

Immaterial materialities: Aspects of materiality and interactivity in art and architecture

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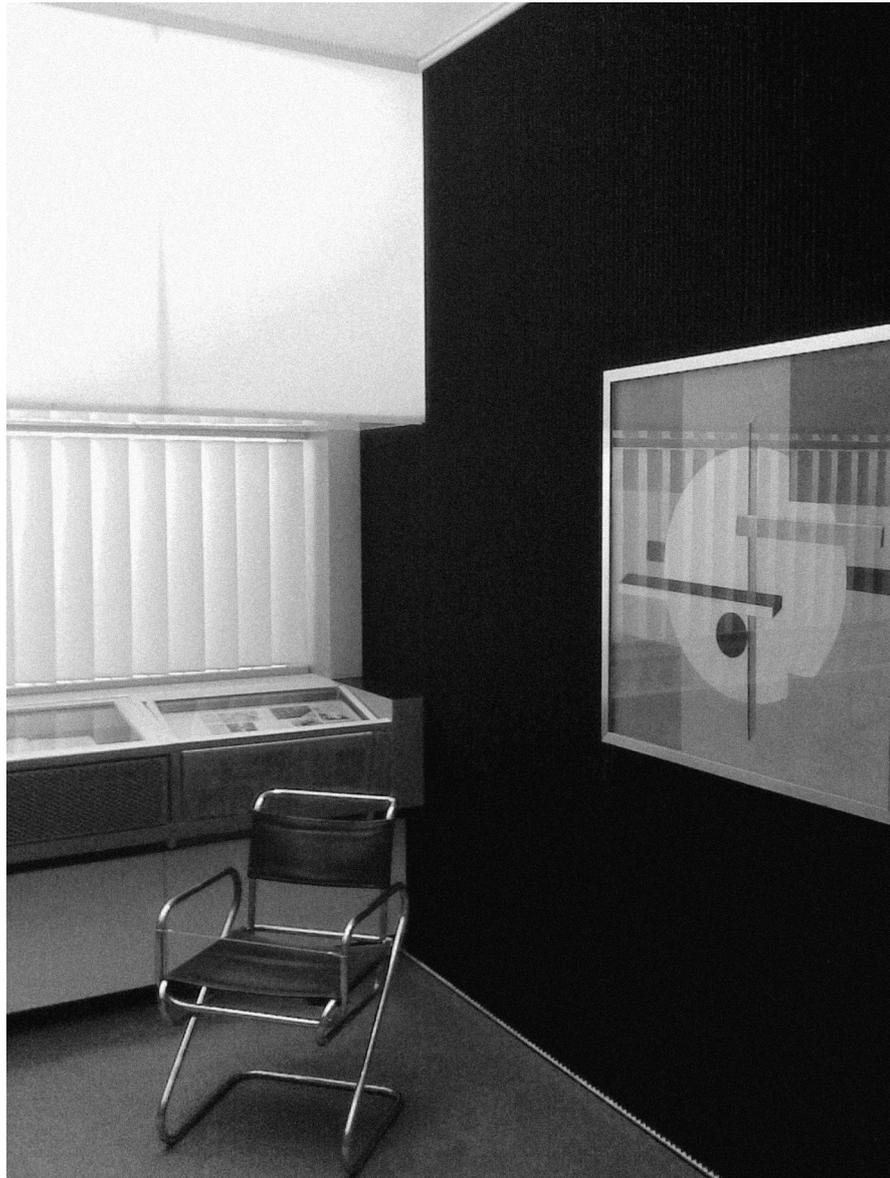
In the past decade, materiality has claimed centre stage in architectural discourse and practice, yet its critical meaning is ever receding. Tropes like digital materiality, material responsiveness, trans-materiality and dematerialisation mark out an interdisciplinary field where scientific fact and artistic experimentation interact, and where what in fact constitutes materiality and immateriality is constantly re-imagined.

As a reaction to developments in science, materiality came under scrutiny with the emergence of nineteenth-century German aesthetics. Robert Vischer's advancement of space-empathy relations under the heading of *Einfühlung* (empathy) (1873), August Schmarsow's location of spatial awareness in the interplay between body and material elements (1914), and Alois Riegl's parallelism between *Tiefraum* (deep space) and *Empfindung* (sensation) that he termed *Raumwirkung* (spatial effect), (1908: 43) all represented attempts to intellectually capture the material world. Advancing a deeper awareness of the physical aspects of art reception, these art historians interrogated the interrelations between material arrangements, perceptual functions and psychological states. The impression received from materials did not necessarily derive from scientific data or physical contact, but from an understanding of ourselves as in a specific sensory relationship to a material – it is precisely this intuitive relationship that was understood to mark materiality as distinct from materials.

Many of these ideas re-emerged transformed in the early avant-garde projects and manifestos of El Lissitzky, Moholy-Nagy and others. If the art historians before them analysed and theorised materiality, the avant-garde looked to unlock and apply its transformative powers, adapting them in the pursuit of socio-political aims. Their art installations and exhibition designs tested these earlier theoretical concerns by experimenting with ephemeral elements such as light, colour, image and film. Under terms such as “materialised energy” (Vesnin 1922: 68), the interrelations between human beings and the material elements were reconceptualised as entirely dynamic. As a consequence, artistic activity involved the organisation of intersecting fields of energy rather than the static composition of objects promoted by traditional art. Thus, to reiterate, environments were believed to impact both psychologically and physiologically on the conscious mind of human beings and stimulate energetic activity in everyday life.

It is from the reading of an avant-garde text – El Lissitzky's 1925 essay *K. und Pangeometrie* (Art and Pangeometry) – that the idea for the 2011 Interstices Symposium “Immaterial Materialities” developed. Charting the variability of spatial conceptions from the origins of perspective to then-contemporary artistic attempts, Lissitzky arrived at what he called an “immaterial materiality” (128) – film and commercial displays, he suggested, hinted at the possibilities of constructing material objects in such ways that they constituted solid objects when in a static state but, when set in motion, produced multiple spatial articulations that constituted an imaginary space for the duration of their movement. In this essay, Lissitzky, it seems, pre-mediated the applicability of these ideas, which he

Fig. 1 Reconstruction of the Abstract Cabinet at the Sprengel Museum Hannover, Germany (1968) [Photo: author]



explored in quite literal ways in his demonstration rooms¹ with multi-coloured, striated walls of fluctuating appearance that responded to the movement of the viewer with alternations of white, grey and black depending on the standpoint. Initiating an epistemic shift in art and architecture, these works pointed to the connection between the concrete material properties of objects and their interaction with the inhabitant through psycho-physiological effects.

The logic of immaterial materiality found its immediate consequence in the process of design: objects were no longer to be constructed to satisfy aspects of monumentality, formal style or functionality, but to generate a multitude of temporal perceptions and effects.

Lissitzky's clever paradox seems to me to operate on a number of levels. First, it refuted efforts to reduce the materiality of architecture to a formal language of material choices and pragmatic considerations – in expanding the “material” reality of the object with the addition of an “immaterial” dimension, he celebrated the *informality* and incompleteness of the art object, proposing what Eco described as a

¹ For a discussion of Lissitzky's demonstration room at the *Internationale Kunstausstellung Dresden* in 1926 see K.-U. Hemken, 1990: 46-55.

“configuration of stimuli whose substantial indeterminacy allows for a number of possible readings and a ‘constellation’ of elements that lend themselves to all sorts of reciprocal relationships” (Eco 1967: 84). Second, as an invention of our minds and imagination, Lissitzky’s notion of an “immaterial materiality” acknowledged the viewer, or user, as a constituent part to the experience of art, architecture, and our environment in general. And third, as a consequence of its status that implicated a reciprocal relationship between the perceiver and the perceived, the material manipulation of immaterial forces opened up the possibility to predict, control and influence the consciousness of human beings – a field that had been pioneered by advertising at the time (see Vöhringer, 2007).

These considerations raise possibilities and issues that surfaced again in contemporary architectural debates:

Gernot Böhme re-thematised the idea of “materialized energy” under the heading of “atmospheres”, which he sees as the fundamental concept of a new aesthetics in architecture. Questioning the primacy of vision, Böhme asks, “Is seeing really the truest means of perceiving architecture? Do we not feel it even more? And what does architecture actually shape – matter or should we say space?” (2002: 399) Böhme points to the architecture of Herzog & de Meuron, whose works build upon material experimentation based on an intuitive treatment of materials rather than a purely pragmatic approach. For Böhme, atmospheres stage human activities in relation to the surrounding world – including their environment, other people, objects, architecture and art. Atmospheres are “the shared reality of the perceiving and the perceived” (2013: 34).

Considerations of our relationship with atmosphere and weather have informed contemporary projects, which deploy materials as mediators or activating agents that probe the relationship between audience/user and the physical environment: spatial investigations with phenomena-producing materials such as water, light, colour and temperature experiment with the viewer’s experience in Olaf Eliasson’s works. Digital technologies have given rise to responsive materials which are fluid and evocative rather than solid and permanent – in Lars Spuybroek’s *HtwoOexpo* museum, real-time electronic sensors respond to users and alter the atmosphere of the building. And Diller and Scofidio’s *Blur Pavilion* proposes a “macro-atmospheric installation” and “immersive climatic sculpture” (Sloterdijk 2004: 669-670) that technologically re-creates the experience of nature as spectacle - in Sloterdijk’s opinion, a project whose relevance rests in its experimentation with the commodification of air rather than in its aesthetic imagery.

Along with atmospherically-inspired experiments, traditional materials such as timber, stone and concrete were re-imagined in contemporary architecture. With the appropriation of forgotten methods, Kengo Kuma’s *Nasu Stone Museum* and Peter Zumthor’s *Bruder Klaus Field Chapel* connect us to the material traditions of historic architecture. In contrast, Australian architect Glenn Murcutt’s use of low-cost industrial materials such as corrugated metal and cement sheets fuses the beach house, the wool-shed and industrial estates. His amalgamation of Australian vernacular with international modernism educes trans-historical, cross-cultural and climatic associations.

Architectural experiments in material-oriented computational design explore the design potential of conventional construction materials. The structural limits of bent plywood, vaulted stone and other materials are tested in parametrically-designed proto-type pavilions generating new aesthetic languages of gradient

and sinuosity. In contrast, waste materials and natural materials are broken up and fused chemically, providing imaginative new composites with changed material and aesthetic properties, suitable for an extended variety of applications. Here, the traditional material aesthetic, based on inherent natural qualities such as grain, surface texture and colouration, gives way to an abstract aesthetic that rejects discrete material qualities in favour of guaranteed qualities, homogeneity and economic necessity (see Böhme 2013: 58).

In contemporary art, Nicolas Bourriaud observed a tendency amongst groups of contemporary artists to use materials that had already been informed by other uses: British artist Liam Gillick favours materials and architectural elements that reference the universal modernism favoured in corporate architecture where “plexiglas, steel, cables, treated wood, and coloured aluminium” connect “the project of emancipation of the avant-gardes and the protocol of our alienation in a modern economy” (Bourriaud 2002: 58); these material fragments prompt the viewer to reflect on a range of, at times conflicting, environments, which can be read “as partial images that call to mind a range of other moments and environments” (Verhagen 2009: 52). It is precisely this “calling to mind of other moments and environments” that Philip Ursprung detects in Hans Danuser’s photographic representations of Peter Zumthor’s architecture. Danuser’s images evoke seemingly incompatible associations by revealing unexpected links between Zumthor’s atmospheric concrete spaces and the problematic, post-industrial spaces of Alpine power plants and cooling towers, Ursprung argues (2011).

All these endeavours probe multiple boundaries – between material and immaterial, art and science, practice and theory, representation and experience, referent and original, producers and users, giving rise to the following concerns: what is the validity of different approaches to materiality in relation to the vital problems of our time such as digital fabrication? Where do materials allow us to cross disciplinary, cultural, or political boundaries? Which trans-historical correspondences can be detected in contemporary approaches to materiality, and how do these challenge, imitate and expand on previous thinking?

To open the discussion, the first two contributions explore the theme of materiality in art and architecture with the detailed analysis of two exhibition environments. Although both represent attempts to direct user behaviour and experiences, they do so in quite different ways: in his paper *Ambient Atmospheres: Exhibiting the immaterial in works by Italian Rationalists Edoardo Persico and Franco Albini*, Ross Jenner offers a detailed analysis of the interplay between materiality and medium, merge and emergence, and mass and space in the work of Italian Rationalists, Edoardo Persico and Franco Albini. Their 1930s exhibition settings, Jenner argues, involved activations and relations of and within space that anticipated the sort of atmospheres and scene settings Gernot Böhme proposes today. Sandra Karina Löschke examines the curatorial ethos of Alexander Dorner, director of the *Provinzialmuseum Hanover* in the early 1920s. In his stage-managed environments, she identifies a material dialectic intended to promote empathy and immersion whilst simultaneously encouraging active reception and awareness of reality. In transfiguring the interrelations between audience and art work, Dorner’s strategies marked a turning point in museal practice from the representation of art works to the mediation of culture, she suggests.

Fig. 2 (opposite page) Prototype Timber Façade System, recycled timber blocks. UTS Materiality Lab III, 2013.



The next pair of contributions probes the theme of materiality in the work of two eminent artists – Kurt Schwitters and Cildo Meireles. Both explored the interface between architecture and art, looking to everyday materials to inform their practice by using them as referents and as concepts. Abigail McEwen investigates the use of everyday materials in the work of Cildo Meireles between 1968 and 1970. The latent materiality of Meireles’s earliest conceptual work is often overlooked, she argues. The reality check provided by his highly diverse material referents – architecture, consumer goods, living organisms – decisively supported his utopian aspirations, which developed against the background of Brazil’s military dictatorship. Matthew Mindrup presents a comparative analysis of two distinct material practices that emerged during the early period of Weimar Germany, one by artist Kurt Schwitters, and the other by two members of the *Arbeitsrat der Kunst* – Walter Gropius and Bruno Taut. Schwitters’ building materials were objects that had already been informed by other uses – found materials that he transfigured into conceptual elements for architectural prototypes, Mindrup observes. Drawing inspiration from the material elements to inform his design, Schwitters’ inventive pragmatism stood in contrast to the more conventional material practices of his peers.

Concluding the refereed section are two contributions that explore how notions of materiality inform architectural design and fabrication processes and basic elements of architectural language. Looking to present issues emerging from architecture and digital fabrication, Cathy Smith develops the theme of materiality through the lens of the division of labour. Arguing that the significance of socio-political issues embedded within contemporary architectural practices is largely neglected, she addresses how new methodologies might challenge established assumptions about materials and the organisation of labour. Mario Botta’s *Watari-um Museum of Contemporary Art in Tokyo* (1985-1990) is the main object of discussion in Ashley Paine’s investigation of stripes and their use as spatio-perceptual elements oscillating between materiality and immateriality.

For this issue, I have invited two contributions. The first is “The ruins of the Immaterial” by Jonathan Hill, which identifies a new dialogue between the material and the immaterial in the eighteenth-century image of the ruin and uncovers its profound influence on contemporary architectural design. Historically, Hill argues, classical antiquity associated the material with temporal decay and the immaterial with timeless, geometric order. But a more significant departure occurred in the early eighteenth century, when the meaning of the immaterial was transformed and expanded in ways that significantly informed subsequent centuries and the immaterial became a coproduction of nature and culture. “Staged Materiality” is the title of the second invited contribution, by Gernot Böhme. The new sensibility for materiality prevalent in current design and architecture calls for the theatrical, he observes. Materiality is supposed to show itself, to come forward, to help shape the atmospheres in which we live. Material and materiality, in his view, thus part ways as do the processes of making and perception.

With contributions from the professions of architecture, art history and aesthetics, *Immaterial Materialities* examines some of the issues and potentials of contemporary art and architecture in the light of materiality and interactivity. This topic is addressed in a variety of ways, reflecting the interests and expertise of the authors. Many of the ideas and positions represented in this volume have been developed throughout the discussions and debates that took place during the *Interstices Symposium 2012*, which preceded this issue. I would like to express my

gratitude to the participants, the audience and particularly our keynote speakers Jonathan Hill and Philip Ursprung for their tireless engagement and their inspiration throughout the event.

And finally, this issue would not have been possible without Tina Engels-Schwarzpaul and Ross Jenner who have generously supported this issue with their wisdom and unwavering commitment.

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