambridge, MA: MIT Press, 1998), pp 384–91 and Wolf Tegethoff, 'On the Development of the Conception of Space in the Works of Mies van der Rohe', *Daidalos* 13 (1984), pp 114–23.
51. See Samuel Y Edgerton, *The Renaissance Rediscovery of Linear Perspective* (New York: Basic Books, 1975), p 71.
52. See Dietrich Neumann, 'Mies van der Rohe's Patente zur Wandgestaltung und Drucktechnik von 1937–1950', in Helmut Reuter and Birgit Schulte, *op cit*, pp 264–79.
53. See Robin Evans, *op cit*, p 249.
54. *Ibid*, p 268.
55. On this debate see Helga Kliemann, *Die Novembergruppe* (Berlin: Gebr Mann, 1969), p 43.
56. See Philip Johnson, *Mies van der Rohe* (New York: Museum of Modern Art, 1947), p 30 and Ludwig Hilberseimer, *Mies van der Rohe* (Chicago, IL: Theobald, 1956), p 41.
57. See Theo van Doesburg, 'Zur elementaren Gestaltung', *G* 1 (July 1923), pp 1–2. See in this respect Ulrich Müller, *Raum, Bewegung und Zeit im Werk von Walter Gropius und Ludwig Mies van der Rohe* (Berlin: Akademie, 2004), pp 59–61.
58. Jean-Louis Cohen cited two further sources that he considers more important for Mies's spatial conception than Doesburg: Lissitzky's Prouns and Hans Richter's 'Film Moments' published in 1923 in *De Stijl*. See Jean-Louis Cohen, *op cit*, p 39. For a comparison with Proun see also Franz Schulze, *op cit*, p 110.
59. Sigfried Giedion acknowledged Schmarsow's significance for the development of the notion of space as a constitutive element of architecture and discussed his theories against the writings of Heinrich Wölfflin and Alois Riegl. See the chapter 'Research into Architectural Space' in Sigfried Giedion, *The Eternal Present: The Beginnings of Architecture. A Contribution on Constancy and Change* (New York: Pantheon Books, 1964), pp 499–502. As noted by Fritz Neumeyer, Mies's idea of space was influenced decisively by the writings of Hendrik Petrus Berlage and August Endell, both of whom were in turn indebted to Schmarsow. See in this connection Fritz Neumeyer, *op cit*, pp 171–93; see also Anthony Vidler, *Warped Space: Art, Architecture, and Anxiety in Modern Culture* (Cambridge, MA: MIT Press, 2000), p 6.
60. 'Darin besteht der geheimnisvolle Zauber des perspektivischen Durchblicks. Für das Auge bietet sich zunächst im ruhenden Fernbild nur ein Nebeneinander in der Fläche dar, aber die erneute Innervation bringt den Anreiz vorwärts zu dringen mit dem Blick'. August Schmarsow, 'Über den Werth der Dimensionen im menschlichen Raumgebilde', in *Berichte über die Verhandlungen der Königlich-Sächsischen Gesellschaft der Wissenschaften zu Leipzig. Philologisch-Historische Classe*, vol 1 (Leipzig: Hirzel, 1896), p 54. See in this connection Beatrix Zug, *Die Anthropologie des Raumes in der Architekturtheorie des frühen 20. Jahrhunderts* (Berlin: Wasmuth, 2006).
61. August Schmarsow, *op cit*, p 59.
62. See Cornelis van de Ven, *op cit*.
63. See Andreas Beyer, 'Bilderbauten: Phantasie und Wirklichkeit der Baukunst in Renaissance und Moderne', in Andreas Beyer (ed), *Showreiff* (Tübingen: Wasmuth, 2001), pp 24–32.

Right: 'What's New in Wallcoverings?', advertisement poster by Crown Wall-covering Corporation, c 1976. Courtesy Architectural Archives, University of Pennsylvania and Pennsylvania Historical and Museum Commission, VSBA Archives, by gift from Robert Venturi and Denise Scott Brown.

As suggested by this advertisement, Mies's vision of a virtual window onto a landscape has, by the 1970s, become something of a commodity. Space has finally shrunk to a two-dimensional pictorial representation, and what appears a flowing expanse is in fact a closed container.

