

## **Architectural Drawing: architecture's speculative visual history.**

Author:

**Desley Luscombe**

Affiliation

Professor of Architecture,  
Faculty of Design Architecture and Building  
University of Technology Sydney  
PO Box 123 Broadway  
NSW 2007  
AUSTRALIA

This chapter explores the apprehension of meaning in architectural drawing afforded through each drawing's structuring 'diagram'. Rather than being confined to technique alone, the 'diagram' of an architectural drawing helps to inform its delivery of visual meaning. Through their diagram, architectural drawings, and more specifically presentation drawings, anticipate a response to the theoretical proposition of the architecture portrayed. In this manner, and in order to deliver meaning beyond technical representation, architectural drawings can anticipate therefore a role for a viewing subject that frames the bodily interaction between viewer and viewed image.

Based on a comparison of two architectural drawings, the aim here is to highlight how representational techniques and conventions including those of the perspective and axonometric, have traditionally defined the conceptual 'scope' of the architecture they portray. However, during specific historical periods architects have subverted these techniques to incorporate visual references more often related to painting. To engage with the importance of these acts of subversion it becomes necessary to question, as Gilles Deleuze has done for the paintings of Francis Bacon, the delivery of meaning afforded through the diagram.<sup>1</sup> For Bacon, the diagram takes the form of a virtual and complex network of nodes and intersections that result in the emphasis of particular adjacencies of importance for a viewer's grasp of meaning.<sup>2</sup> Added to Deleuze's understanding of the diagram, Andrew Benjamin further recognises that the diagram specific to architectural drawings works beyond painting's representational force as its conceptual "ground."<sup>3</sup> For architecture, the structuring diagram of its drawings provides an additional unique setting for recognizing architectural experimentation. For Benjamin, the diagram of an architectural drawing must therefore be considered differently to the diagram of painting. In these terms the structuring diagram of individual architectural drawings, especially those known as presentation drawings, conceptually moves these drawings from being a supporting precursor of realised building to one that is an independent operation recognised for its piloting of architectural ideas and consequent recognition of those ideas.<sup>4</sup>

Selected for comparison in this chapter is an axonometric by Gerrit Rietveld of the 1924 house designed for, and in collaboration with, Truus Schröder-Schräder<sup>5</sup> and a perspective by Ludwig Mies van der Rohe of the interior of the 1929 German State Pavilion for the International Exposition at Barcelona.<sup>6</sup> Traditionally, within the structures of architectural delineation the axonometric and the perspective embody different types of conventions. Axonometric techniques, in maintaining dimensional accuracy in its derivation from the plan and its accuracy of scaled measure across three

spatial axes can provide an understanding of architectural design that privileges a rational spatial logic. Unlike perspective or photography, the axonometric technique avoids placing the viewing subject within the internal logic of the image.<sup>7</sup> When considering the perspective technique, it is its tie to optics, and perspective's implicit understanding of the mathematical and geometric unification of the space-object relationships that implicates a role for the viewing subject within the spatiality of the view. Based on the structuring of Brunelleschi's fifteenth-century experiment regarding linear perspective, in these drawings what remains is the implication of a single ocular sensibility within the technique's geometric construct.

The two drawings selected for this comparison provide a basis from which to question the implications of breaking conventions usual in drawing techniques. The two drawings examined in this chapter act as "presentation" drawings and have the added expectation of communicating ideas to a client or broader public through a display, publication or exhibition. In these drawings what is recognised is their interruption of technical accuracy. What is claimed in this chapter is that this is an interruption with purpose.

Gerrit Rietveld's use of a wire-framed axonometric in his depiction of the Schröder house in part responds to the implications of a fourth spatial dimension evident in De Stijl art of the period.<sup>8</sup> As a result of the drawing's wire-frame technique, the viewer is able to see 'through' interior surfaces and register relationships between elements that are neither temporally nor spatially collocated in the realized building. This attribute signifies the importance of a spatiality that is beyond the optical confines of the technique's representation of interior surface. However, further analysis shows that the structuring diagram of the drawing, seen partly in the rigorous mathematical logic of the axonometric, is layered also through the spiralling and dynamic spatial effects of the central stair, and the application of primary colours and black, white and grey. It is thus more than simply an application of axonometric conventions or ideas of the fourth dimension that influences viewer response.

The coloured version of this drawing uses the centrality of the stair and coloured shapes to present the image's abstract and spiralling effect. Rietveld's inclusion of an open-ended planar approach to the exterior walls of the house embeds this spiralling centrifugal force in the external form of the architecture. This small detail in the architectural geometry of external corners shows one panel sliding past the corner's vertex. Portraying a consistency with the spiralling effect this overlapping vertical edge introduces a resolution of the exterior wall as abstract plane rather than container. This hierarchy of effects in the drawing work together to create a complex layering of meaning that relies on the drawing's underlying diagram for interpretation. The complexity of the drawing's conceptual diagram leads the viewer to recognise specific important nodes, adjacencies and intersections not always consistent with the conventions of the axonometric. An example is the relationship seen pictorially between three circular stove hot plates on the ground floor and the three rectangular chimney flues aligned vertically above them. These relationships structure visual responses and the abstraction framing of the drawing as image.

Within the abstraction of the image there is a residue of recognisable fitments that help define the content of the drawing as architecture and focus an interpretation of content.<sup>9</sup> In the rhythms of the composition, distances and sizes are accepted as architectonic in

scale because of the recognition of simplified linear depictions of a piano, beds, seats, toilet bowls, tubs, taps and a stove. As a consequence, even though abstracted and painted with blocks of colour or hue, these abstract planes accept that for architecture this abstraction plays an essential role as an environment for bodily habitation. While the drawing registers this habitation, it also registers habitation's subservience to the primary abstraction of the formal composition. It is as though the body accepts its condition within architecture's pervasive although not total abstraction.

However, Rietveld's drawing introduces an element that is uncharacteristic and opens viewer response to question the thinking behind its inclusion. In the lower mid-field is a carefully rendered depiction of one of Rietveld's designs, the Berlin Chair of 1923. This is the only recognisably authored piece of Rietveld furniture included in the scene. Because of viewer recognition this chair attracts attention. Its soft pencil rendering is applied most likely late in the drawing's production as its shading works over a yellow square that elsewhere in the drawing represents the flat surface of a stool. The inclusion of the Berlin Chair opens an inquiry into its purpose in the signification of the architecture surrounding it.

Historians including Paul Overy and Mark Wieczorek have suggested this chair embodies the conceptual origins for the house. Overy claims that the furniture designs of the period just prior to the design of the Schröder House can be seen as "studies for the spatial ideas and formal devices used in the house."<sup>10</sup> He draws attention to the Rietveld "joint" or corner detail of specifically the Berlin Chair in this development.<sup>11</sup> Building on this, Wieczorek suggests the importance of locating the chair in this drawing with its orientation toward the corner "joint" of the house. He recounts further that under Rietveld's early chairs he had often glued a poem, "The Aesthete," by poet Christian Morgenstern. It follows: "When I sit, I do not care/ just to sit to suit my hindside:/ I prefer the way my mind-side/ would, to sit in, weave or build itself a chair."<sup>12</sup> However, while Wieczorek beguilingly suggests the potential visceral invitation "to become that open corner, to inhabit it, by sitting down in Rietveld's 1923 Berlin Chair," one would have to question what this act brings to an understanding of the image or its architecture.<sup>13</sup> Has the inclusion of the Berlin Chair been used as a metaphor that could potentially point to a phenomenological reading of the architecture? This may be a little perplexing in the context of the abstraction that dominates. Or, is the chair simply working as a sign directing the viewer to look in a certain direction in their investigation of the image? Making such a reading more complex, the window corner that Wieczorek alludes to, while commonly known from the realised building, is not represented in the drawing and there is a difficulty following through his suggestion of purpose for the representation of the chair.

However, recognisable in Wieczorek's analysis of the drawing is an implied theorisation of architectural intent that is rarely raised with regard to Rietveld's architecture. Extending this theorisation becomes important to further interpretation of the drawing and its placement of the Berlin Chair. Central to this inquiry is Rietveld's interest in the writings of Arthur Schopenhauer and Schopenhauer's understanding of aesthetic cognition and its formation of a distinctive notion of "objectivity." Aspects of Schopenhauer's writing can be used to support an interpretation of the drawing that explains the purpose of the rendering of the Berlin Chair within such and abstract visual context.<sup>14</sup>

Interest in Schopenhauer emerged in Rietveld's historical context through lectures given by G. P. J. P. Bolland in the early twentieth century.<sup>15</sup> Rietveld continued to be fascinated with Schopenhauer's work, directly and indirectly commenting on his ideas and quoting him until the 1960s in reference to his early architectural design and its use of colour.<sup>16</sup> For Rietveld, Schopenhauer held the key to a tie between perception and "objectivity" whereby the objectivity of external forms and the viewer's objective relation to those forms could be realised.<sup>17</sup> Through Schopenhauer's approach to perception, what is of importance in the representation of architecture is its reduction through drawing to an apprehension of meaning limited to the sense of sight. To respond to architectural drawing the dominance of sight perception in the viewer is only marginally tempered by the temporality of movements in the body.

For Schopenhauer, seeing was able to be distinguished from other senses because it resulted in a form of "pure knowing" unfettered by the will.<sup>18</sup> He used the example of colours suggesting that there is a, "wholly immediate, unreflective, yet also inexpressible, pleasure that is excited in us by the impression of colours."<sup>19</sup> For Schopenhauer, this "pure knowing," directing an instantaneous connection between the aesthetics of an external object as cause and the response to that object in an apprehension of "beauty." In Rietveld's drawing there is a purposeful reduction of the material complexities of architecture to basic geometric elements in order to reinforce a response to architecture's abstract spatiality. The reception of this abstraction is immediate. Consistent with Schopenhauer reception of the image is generally guided not by an intellectualised response based on the physical sensations of comfort or pleasure but simply on the immediacy of a recognition of abstract logic. From Schopenhauer, it can be understood that representations in the mind of the viewer, derived through sensations of sight, transform the viewer's capacity to become object-like or "objective." Schopenhauer explains this claim stating, "that is to say, in contemplating [the aesthetically pleasing object] we are no longer conscious of ourselves as individuals, but as pure, will-less subjects of knowing."<sup>20</sup> This epiphany-like effect was understood as intuitive and instantaneous. It was a cognition that was independent of personal needs, affects and interests and was in Schopenhauer's terms thus considered pure perception and resulting from a higher "objective" consciousness.<sup>21</sup>

Transferring these ideas to Rietveld's drawing, the relationship with the viewing subject is one where he/she is introduced to and absorbed by the abstract logic of the image and its architecture. In this transformation the Berlin Chair works as an instantaneously recognisable and immediately aesthetically understood element. The viewer's unreflective knowing of this chair transforms them through this experience to a point of his/her own "objectivity." The viewing subject transforms to become integrated within the abstraction of the scene portrayed.

Through Schopenhauer, Rietveld's drawing conceptualises the viewer of architectural space as both object-like and objective. In this construct there is a perceived experimentation that brings together the instantaneity of knowing through sight perception and an understanding of the world as representation. This references the body's objective complicity with the abstract spatiality of the house and its furnishings. The Mortgenstern poem continues this reference. The notion of the mind "build[ing] itself a chair" becomes a process of intellectual transformation in the mind of those seated rather than the phenomenology of the creative act of designing a chair from the

basis of sensations. The viewer is mentally transformed by the spatiality of the chair. By including a realistic representation of the Berlin Chair there is an instantaneous complicity with the architecture's abstract spatiality.

The viewer, external to the drawing is changed in this process. The complicity required between viewers and viewed implies a link between inside and outside in the architecture's conceptual framework, one that takes advantage of initial recognition of the Berlin Chair. By first becoming aware of the chair for its resonance with memory, the viewer of the image accepts the instantaneity of sight's perception and absorbs the abstract logic of architecture's interior and its spatial and geometric concerns. This internal logic, developed between architecture's fitments and its abstraction, is thus replicated within the viewer's own being. In Rietveld's drawing, the viewer's gaze moves from one surveying the drawing as artefact to one focused on questioning the role of this logic in the corporeal world. It transforms the abstract rigorous logic of the technique of the axonometric to introduce an important role for the viewer in understanding their new role as an objective and "object-like" inhabitant of architectural space.

In the second example, Mies van der Rohe's drawing of the Barcelona Pavilion uses perspective conventions to present a very different message.<sup>22</sup> Generally, in architectural drawing the application of the perspective technique embodies a claim for a spatial rationality tied to optics. Martin Jay and others have suggested this tie to the photographic gaze was the "scopic regime" of the Modern.<sup>23</sup> The geometry of the perspectival technique implicitly unified the viewer's single optical relationship within the scene's spatial diminution. However, in Mies's drawing, while the perspective's vanishing point is clearly referenced through a well-worn remnant pinhole that would have been used as a ruler-guide in setting up the drawing, it also registers a critique of perspective's static single reference to a mono-ocular geometry. In comparison with Rietveld's reconceptualization of the axonometric this critique of perspective's techniques equally questions the hegemony of effect registered in the techniques of representation commonly used in architectural practice.

Robin Evans and others have recognised that the scene depicted in Mies's drawing of the Barcelona Pavilion is distorted.<sup>24</sup> The left side of the view is compressed and the centrality of cruciform column is incorrectly emphasised. This corruption of perspectival clarity suggests that the final image emerges as much from the two-dimensional characteristics of its composition as it does from the geometries of perspectival representation. However, rather than being considered as corrupt, this step away from the singular logic of perspectival conventions is important to the development of architectural meaning in the drawing. As two-dimensional composition, various rhythms and proportions can be revealed in an analysis of the image that defines aspects of its compositional structure and show the importance of its diagrammatic and representational concerns. Through the highlighting of specific nodes and adjacencies the diagram of the drawing can be seen to move the image beyond projective perspective to highlight attributes in the architecture that otherwise might remain inconsequential.

To investigate this further, and because of the single vanishing point, the distortion of the image can be examined from the basis of its implied perspectival projection from a plan. However, as shown through analysis the correlation between plan and scene the

resultant drawing moves beyond these simple geometries. In order for the scene to retain the logic of the drawing's perspectival technique the viewing subject internal to the perspectival structure must relocate to change the point of viewing. Introduced through this gesture is a split in the understanding of the viewing subject. The viewer internal to the perspectival construction relocates to respond to specific elements acting to posit these for the reference of a viewer external to the drawing. The viewer internal to the scene structures the image and plays a didactic role as instructor, whereas the viewer external to the artwork negotiates these collaged attributes in a process of questioning the importance of its architectural meaning.

In Mies's drawing, the didactic role of the viewer internal to the drawing's construction retains a necessary sensory engagement with architecture's material form. There is a haptic response to architecture's corporeality. What this viewer brings to the external viewer's understanding includes recognition of the impact of natural light on the multiplicity of materials of architecture and their representation as a result of being located in a natural setting. However, equally included are the abstract qualities of architectural space that enable figure/ground reversals and the privileging of single elements over others. This capacity to spatially reverse what is seen suggests a complexity in architectural reception that is not evident in Rietveld's drawing of the Schröder House. These two characteristics of material response to nature and possible spatial reversals create a dialogue whose parts are co-dependent. For example, in the scene, it is the introduction of tonal opposites that reinforces the attraction-repulsion implied in the collaging of elements. This can be seen in the freestanding wall that can be considered either as void, and thus in one sense "ground" or, in another, as "figure." Repeating this complex negotiation of figure/ground, the strongest recognition of "figure" in a representational sense is not of architecture but is the sculptured scene beyond the transparent glazed wall to the right. A shift to representational form brings with it a scale that is unambiguously architectural. Transforming an understanding of "figure" to the literal figure of a sculptured form is a device used to further the architectural investigation. Using iconography of a purposefully oriented gaze this sculpted figure redirects the viewer's attentions to spaces beyond the scene presented.<sup>25</sup>

This alternation between figure and ground reinforces the didactic control determined for the viewing subject internal to the structure of the image. However, it also highlights that the viewer external to the image plays an active role in responding to the image. Seeking a resolution of figure/ground through tone and detail Mies's drawing reinforces a dynamic asymmetrical balance to the image that is abstract and begins to configure a range of responses anticipated from the viewer external to the image. This viewer comprehends the drawing differently as they move closer to or further away from its detail. From a distance there is a focus on the abstract chevron of the darker tonal mass on the right of the image counterbalanced by the strong vertical lines of the centre and left. This suggests a response that focuses on the abstraction two-dimensional characteristics of the artwork and counters the singularity of its architectural scenography. Close up, however, the viewer responds to this scenography in the detailed rendering of materiality and atmospheric situation that reflects architecture's corporeality and the complexity of this view's meaning as "scene."

However, this scene has an inbuilt ambiguity. The most privileged position opposite the vanishing point, for the viewer external to the image, is at the wrong distance for the

view to be apprehended in a single observation or resolved in a single geometric logic. This ambiguity demands an intellectual engagement that avoids the implication for the viewer of the image to be caught up in the inertia implied by the perspective. Rather than the objectivity of Rietveld's drawing of the Schröder House this effect proposes a necessary combination of objective as well as subjective responses to architecture's spatiality.

In Mies's drawing, there is an attempt to relocate into the technique of perspective, the temporality that is necessary for the natural apprehension of architectural space. The relationship developed between viewers internal and external to the scene takes on a kaleidoscopic negotiation of temporally defined spatial collages. In the context of Mies's work of the period this can be seen in the light of how artists in his immediate milieu were responding to philosophers such as Eduard Spranger and his text *Psychologie des Jugendalters* (Psychology of Adolescence) published in 1924.<sup>26</sup> This was a very popular text from its inception. Spranger's proposition saw the individual soul of the adolescent as requiring the amalgamation of specific intellectual and physical functions in order for their retraining and conformity to societal norms as adults. He believed that inadequacies in the adolescent could be eliminated through this retraining of the mind, to remove undesirable or confusing characteristics of individuals. This was carried out through the unification of bodily with cognitive re-training.

As a set of ideas these propositions had significant impact on the way *avant-garde* artists developed a new pseudo-scientific roles for their artistic production.<sup>27</sup> It is the contextualisation of Spranger's ideas into art practices that can be seen as important in understanding the visual structure of Mies's drawing. Artists such as Hans Richter and others became interested in the power of art being used in the processes of retraining the spiritual will of the individual. For Richter, art and specifically his experimental film could support a re-alignment of a viewer's "soul" through an amalgamation of their physical actions with their sensory perceptions and cognitive responses. The mind and body thereby came together in a single uniform action. Fundamental to this concept of retraining was the distrust of the visual that in the past had led to sentimentality (a failing he observed in representational art or feature films of the time). Mies's response in this context was to rethink the way viewers might respond to architecture's material forms and by implication viewers might respond to its representation through graphic media. The viewer external to the image is destabilised in their quest for understanding of the image and is directed to move unifying their bodily and cognitive inquiry. By liberating drawing from the confines of technique and convention, dominated in this case by perspective, Mies reinserted a unification of the viewer's physical and cognitive responses to architectural space directed precisely by the construct of the internal viewer. For Mies this unification of the physical with the intellectual, cognitive response to architecture supported his call for an "intensification of life."<sup>28</sup> For this new future to emerge there was to be no room for sentimentality. What was unique for architecture in this new conceptualisation was the necessary relationality between material affect, abstraction and a viewer's understanding of implied hierarchies of ideas in architecture through the lens of the everyday nature of experience.

What is present in both drawings, a perspective by Mies van der Rohe and axonometric by Rietveld, is a theorising of very specific attitudes to architectural experimentation. Rietveld directs attention to architecture's potential for continuously expansive and

dynamic abstraction and the complicity of man as objective within that understanding of modernity. Mies instead returns the viewer to the link between abstraction and a sensory apprehension of architectural spatiality, its materials, their reflective qualities and temporal response to setting in an attempted intensification of the soul. His drawing's link between abstraction and materiality reminds us that the mind requires direction for clear apprehension and interpretation of sensations in order to intellectually montage only the important attributes of a temporally engaged bodily inquiry.

For architecture, the structuring diagram informing its drawings, specifically presentation drawings, is thus doubly informed and can open a new appreciation of its theoretical possibility. The diagram can be understood as structuring representation, whereby a complex network of nodes and intersections emphasize adjacencies of importance for viewer apprehension of meaning. As well, and because architectural drawing works beyond representation as its conceptual "ground," the structuring diagram of architectural drawings provides a unique setting for recognition of architectural experimentation. In these terms the diagram of individual architectural drawings moves from being the simple precursor of its realisation as building to become an independent operation that is recognised for it's piloting of architectural ideas. The idea of representation in architecture is therefore repositioned. It becomes renegotiated as an after-effect of a continuously experimental discipline.

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<sup>1</sup> G. Deleuze, *Francis Bacon: The Logic of Sensation* (c. 1981) (Minneapolis, University of Minnesota Press, 2002). See specifically Chapter 12, 'The Diagram' for discussion of the importance of the diagram for apprehending meaning in paintings.

<sup>2</sup> Ibid.

<sup>3</sup> A. Benjamin, 'Lines of Work: On Diagrams and Drawings', *Architectural Philosophy* (London, Athlone Press, 2000), pp. 143-155, argues the different basis for diagrams in architecture being the site of experimentation for architectural innovation.

<sup>4</sup> These two examples are taken from an ongoing project analyzing presentation drawings for their delivery of meaning related to experimentation in architecture.

<sup>5</sup> Located at Centraal Museum Utrecht (Rietveld Archive, *inv.nr. 004 A 104*).

<sup>6</sup> Located at The Museum of Modern Art, New York, (MOMA, Ludwig Mies van der Rohe Collection, *Cat. No., MR14.1*).

<sup>7</sup> The impact of photography on modernity and its basis in notions of the gaze is discussed by M. Jay, 'Scopic Regimes of Modernity' in H. Foster, ed., *Vision and Visuality* (Seattle, Bay Press, 1988), pp. 3-28. Y.-A. Bois, 'Metamorphosis and Axonometry'. *Daidalos*, 1 (1981), pp. 41-59 has recounted the impact of axonometry with the De Stijl movement and suggests its influence on modern architecture being dated to the 1923 exhibition of Theo van Doesburg's illustrations at Paris and subsequently in Weimar.

<sup>8</sup> See D. Luscombe, "Illustrating Architecture: the Spatio-temporal Dimension of Gerrit Rietveld's representations of the Schröder House," *The Journal of Architecture*, 18, 1 (2013), pp. 25-58. R. Difford, 'Developed Space: Theo van Doesburg and the *Chambre de Fleurs*'. *The Journal of Architecture* 12, 1 (2007),



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pp. 79-98 and R. Difford, 'Proun: an Exercise in the Illusion of Four-Dimensional Space'. *The Journal of Architecture* 2 (Summer 1997), pp. 113-144.

<sup>9</sup> This can be seen as distinct from the paintings of Theo van Doesburg where the abstraction of the image leaves the viewer questioning what they see whether painting or a representation of architecture-like spatiality.

<sup>10</sup> P. Overy, *De Stijl* (London, Thames and Hudson, 1991), p. 82.

<sup>11</sup> Ibid, p. 85.

<sup>12</sup> "Wenn ich sitze, möchte ich nicht sitzen, wie mein sitzfleisch möchte sondern wei mein sätzgeist sich, säsze er, den stuhl sich flöchte." C. Morgenstern, 'Der Aesthet' (The Aesthete). See M. Wiczorek, "Le Paradigme De Stijl," trans., by the author, in A. Pacquement, *De Stijl 1917-1931*, Paris, Centre Pompidou, 2010, p.68 ff.

<sup>13</sup> M. Wiczorek, Ibid., p. 66.

<sup>14</sup> While Richard Padovan questions the interest that Rietveld showed in Arthur Schopenhauer drawing attention to the differences in attitude, others such as Rob Dettingmeijer and Georg Stahl see this association as important. See R. Padovan, *Towards Universality: Le Corbusier, Mies and De Stijl* (London, Routledge, 2002), p. 50 ff and G. Stahl trans and ed. *On Vision and Colors by Arthur Schopenhauer and Color Sphere by Philipp Otto Runge* (NY, Princeton Architectural Press, 2010), pp. 30-31.

<sup>15</sup> D. Broekhuizen, "An Awakening Consciousness, The Early Development of Rietveld's Theoretical Approach," in R. Dettingmeijer, M-T. van Thoor and I. van Zijl, eds. *Rietveld's Universe* (Rotterdam, NAI Publishers, 2010), p. 38. For translations of Rietveld's written work see T. Brown, *The Work of G. Rietveld Architect* (Utrecht, A. W. Bruna & Zoon, 1958).

<sup>16</sup> See exploration of similarities in Rietveld's theories with those of Schopenhauer in G. Stahl, *On Vision and Colors, op. cit.*, p. 30ff.

<sup>17</sup> While M. Kuipers has written a critique of Rietveld's article on 'New Objectivity' there is no questioning of the term objective outside an artistic context. See M. Kuipers, "Rietveld and Nieuwe Zakelijkheid in Architecture," in R. Güttemeier, K. Beekman and B. Rebel, *Neue Sachlichkeit and Avant-Garde* (Amsterdam, Rodopi, 2013), pp. 81-112.

<sup>18</sup> A. Schopenhauer, *The World as Will and Representation*, E. F. G. Payne, trans., New York, Dover, 1969), Vol., II, p. 375.

<sup>19</sup> Ibid.

<sup>20</sup> Ibid., Vol., I, p. 209.

<sup>21</sup> Ibid., Vol., I, pp. 185-6.

<sup>22</sup> For a fuller version of this analysis see D. Luscombe, "Drawing the Barcelona Pavilion: Mies van der Rohe and the implications of perspectival space." *The Journal of Architecture*, (2016) TBC.

<sup>23</sup> M. Jay, 'Scopic Regimes of Modernity', in H. Foster, ed., *Vision and Visuality* (Seattle, Bay Press, 1988), p.20. See also J. Crary, 'Modernising Vision,' in the same volume.

<sup>24</sup> Evans on Mies in R. Evans, *The Projective Cast, Architecture and its Three Geometries* (Cambridge Mass., MIT, 1995), p. 360 and R. Evans, "Mies van der Rohe's Paradoxical Symmetries," *Translations from Drawing to Building and Other Essays* (London, Architecture Association, 1997), p. 242.

<sup>25</sup> This is a device continuously used in Mies's designs. See P. Curtis, *Figuring Space: Sculpture/Furniture from Mies to Moore*, Catalogue (Leeds, Henry Moore

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Institute, 2007), esp. pp. 6-8. See also, T. Pavel, 'Result: Best Completion', in U. Berger and T. Pavel, eds., *Barcelona Pavilion: Architecture and Sculpture* (Berlin, Jovis Verlag, 2006), p. 26.

<sup>26</sup> See the response to Spranger implicitly made by Hans Richter, H. Richter, "Die schlecht trainierte Seele" (The Badly Trained Soul), *G*, III (June 1924). Seen in D. Mertens and M. Jennings, trans. Lindberg with M. Christian, *G: An Avant-Garde Journal of Art, Architecture, Design, and Film, 1923-26* (Los Angeles: Getty Research Institute, 2010), p. 146-149. See also Gabriel Trop's analysis of Richter's work, G. Trop, "The Vitality of Form: Hans Richter and the Training of the Soul," in K. Fest et al., *Mies van der Rohe, Richter, Gräff & Co.: Alltag und Design in der Avantgardezeitschrift G*, Wein, Turia + Kant, 2013, pp. 34-42.

<sup>27</sup> D. Mertens suggests that Walter Benjamin was also to see this link explaining that images could be capable of installing new knowledge, new behaviours and the solution to new problems of mass society. See D. Mertens and M. Jennings, trans. Lindberg with M. Christian, *G: An Avant-Garde Journal of Art, Architecture, Design, and Film, 1923-26* op. cit., p. 95, fn. 70.

<sup>28</sup> This is a term Mies was to use to explain the times. See, M. V. D. Rohe, 'On the Theme: Exhibitions', *Die Form*, 3, 4(1928), p. 121, see translation in F. Neumeyer, trans., M. Jarzombek, *The Artless Word: Mies van der Rohe on the Building Art* (Cambridge Mass., MIT Press, 1991), p. 304.