

Body, Atmosphere, and Climatic Typology: Toward an Architecture for Everyday Life

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During the last two decades, in the context of a growing awareness of the environment and climate change, architecture has explored the design opportunities opened up by the fields of thermodynamics and ecology. However, this new sensibility has been approached primarily from a technical point of view and has focused on quantifying the thermodynamic performance of buildings, overlooking the equally important cultural aspects of this endeavor. Beyond the quantitative and performance-oriented approaches that have prevailed in recent years¹, any committed attempt to connect climate, atmosphere, and architecture must also focus on finding the connections between a climate-based understanding of architecture and the everyday life of its users. Contrary to the parametric approaches that have dominated thermodynamic architecture during the last decade, it is also necessary to find architectural tools for connecting climate and ordinary life.

As a result, thermodynamic approaches to architecture must address the interactions that exist between local climate, the spatial and material particularities of architecture, and the lifestyles of its users. Interestingly, a climate-based approach to typology offers an all-encompassing tool for bridging the gulf that exists between a local climate and a specific inhabitant's everyday living patterns. Climatic types—both historical and contemporary—show in a very explicit way how architecture can determine interaction between outdoor climate and the way people live and socialize, potentially connecting the spatial and material features of architecture with the specific physiological and psychological behaviors of its users, connecting the quantitative thermodynamic processes caused by architecture and the qualitative everyday behavior of its inhabitants.

This essay explores the capacity of climatic types to engage with the social and cultural commonalities of a place. Starting with the need for an experiential approach to architecture, an initial passage exploring the multisensory dimension of the human body leads to the everyday life experience of inhabitants of a given place. Every place presents behaviors that are shared among its inhabitants, and climatic types provide disciplinary tools for attuning these questions to architecture. This essay tentatively seeks to redefine the concept of typology, overlaying

the formal and material questions considered by previous definitions with performative, behavioral, and phenomenological ones.

Body, Comfort, Pleasure: From Physiology to Phenomenology

The past ten years have seen renewed interest in the human being, positioning man at the center of architectural discussions². Even though architecture is a field of knowledge with the ultimate goal of providing human shelter, over the past several decades it has paradoxically focused on disciplinary discussions.

The human body was initially incorporated into the discipline of architecture through the field of public health and, decades later, through the paradigm of comfort. It is well documented that the Modern Movement fostered interest in hygiene and health and how the desire for a healthy environment deeply influenced its architectural outcome³. From Willis Carrier's "air-conditioned man" (1910s) and the Olgyay brothers' "bioclimatic man" (1969) to Kiel Moe's "radiant man" (2010), architecture has focused on the physiological dimension of the human body, overlooking other, equally important, perspectives [Fig. 01].

Beginning in the 1960s, this emphasis was complemented by an interest in psychology. The 'medical' body gave way to the 'psychological' body, introducing the concept of the 'expanded field of perception' [Fig. 02]. Richard Neutra's body of work focused on psychology, representing a clear example of architecture that mediated between the environment and the user's perceptual experience⁴.

These ideas were further developed in the 1970s through books like Lisa Heschong's *Thermal Delight in Architecture*⁵, which searched for an alternative to the homogeneous environments Modern Architecture was delivering. In contrast to the isotropic spaces and air-conditioned atmospheres that pervaded the modern built environment, Heschong championed the multisensory aesthetic experiences offered by traditional architecture.

Drawing on examples ranging from the Finnish sauna to the Islamic garden, Heschong argued that the human nervous system is programmed for changing environments rather than homogeneous ones, considering that thermal fluctuations—like those existing between North African summer temperatures and the conditions within the enclosed Islamic patio—have invigorating effects on the human body.

This multisensory approach was related to the interest in phenomenology that arose in 1970s architecture culture. Christian Norberg-Schulz's interpretation of phenomenology focused on reintroducing an original, imagined authenticity to balance the rational abstraction Modern Architecture had revealed. Maurice Merleau-Ponty's phenomenology was interpreted by a group of architects who introduced *wholeness*,

rootedness, and *place* into architecture through embodied multisensory experience. The work of architects such as Juhani Pallasmaa, Steven Holl, and Peter Zumthor exemplifies how these questions were introduced in the built environment.

A renewed interest in phenomenology⁶ has emerged in the work of a group of architects, historians, and theoreticians who are using cognitive science, neurophenomenology, and embodied cognition "to shore up architectural phenomenology ethical project with scientifically rigorous accounts of embodiment"⁷. Unlike Freud's understanding of the sharp separation of body and mind, neurobiologists like Jean-Didier Vincent⁸ have probed the idea that environment, soma, and senses are interconnected and form a continuous realm, unveiling the fact that human psychological emotions are connected to the body's physiological processes. Present interest in phenomenology is being reinvigorated through a rigorous scientific approach that enables more precise knowledge of the effect that specific design decisions have on the perceptive environment. This means designers will be able to create architectural environments with a complete understanding of the reactions specific stimuli will have on the human body.

The phenomenological project was based on the presupposition of another universal subjectivity—through embodiment—which would come to replace modernity's objectivity. However, rather than provide a universal theory of architecture, a revival of phenomenology⁹ must use renewed tools as a way of unveiling "the particularities of different embodiments".

Making clear that neurophenomenology will provide the practical knowledge needed to attune the human body to architecture—providing healthier, more varied, heterogeneous, and stimulating atmospheres—the real challenge is to understand how this physiological-perceptual paradigm can permeate architecture in everyday life. This question introduces the second part of this essay, which explores how ordinary everyday life atmospheres can help in understanding how the built form affects how occupants perceive, think, and behave.

Atmospheres of Ordinary, Everyday Life

Ordinary life has been a continuous source of inspiration for architects. From Robert Venturi or Rem Koolhaas to Atelier Bow-Wow, the study of ordinary architecture and urbanism has enriched and transformed architecture culture. Architects typically turned to existing urban phenomena to redefine their own discipline. *Learning from Las Vegas*¹⁰ studied the strip mall to formulate the decorated shed principle. *Delirious New York*¹¹ explored the architectural conditions of the Manhattan skyscraper to reinvigorate architecture through program hybridization. *Made in Tokyo*¹² documented anonymous contemporary architecture in the city of Tokyo as an alternative to the sophisticated star-architecture culture. Unlike these books, which focused exclusively on

the built environment, a new generation of publications analyze the connections between users, everyday life, and the built environment. Revealing an anthropological perspective, ordinary, everyday life is mapped to show how architectural and urban elements interact with non-architectural elements such as the human body, plants and animals, or atmospheric phenomena to define particular behaviors.

For instance, recent books by Atelier Bow-Wow¹³ explore what they define as the “ecology of livelihood”. Through meticulous, detailed sectional perspectives, Momoyo Kaijima and Yoshiharu Tsukamoto represent how users inhabit buildings. Overlaying the space of construction with the space of human interaction, the space of representation with the space of occupation, they show the interrelationships between diverse elements. For example, the drawing “Cherry Blossom Viewing”¹⁴ [Fig. 03] depicts an annual Japanese event showing the precise interaction between the arrangement of cherry trees, cast shadows, the beauty of blossoming flowers, a picnic, and social encounters, all of which, together, make this specific situation memorable. Tsukamoto explains that they listen to and observe user behaviors to understand what is happening in each place, claiming “[e]very place reveals unique behaviors that are shared among the people who are part of that place. These behaviors are not something we can design. They are already there. We can only encourage or intensify them by working on existing conditions that define the behavioral capacity of that space”¹⁵.

Photography is of great use in the search for ecological connections between inhabitants, the built environment, and climate. Modern and contemporary photographers—from Henri Cartier-Bresson, Frank Kappa, or Francesc Català-Roca to Joel Meyerowitz—have documented everyday life during the last century, showing the connections that exist between climate, architecture, atmosphere, and human behavior. Through their work, natural and built environments can be analyzed to further understand the relationships between places and people. Pictures introduce everyday life, unveiling not only productive activities or social patterns, but also tasks which are more mundane but equally relevant to understanding the connections between humans and climate, such as how people dress or interact with the built environment [Fig. 04], revealing in what situations inhabitants are enjoying a good life. Interestingly, these everyday life circumstances are sometimes framed by architectural devices—a glass house or a porch—providing a first approximation of the architectural arrangement a particular climatic situation requires [Fig. 05]. This enables architects to find the architectural elements that can deliver the same climatic effects, articulating a smooth and continuous thread between everyday life situations and the architectural frame that causes them.

However, this documentary evidence needs to be complemented by a parallel initiative

that aims to understand the existing interactions between the built environment, the microclimate it causes, and the way it is inhabited. Relating these questions to each particular situation requires acknowledging the thermodynamic connections that tie the human body—both its physiological functions and psychological emotions—to architecture’s spatial and material features. This means understanding precisely which thermodynamic phenomena connect human behavior to its context, as well as understanding the physical interactions—haptic, thermal, acoustic, and so forth—at play in a specific situation and how these affect the human perception to make it intense and pleasurable. The goal is to overlay ethnographic investigations of everyday life with the technical expertise provided by disciplines such as physics, physiology, or neuroscience with architectural tools to develop a wholistic approach that enables the design and build of successful spaces. This is done by searching for architectural elements that evoke such social and physiological behaviors. Both historical and contemporary architecture culture offer examples of spatial, material, passive, and mechanical elements that can provide the comfortable and intense climatic effects found in specific situations.

Climatic Type as Spatial Practice

It is difficult to predict the architectural situations in which specific atmospheres will unfold. However, climatic types offer an invaluable knowledge for understanding how specific architectural solutions mediate between local climates and the everyday life of inhabitants. Present in different latitudes around the world, climatic types offer an extensive catalogue of basic architectural solutions that effectively adapt to the climate. Classic books like Jean Dollfus’ *Les Aspects de L’Architecture Populaire dans le monde*¹⁶ or Bernard Rudofsky’s *Architecture Without Architects*¹⁷ are valuable references that distill the architectural and climatic strategies at work [Fig. 08].

Climatic types offer a precise orchestration of spatial and material considerations for a specific microclimate [Fig. 09]. Challenging the modern insulated-envelope paradigm, these types interact with climatic conditions, articulating an open-system thermodynamic approach to architecture. Furthermore, climatic typologies display precisely how specific thermodynamic mechanisms, like a patio or attached greenhouse, overlay purely performative questions with other issues that are connected to the way in which architecture is used. For instance, Lacaton & Vassal systematically attach polycarbonate greenhouses to buildings, a good example of the powerful connection between specific thermodynamic devices, the microclimates they generate, and the everyday life that can potentially be experienced by its inhabitants. From post-occupancy photographs, it is also possible to understand the experiential engagement of users within induced microclimates, unveiling the capacity for climatic types to mediate between habitation behaviors and the physiological and psychological processes at work.

Interestingly, the idea that climatic types facilitate understanding of the connection between architecture, social behavior, and the human body, introduces a new concept of typology that supersedes past conceptualizations, suggesting a need to update its scope and definition.

Toward a Fourth Typology?

According to Anthony Vidler’s 1977 article “The Third Typology”¹⁸, the idea of typology has had three different conceptualizations. Initially, it was connected to the natural order of the primitive hut. An outcome of the rationalist philosophy of the Enlightenment, the prevalent idea during the 18th and 19th centuries understood the combination of type-elements as the expression “*of the underlying form of nature beneath its surface appearance*”. In the early 20th century this understanding gave way to a second idea of typology linked to technological production, best exemplified by Le Corbusier’s interest in the industrial “object-types”. Developed through a long optimization process, the concept of object-type became the basis for design.

However in the 1960s this last understanding was questioned, sparking an interest in the form of the traditional city and bringing forward a third understanding of typology. Transcending former conceptualizations that found validation outside the discipline, the new idea of typology found its focus of interest in the traditional city and its architecture. According to Alan Colquhoun¹⁹, modernity oscillates between “biotechnical determinism” on one hand and the “free expression” of the architect on the other, but leaves a void that had been previously filled by core disciplinary values. The new idea of typology that developed during those years bridged this gap. Connected to urban form, it was recognized as a disciplinary tool for understanding the morphological evolution of the city through time. Devoid of the ideological content of previous conceptualizations, typology now offered a set of objective architectural tools referring to their formal nature as architectural elements.

Interestingly, there is a symmetry between the idea of typology that appeared in the 1960s and the renewed interest that has emerged over the past several years. Contemporary architecture has also oscillated between two opposing positions: the ‘performative ecodeterminism’ of sustainable practices and the delirious genius of the star system. Unfortunately, this polarization excludes several essential architectural questions, operating in a cultural and social vacuum that has obviated not only core disciplinary values and the historical background of architecture, but also its human and collective side.

Similar to what happened in the 1960s, this vacuum must be counteracted by a return to core disciplinary values and social engagement. From this point of view, a typological discourse can potentially bridge the void between the techno-scientific and the social and cultural opposites required to interact in architecture. Climatic typology—or

the study of climatic types—has the potential to bridge this vacuum. Climatic types bring forward a new understanding of typology, which can merge the thermodynamic, the cultural, and the social. And this is done using concepts and tools belonging to the discipline of architecture.

From a performative²⁰ point of view, climatic types are understood as material constructs that orchestrate space, matter, and program to generate specific climates. Unlike Dollfus or Rudofsky, who link climatic types to specific geographies and regions, this idea of typology is no longer understood in connection to a given place, but as thermodynamic schemes available for use in a variety of locations and situations—as long as they are compatible with local climates—paying tribute to Durand's idea that architectural history offers a wide variety of solutions that can be recombined in novel ways. This concept circles back to the correlation between type and form that pervaded typological definitions until the iconographic turn dispensed with it.

Moving from the performative to the behavioral—from the quantitative to the qualitative—, this understanding of typology complements the formal idea prevalent in the 1960s. Integrating atmosphere with peoples' behaviors, it conflates the architectural conceptualization and construction with its occupation²¹, drawing architecture closer to Henri Lefebvre's concept of "spatial practice." This idea of typology combines architecture, anthropology, and psychology to deliver an understanding of architecture that overlays its "spatial practice", the "representation of space", and "representational space"²². To put it simply, this understanding superimposes lived space, perceived space, and conceived space, designing spatial and material systems to provide an intense and stimulating atmosphere, where everyday life can unfold.

Transcending Le Corbusier's industrial types²³, Nikolaus Pevsner's functional types, Venturi's iconographical types, or Aldo Rossi's formal types²⁴, this understanding of typology also supersedes the notion of "behavioral typology," which has been recently defined²⁵. In behavioral typologies, content prevails over container, human behavior and activity over space, habitability over structural consistency. Expanding on this idea, climatic types conflate the formal and material structure of the architectural type with the microclimates it elicits and the behavior of its users, superseding performative determinism to embrace an open ecological interaction between architecture, atmosphere, and the social with human bodies.

Unlike anxious postmodern visions which understood that "type can no longer define the confrontation of internal ideology and external constraints"²⁶, this interpretation unveils the fact that architectural tools like typology can be aligned with political endeavors, merging a disciplinary outlook with the urgency for architects to address climate change. Delineating an inclusive architecture that complements the quantitative rigor unfolded

by thermodynamic practices with a stronger emphasis on everyday-life qualitative experience, this new idea of typology merges the quantitative, techno-scientific, thermodynamic, and ecological discourse on sustainability with a disciplinary outlook to provide more intense and stimulating atmospheres for everyday life and a politically charged agenda.

1. See, for example, the following books. Published in the last ten years, all of them present a technical approach to environmental questions. Abalos, Iñaki. *Essays on Thermodynamic, Architecture and Beauty*. Abalos, I.; Sentkiewicz, R. 2015. ACTAR: New York; Kiel, Moe. *Convergence: An Architectural Agenda For Energy*. 2013. Routledge: London, New York; Garcia-Germán, Javier. *Thermodynamic Interactions. An Architectural Exploration into Territorial, Material and Physiological Atmospheres*. 2016. ACTAR: New York; Hensel, Michael. *Performance-Oriented Architecture. Rethinking Architecture Design and the Built Environment*. 2013. John Wiley & Sons Limited: Chichester, West Sussex, U.K.; Mallgrave, Harry Francis. *Architecture and Embodiment: The Implications of the New Sciences and Humanities for Design*. 2013. Routledge: New York, London.

2. See, for example, Beatriz Colomina and Mark Wigley, *Are We Human? Notes on an Archaeology of Design* (Zürich: Lars Müller, 2016), or Kiel Moe, *Thermally Active Surfaces in Architecture* (New York: Princeton Architectural Press, 2010). For more on the current interest in neurophenomenology, see the books referenced in note number 4.

3. Over the past few decades, several voices have researched on the influence of public health and medicine in the history of the Modern Movement. See Beatriz Colomina, *X-Ray Architecture* (Zürich: Lars Müller, 2019).

4. Richard Neutra, *Survival Through Design* (New York: Oxford University Press, 1954).

5. Lisa Heschong, *Thermal Delight in Architecture* (Cambridge, MA: The MIT Press, 1979).

6. A number of architectural historians and theoreticians have resorted to neuroscience to reinvigorate the phenomenological project. See, for example, Sarah Robinson and Juhani Pallasmaa, *Mind in Architecture: Neuroscience, Embodiment, and the Future of Design* (Cambridge, MA: The MIT Press, 2015); Sarah Williams Goldhagen, *Welcome to Your World: How the Built Environment Shapes Our Lives* (New York: Harper Collins, 2017); Harry F. Mallgrave, *Architecture and Embodiment: The Implications of the New Sciences and Humanities for Design* (New York: Routledge, 2013); or Alberto Pérez-Gómez, *Attunement: Architectural Meaning After the Crisis of Modern Science* (Cambridge, MA: The MIT Press, 2016).

7. This renewed interest in phenomenology can, for instance, be found in the issue of *Log* devoted to this topic. See Bryan E. Norwood, "Disorienting Phenomenology," *Log* 42, Winter-Spring 2018, 11-22.

8. See Jean-Didier Vincent, *The Biology of Emotions*, trans. John Hughes (Oxford, UK: Basil Blackwell, 1990).

9. Norwood. Op. cit. "Disorienting Phenomenology," 11-22.

10. Robert Venturi, Denise Scott Brown, and Steven Icenour, *Learning from Las Vegas* (Cambridge, MA: The Massachusetts Institute of Technology, 1977).

11. Rem Koolhaas, *Delirious New York: A Retroactive Manifesto for Manhattan* (Oxford, UK: Oxford University Press, 1978).

12. Junzo Kuroda and Momoyo Kajijima, *Made in Tokyo* (Tokyo: Kajijima Institute, 2001).

13. See books such as Atelier Bow-Wow, *Commonalities, Production O Behaviors* (Tokyo: Lixil, 2014); Yoshiharu Tsukamoto, *WindowScape: Window Behaviourology* (Singapore: Page One, 2012), or *Windowscape 3* (Japan: Film Art, 2016).

14. Drawing by a student in the Tsukamoto Workshop at the Tokyo Institute of Technology (2013-14), from Atelier Bow-Wow, *Commonalities of Architecture* (Delft, Netherlands: TU Delft, 2016), 52-53.

15. Atelier Bow-Wow and K. Michael Hays, *Architectural Ethnography: Atelier Bow-Wow*. (Berlin: Sternberg Press, 2017).

16. Jean Dollfus, *Les Aspects de L'Architecture Populaire dans le monde* (Paris: Editions Albert Morancé, 1954).

17. Bernard Rudofsky, *Architecture Without Architects: A Short Introduction to Non-Pedigreed Architecture* (New York: Museum of Modern Art, 1965).

18. Anthony Vidler, "The Third Typology," *Oppositions* 7 (1977): 71-74 https://monoskop.org/images/5/50/Vidler_Anthony_1977_1998_The_Third_Typology.pdf

19. Alan Colquhoun, "Typology and Design Method," *Perspecta* 12 (1969): 71-74.

20. Performative refers to the climatic performance specific spatial and material features can elicit in an architectural interior.

21. Michael Hays. Op. cit. *Architectural Ethnography*, 23.

22. Henri Lefebvre, *La Production de l'Espace* (Paris: Editions Anthropos, 1974).

23. Nikolaus Pevsner, *A History of Building Types* (London: Thames & Hudson, 1976).

24. Aldo Rossi, *L'architettura della città* (Padova: Marsilio Editori, 1966).

25. See Marco Casamonti, "Architectural Typology vs. Behavioural Typology," *area* (2014) <https://www.area-arch.it/en/architectural-typology-vs-behavioural-typology-2/>.

26. Rafael Moneo, "On Typology," *Oppositions* 13 (1978): 22-45.

Body
Atmosphere
Climatic typology
Thermodynamics
Everyday life