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IMMERSIVE SPACES AND THE AIR CONDITIONING PROJECT

Airborne collectives

While Marx argues that all criticism begins with the critique of religion, Peter Sloterdijk claims all criticism begins with the critique of gravity. For him, the essential now dwells in lightness, in the air, in the atmosphere.¹ This idea, presented in *Foams*, the final volume of Sloterdijk's *Spheres* trilogy, can be seen as a reversion of the Western conception of substance that associates the essential with the heavy and solid. For him, the essential today has transformed itself in light, mobile, even formless configurations, and so "what we need today is an 'air-conditioning project' for large social entities."²

A decade earlier, Rem Koolhaas had already suggested that infrastructural devices such as "air conditioning—invisible medium, therefore unnoticed—has truly revolutionized architecture. Air conditioning has launched the endless building. If architecture separates buildings, air conditioning unites them."³ By creating an artificial climate, it makes possible that the interior becomes entirely independent and disconnected from the exterior conditions, so that the building expands almost unlimited. Thus, for Koolhaas, a single shopping center now is the work of space planners, repairmen and fixers, like in the Middle Ages; "air

1 Peter Sloterdijk: *Sphären, vol. 3, Schäume*. Frankfurt/Main: Suhrkamp, 2004. pp. 27f.

2 Bettina Funcke: *Against Gravity. Bettina Funcke talks with Peter Sloterdijk*, 2005, in http://www.bookforum.com/archive/feb_05/funcke.html (March 21, 2009).

3 Rem Koolhaas: "Junk Space." In: Rem Koolhaas, *Content*, edited by Rem Koolhaas, AMOMA, Brendan McGetrick, Köln: Taschen, 2004, p. 162.

conditioning sustains our cathedrals.”⁴ Thus the building becomes a vast artificial *bubble*, an autonomous sphere forming a new social organization, held together not by structure, but by skin, like a bubble.⁵ In *Great Leap Forward* Koolhaas again uses this notion for new cities, as “bubbles© are connected usually by Potemkin corridors©—but not integrated. The city is not understood as the product of common interests, but rather as a new form of centrifugal coexistence of divergent interests.”⁶ Besides applying it to buildings, he also extends the metaphor of polyspherical structures to urban scale.

Koolhaas also maintains that air conditioning, as the *sine qua non* of Typical Plan, imposes a regime of sharing that defines invisible communities, aligned in powerful wholes like the iron molecules that form a magnetic field.⁷ The idea that technology generates new architectural shapes as well as new forms of social life is central to the ideology of modern architecture. For example, Le Corbusier already linked the architectural revolution to new building techniques when he argued in 1927 that reinforced concrete automatically endows us with the ribbon window.⁸

In *Building in France* of 1928, Sigfried Giedion similarly connected the lineage of modern architecture and the emergence of new forms in the nineteenth century to the work of French structural engineers and ingenious industrial constructions, such as bridges, railway stations, exhibition halls, and department stores.⁹ Arguing that in the 19th century, construction plays the role of the subconscious, Giedion implies that the modernism will finally uncover that which has been repressed.¹⁰ Walter Benjamin refers to Giedion’s book more than twenty times in the *Passagenwerk* or *The Arcades Project*, which he started in 1927 and continued to work on until his departure from Paris in 1940.¹¹ In a letter of February 15, 1929, Benjamin even thanks Giedion for his book and explains that he is pursuing a similar purpose, exploring the Parisian arcades as an embodiment of

4 Ibid.

5 Ibid.

6 Rem Koolhaas, Sanford Kwinter, Stefano Boeri: *Multiplicity, Mutations*. Bordeaux, France: ACTAR, 2000, p. 334.

7 Rem Koolhaas: “Typical Plan.” In: Rem Koolhaas, Bruce Mau, *S, M, L, XL*. New York: Monacelli Press, 1995, p. 339.

8 Le Corbusier: *Une maison, un palais*. Paris. Éditions Crés et Cie, 1927, p. 100. See also Le Corbusier: *Vers une architecture*. Paris. Éditions Crés et Cie, 1924, p. 47.

9 Sigfried Giedion: *Building in France, Building in Iron, Building in Ferroconcrete*. Santa Monica, Calif.: Getty Center, 1995.

10 Ibid, p. 3.

11 Walter Benjamin: *The Arcades Project*. Cambridge, Mass., London: Belknap, 1999.

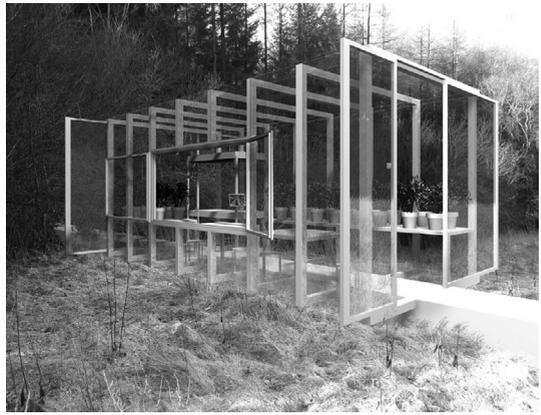


fig. 1: Philippe Rahm,
House Dilation in Cum-
bria, England, 2006.

atmosphere, manners, language and fashion in the Capital of the 19th century. Taking iron to be the first artificial building material in history, Benjamin says it took a hundred years before the social conditions existed for its extensive use in construction. In Scheerbart's 'Glasarchitektur' of 1914, iron still appeared in the context of a Utopia.¹²

In line with this tradition, Koolhaas speaks of an "unacknowledged utopia, the promise of a post-architectural future," ushered in by air conditioning and the typical plan.¹³ "The plan without qualities" combines standard repeatable elements—column grids, facade modules, ceiling tiles, lighting fixtures, partitions, electrical outlets, flooring, furniture, color schemes, air-conditioning grills. Because of the sheer rationality and efficiency of such a pragmatic system, the typical plan becomes relentlessly enabling, ennobling background: architecture as mantra, or "aleatory playgrounds (interior Elysian fields) accessible in anyone's lifetime."¹⁴ In this way, the air-conditioned bubble is *zero-degree architecture*. Echoing Roland Barthes' concept of *writing zero-degree*, Koolhaas describes the typical plan as almost free of architecture, since it makes no choices that curtail possibilities but instead keeps *all* options open forever.¹⁵

Physiological architecture

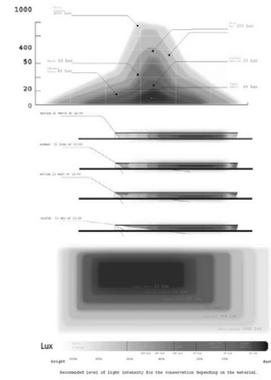
In a lecture in Vienna, 2008, Philippe Rahm spoke about his idea of an architecture that only consists of air conditioning, sound, light, and humidity within a closed, controlled and artificial environment. His recent projects explore the interface between the material, yet elusive, microscopic dimensions of the ambiance. This kind of *physiological architecture* is conceived as an active, sensi-

12 Walter Benjamin: "Paris: Capital of the 19th Century" (1935). In: *The Arcades Project*. Cambridge, Mass., London: Belknap, 1999. See also Kenneth Frampton: *Modern Architecture. A Critical History*. London: Thames & Hudson, 1980, p. 29.

13 Rem Koolhaas, see note 7, p. 336.

14 Ibid, p. 343.

15 Ibid, p. 344.



tive territory in the process of perception by addressing multiple modes of awareness of the senses, in the retina, by breathing, the enforcement of orientation, views. A case in point is Rahm's 2006 project House Dilation in Cumbria, England (fig. 1).

The idea goes back to Georges Perec, French author, filmmaker and member of the Oulipo group, who dreamt of having his living room in the Latin Quarter, his study near Champs-Élysées, his bedroom in Montmartre, and his bathroom on the Île de la Cité.¹⁶ Instead of collecting all the functions of a dwelling into a single, continuous layout, he preferred to sprinkle parts of his apartment across the city of Paris. This way one would get the optimum conditions for each activity, just like one would choose the café on the sunny side of the street in the morning, and the one on the opposite side in the late afternoon. As a consequence, the rooms of the apartment will be separated by hundreds of meters, so that the inhabitants of the dwelling live together on an urban scale.

Similarly to Perec's concept, Rahm's projects dislocate borders and structures and rearrange the limits between inside and outside, or between physical space and the physiological response of the user. He addresses a conscious enhancement and exaggeration of architectural singularity in time and space. These specificities take in local characteristics of topography, context, orientation, views, or season. Dealing only with invisible entities such as temperature stratification, humidity rates, the movements of air via controlled pressures, and the route of the steam, the architecture aims at revealing the close relation between human body and built environment. The particular climatic theme of the work infiltrates and provokes a sensual apprehension of space. This kind of atmospheric environment is thus immersive, confronts the beholder with the presence of his or her body.

Another project proposing physiologically responsive environments is Rahm's new National Museum in Estonia, 2005 (fig. 2–5). Architecture here is nothing more than an envelope for certain climatic values: the intensity of light, in parti-

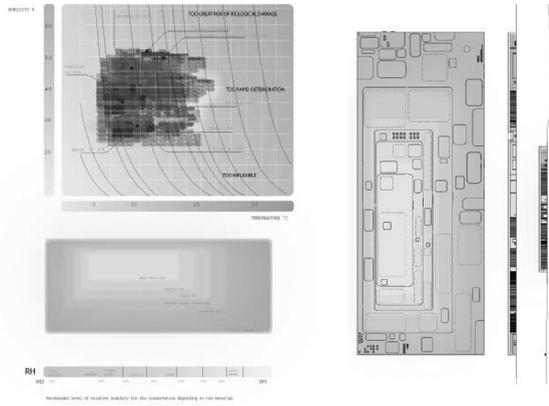
16 David Bellos, Georges Perec: *A Life in Words*. London: Harvill Press Editions, 1993.

Opposite page, left:
 fig. 2: Philippe Rahm, *National Museum in Estonia, digital model, 2005.*

Opposite page, right:
 fig. 3: Rahm, *National Museum in Estonia, diagram lux.*

Left:
 fig. 4: Rahm, *National Museum in Estonia, diagram humidity.*

Right:
 fig. 5: Rahm, *National Museum in Estonia, floor plan.*



cular UV rays, the humidity of the air. A museum needs to preserve the artworks under certain physical conditions in order to prevent dehydration, photochemical deterioration and other adverse effects. Rahm organized the Estonian museum as a series of concentric glass layers, so that there are five successive climates with progressively different humidity levels that follow each other in succession from the exterior to the heart of the building. This way, the entire layout of the ground level is derived from various diagrams passing from 76%, to 60%, then 55%, next 35% then 30%, and finally 20% humidity, and the natural light intensity descending progressively from 5000 lux to 10 lux. The plan is arranged according to this progression, as a gradual immersion in the physical parameters of the artworks, through a descent into obscurity in combination with drier and drier air.

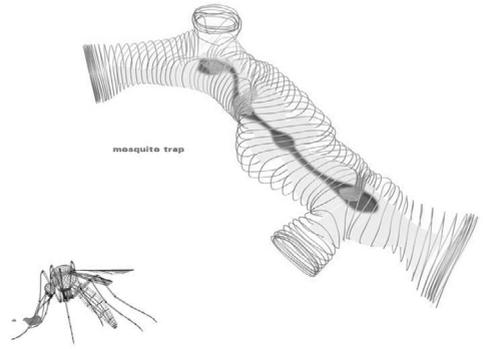
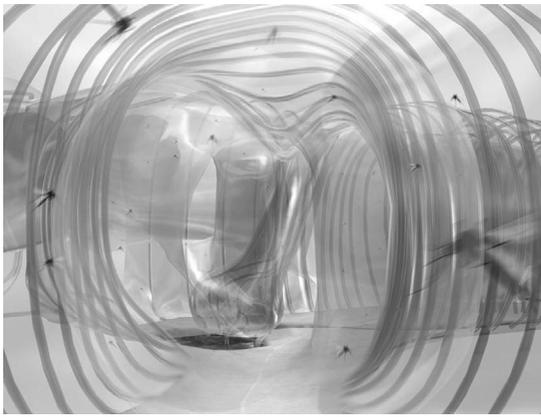
The 2003 project *Mosquito Bottleneck* by Francois Roche of R&Sie is a different kind of environmental intervention that focuses on emotional responses (fig. 6–8). It exemplifies how formless, highly sensual material operates across and through a surface disabling the imposition of form. The paradise-like environment of a tropic island is threatened by two dangers, giant hurricanes and microscopic mosquito viruses. Instead of creating a well-equipped safety bunker, R&Sie want to combine the objective paranoia with a desire for safety by twisting the surface of the house into a Klein bottle.¹⁷ Roche proposes that “what is needed therefore is a new kind of angst-management that *frames the dangers* instead of blocking them out, not to senselessly offer us up as victims but in order to accept the presence of dangers and get used to them.”¹⁸

Presence, atmosphere, and the conditions of theatre

Like the notion of shape, the idea of atmosphere stresses the performative properties of spatial immediacy and presence. The central concept of shape is to

17 Andreas Ruby, Benoît Durandin (eds.): *Spoiled Climate, R&Sie... architects*. Basel Boston Berlin: Birkhäuser, 2004, p. 140.

18 *Ibid.*, p. 142.



capture the virtual, a condition that is said to bring forward alternative realities, enable new social events, and actuate the potential for change in architecture. In their essay “Notes on the Doppler Effect” Robert Somol and Sarah Whiting argue against the oppositional strategy of critical dialectics and outline the new conditions of shape and projective practice by applying the binary model of *form* versus *shape*, *criticality* versus *projection*, *representation* versus *performativity*, *index* versus *diagram*, *autonomy* versus *instrumentality*, *hot* and *cool media*, *dialectic* versus *atmosphere*.¹⁹ Somol further lists twelve attributes of shape, stating it is *illicit*, *easy*, *expandable*, *graphic*, *adaptable*, *fit*, *empty*, *arbitrary*, *intensive*, *buoyant*, *projective*, and *cool*.²⁰

The reference to a measurable scientific phenomenon, such as the Doppler effect, is intended to explain the effects of the virtual in architecture, its multiple contingencies and overlaps with politics, economics and theory; unfortunately, the analogy remains vague as there is no indication which terms precisely should be related to each other. The authors contrast Peter Eisenman’s highly articulate forms with Rem Koolhaas’ diagrammatic and non-specific shape projects. In Eisenman’s indexical reading of the Maison Dom-Ino frame, the substantial architectural elements are not understood in terms of structural requirements, but interpreted as self-referential signs, which Eisenman defines as the minimal conditions for any architecture.²¹ By contrast, in Koolhaas’ diagrammatic reading of another frame structure, namely the steel skeleton of the typical Manhattan skyscraper, is the most potential architectural *diagram* by projecting a multiplicity of virtual worlds on a single metropolitan site. The diagrammatic section of a skyscraper becomes an instrument of the spatial discontinuity for producing new events.

19 Robert E. Somol, Sarah Whiting: “Notes around the Doppler Effect and other Moods of Modernism,” *Perspecta* 33, pp. 74–75.

20 Robert Somol: “12 Reasons to Get Back into Shape.” In: Rem Koolhaas, AMOMA et al., *Content*. Köln: Taschen, 2004, pp. 86–87.

21 Peter Eisenman: “Aspects of Modernism: Maison Dom-ino and the Self-Referential Sign.” In: K. Michael Hays, ed.: *Oppositions Reader*, New York: Princeton Architectural Press, 1998, p. 191.

Opposite page, left:
fig. 6: Francois Roche,
Mosquito Bottleneck,
interior.

Opposite page, right:
fig. 7: Roche, R&Sie, Mos-
quito Bottleneck, Klein-
bottle twist, 2003.

fig. 8: Francois Roche,
R&Sie, Mosquito Bottle-
neck, Trinidad, 2003 .



Besides adopting Marshall McLuhan's distinction between "hot" and "cool" media, Somol and Whiting draw on Michael Fried's polemics against minimal or literal art.²² In Fried's opinion, "art degenerates as it approaches the condition of theatre."²³ Shape in minimal art decisively depends on the effect of presence, because it implies both a specific environment and the beholder moving in it. Hence, it is incurably theatrical, the shape objects are seen as actors on a stage deriving meaning from their singular effectiveness as *mise-en-scène*. When one perceives the shape object in its spatial context, in the expanded field of the architectural conditions, it significantly promotes an awareness of the physical presence, and thereby theatricalizes the viewer's body, putting it endlessly on stage.²⁴ This effect of theatricality is subversive, defiant, and to his mind, fundamentally inimical to the essence of sculpture.²⁵

Fried's ideas have been co-opted also by another contemporary architecture theorist, Pier Vittorio Aureli, who uses them against Somol and Whiting. Paraphrasing Fried's notion of the objecthood of minimal art, Aureli charges that OMA, Herzog & de Meuron, or Diller + Scofidio are merely concerned with "contenthood."²⁶ He opposes the concept of shape to that of form. Whereas form claims to be essential, abstract, and immaterial, shape is contingent and situational. In contrast to the abstract and immaterial realm of form, shape as a covering surface to volumes depends decisively on the material. But although it only exists in correlation with matter, "shape must float," according to Somol. Similar to mere size – or Bigness, as Koolhaas calls it – the vagueness of shape has mainly

22 Michael Fried: "Art and Objecthood." In: *Artforum*, vol. 5, no. 10 (June 1967), reprinted in: Gregory Battcock, ed.: *Minimal Art: A Critical Anthology*, New York: E. P. Dutton, 1968, pp. 116–47.

23 Ibid.

24 Pier Vittorio Aureli: "Architecture and Content: Who's Afraid of the Form-Object?" In: *Log*, Fall 2004, pp. 29–30.

25 Ibid., pp. 29f.

26 See note 19, pp. 74f.

performative properties that operate with the immediacy of sensual experience, superficiality, and emptiness.

As theorized by Somol and Whiting, the projective position challenges architectural criticality that underscores the autonomy of the arts as the precondition for engagement, enabling critique, representation, and signification.²⁷ The original avant-garde movement always had a political dimension, calling for resistance against the system in which architecture is stripped of its social tasks and rendered as a pure economic factor. In *Architecture and Utopia* Manfredo Tafuri argues that unlike avant-garde art, architecture is able to reprogram the environment as a social machine because it operates in real space. Inversely, however, this view entails that architects should be held responsible for all the disturbing changes in the environment that he criticizes. Indeed, Tafuri's view arrogates to architects the omnipotence of which they have always dreamed. But it is far from clear that architecture would provide the one and only adequate physical description of social space, or really constitute a sufficient account of all forces at work that invent and mold social relations.

Immersive spaces

In contrast to Fried's modernist reduction of art to its very essence, Sylvia Lavin postulates the concept of plastic material that goes across the borders of art forms. Its plasticity produces "a multivalent sensibility in which the clarity of view at the core of the Enlightenment project gives way to the density of experience."²⁸ For Lavin, Diller + Scofidio's Blur Building works with the plasticity of a solidifying atmosphere, probing the sight of the visitors with opacity (fig. 9). According to Liz Diller, the Blur pavilion was intended to present an anti-spectacle as a reaction to the insatiable hunger for visual stimulation by displaying the complementary visual effect of low definition, an optical white-out of erased visual references with only blurred images.²⁹ Yet, seen from the shore the artificial fog form, as Diller admits, presents a visual icon—while from within it promotes bodily presence via blurry vision and "blushing brain coats" (smart raincoats) indicating the affinity between visitors by changing colors.

27 Sylvia Lavin: "Plasticity at Work." In: Jeffrey Kipnis, Annetta Massie, eds.: *Mood River*. Columbus, Ohio: Wexner Center for the Arts, 2002, p. 80.

28 Elisabeth Diller: "Blur Building, Yverdon-les-Bains, Swiss Expo.02." In: *Information zur Raumentwicklung*, 1.2005, pp. 15–16.

29 Elisabeth Grosz: "Architecture from the Outside." In: Cynthia Davidson, ed.: *Anyplace*. New York: Any Corporation, 1995, p. 21.

fig. 9: Diller + Scofidio, 'Blur Pavilion' Swiss Expo, Yverdon-les-Bains, Switzerland, 'hyperblush,' 2002.



The idea of a fog building that rejects any conventional concept of space stems from the Japanese artist Fujiko Nakaya who created the first fog sculptures in the late 1960s. Nakaya envelopes people and constructive elements in a fog environment, transforming them into impalpable beings of fog stripped of their materiality.

At the Osaka Expo in 1970 Nakaya covered the entire Pepsi Pavilion by the New York based group Experiments in Art and Technology (E.A.T., organized by Billy Klüver) with artificially generated water fog (fig. 10–11).³⁰ According to the ideals of E.A.T., the artist makes active use of the inventiveness and proficiency of the engineer, such as the adoption of the existing technology of fog simulation, and thus seeks to bring the artistic medium more in touch with new materials and technological transformations.

Instead of a fixed narrative of events, the theatrical, interactive environment of the installation, with its spherical mirror, fog atmosphere, a surround-sound system, and kinetic sculptures called “floats,” was designed to encourage live-programming that involves an experience of choice, freedom, participation. The pavilion is one of the first projects of an immersive space that predates the virtual reality operating through electronic and digital media. By extending and transforming physical space, it gave visitors the freedom of shaping their own reality and sequence of events.

The radically new

Architecture today is increasingly evolving towards the invisible and atmospheric sphere beyond the reality of bricks and mortar. The virtual world of digital technologies has changed the design practice by blurring the boundaries between fictitious and real space. Means of combinatory design for algorithms, layering, folding, and programmed randomness, enables the visual representation and realization of hybrid architectural visions. These changes provoke the question how such innovations effect, shape and interact with the experience of space.

³⁰ Sanford Kwinter: “The Reinvention of Geometry,” in *arch+ 117*. 1993, p. 83.



fig. 10: *Experiments in Art and Technology (E.A.T.) with Fujiko Nakaya, 'Pepsi Pavilion' Osaka Expo, image, 1970.*

Applying theories of chaos and complex systems, and experimenting with non-linear and topological geometries, architects have reformulated the discipline and redefined its role and functions. Another major influence in the past two decades has been the philosophy of Gilles Deleuze whose concepts of lines of flight and segmentarity, fold and rhizome, diagram and abstract machine, smooth space, and the event are settled as a whole in a vagueness and indiscernibility where events, or processes which, however temporarily, share a common milieu.³¹ They create a field of emergence where the radical new being can unfold in a pre-conditional state. In *A Thousand Plateaus* Deleuze names this “plane of immanence of radical experience” as the ‘virtual’ that refers by definition to something non-representational and a-signifying.³² What will be unfolded presents itself in a plane of continually shifting interconnections, intensities, forces, flows, events and spaces. This elaborate and complex concept of the virtual does not proclaim “pre-formed spaces, objects, or functions but... pure potentials or virtualities, morphic resonances as variable densities of space-time, activity, or action.”³³

Deleuze rejects representations of the world that are either correct or incorrect, and instead proposes theories that function as “abstract machines” in the process of architectural design, because “the abstract of diagrammatic machine does not function in order to present something, even something real, but rather constructs a real to come, a new type of reality.”³⁴ For him, creative evolution is not the movement from the possible to the real, because the process of realization would offer nothing new and would not bring more reality and difference to come into existence. Since the possible is just like the real with the only difference that it does not exist, this movement would not be creative but rather means that other possibilities would not be realized. Within Deleuze’s understanding, the virtual

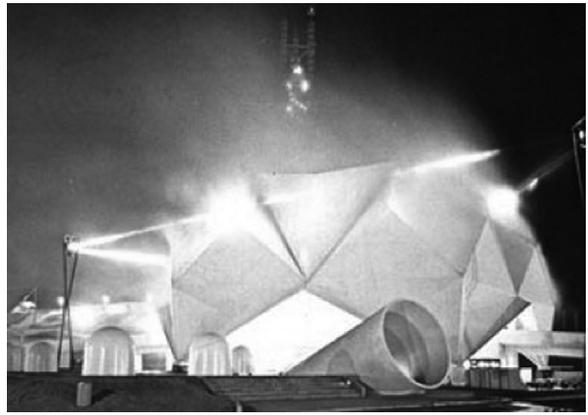
31 Gilles Deleuze: *Bergsonism*. New York: Zone Books, 1988, p. 142.

32 Brian Massumi: “Sensing the Virtual, Building the Insensible.” In: *Architectural Design*, vol. 5/6, no. 68: Hypersurface Architecture, p. 20.

33 Sanford Kwinter, “The Reinvention of Geometry,” in *arch+ 117*. 1993, p. 83.

34 Gilles Deleuze, *Bergsonism*. New York: Zone Books, 1988, p. 142.

fig. 11: *Experiments in Art and Technology (E.A.T.) with Fujiko Nakaya, 'Pepsi Pavilion' Osaka Expo, animation, 1970.*



becoming actual is the true creative evolution, because the actual does not bear a resemblance to the virtual that it embodies. Hence, while the realization of the possible is characterized by likeness, preformation, and restriction, the actualization of the virtual makes the radical new emerge, the unfolding and revealing of unpredictable differentiation.

This danger of petrification of the virtual through representation is also addressed by Brian Massumi who reintroduces questions of perception, bodily experience, and a transformative effect of architecture by shifting the point of view from the physical properties to the performance and lived-in processes of the built space. Though the virtual cannot be seen or even felt, “in addition to residue in static form, the formative process leaves traces still bearing the sign of its transitional nature.”³⁵ Instead of focusing on the design process he gives attention to the afterlife or architecture, its interference with the users that may implicate the potential for further change. Similarly, this idea of the new realities resonates with Rem Koolhaas’ theory of Bigness that links unprecedented size, rather than unpredictable geometries, to the creation of “programmatically alchemy,” maximum possibility, intensity, freedom, and entirely new social interaction.³⁶

Projects by Philippe Rahm and Francois Roche, Diller and Scofidio as well as E.A.T. with Nakaya rely on a kind of physiological architecture that involves synaesthetic immersion. They involve a “psycho-geography” of space, expanding the “event structure” as a kind of constructivist “social condenser” for generating new forms of presence and interaction. It seems that the most significant and vital issue of architectural space is the social dimension, embodied in the interference of the users. The atmospheric qualities and the emotional effects they produce depend on a physiological response which can be elicited in different

35 Brian Massumi, “Sensing the Virtual, Building the Insensible,” in *Architectural Design*, vol. 5/6, no. 68: Hypersurface Architecture, p. 20.

36 Rem Koolhaas, “Bigness, or the Problem of Large,” in Rem Koolhaas, Bruce Mau, *S, M, L, XL*. New York: Monacelli Press, 1995, pp. 506-507.

ways. Thus, independent of the architectural means applied, the body remains a *Nullpunkt*—to use Husserl’s term—a dynamic and malleable center, to be sure, but a foundation nonetheless for the constitution of space.

Maybe one of the most vital aspects of change is the interference between architecture and the user. Virtual space, too, intertwines space with bodily presence, it can be experienced as sphere that creates an emotional response in the viewer. For there is no concept of spatiality without presence of the body, or, as Adolf Hildebrand suggested in 1893, the individual objects exist not as something within external boundaries but rather as parts internally animated by their own capacity to evoke and stimulate our idea of space.³⁷

37 Adolf Hildebrand: “Das Problem der Form in der bildenden Kunst” (1893), (The problem of form in the fine arts). In: Adolf Hildebrand: *Gesammelte Schriften zur Kunst*, Cologne: Westdeutscher Verlag, 1969, reprinted in: Mallgrave, Eleftherios Ikononou, ed.: *Empathy, Form and Space, Problems in German Aesthetics, 1873–1893*, Santa Monica, CA: Getty Center for the History of Art and the Humanities, 1994, p. 239.