

# ARCHITECTURE AS PARTICIPATION IN THE WORLD: MERLEAU- PONTY, WÖLFFLIN, AND THE BODILY EXPERIENCE OF THE BUILT ENVIRONMENT

BRIAN IRWIN

## INTRODUCTION

Many discussions of Merleau-Ponty's treatment of the bodily experience of space turn to his opus *Phenomenology of Perception*, where he most explicitly takes up the theme. Yet in Merleau-Ponty's own view this treatment, while providing rich and valuable insights into spatial experience, remains unsatisfying: ultimately *Phenomenology of Perception* does not escape a dualism that, despite the work's inestimable contributions to the philosophy of embodied experience, situates it within a flawed tradition running back through Husserl, Kant, and Descartes. As Merleau-Ponty himself puts it, "The problems posed in Ph.P. are insoluble because I start there from the 'consciousness'-'object' distinction."<sup>1</sup> Only in his later philosophy, particularly with his development of the ontology of the flesh, did he approach the fulfillment of his goal to leave this distinction and all its Cartesian corollaries behind once and for all. If we want to derive from his work an approach to architecture that doesn't recapitulate these Cartesian assumptions, that instead seeks to understand architectural practice and experience as important ways in which we belong to the world, then it is to his later philosophy that we should turn.

In this essay I want to emphasize in particular that our mode of engaging with the world, in Merleau-Ponty's later writings, can be understood as one of *participation*, as I argue in the first section.

In considering how this principle might apply to architectural theory in practice, I turn to Heinrich Wölfflin, whose “Prolegomena to a Psychology of Architecture” suggests a way of thinking about architecture in participatory terms. I conclude with a few remarks about how these ideas may be applied to the contemporary world of architectural theory and practice.

DRAWING OUT THE THEME OF PARTICIPATION IN MERLEAU-PONTY'S LATER PHILOSOPHY

It is a bit ironic that vision figures so prominently, even in the very titles of two of Merleau-Ponty's last works —*The Visible and the Invisible* and “Eye and Mind”—considering that in these writings he makes a radical departure from the ocular-centrism that has for so long characterized the Western philosophical tradition. In Merleau-Ponty's use, though, vision functions as a synecdoche for sensing in general. In the ontology of the flesh, the visual and the tactile are bound up in a general sensing which is embedded in the “flesh of the world,” the term Merleau-Ponty uses to signify that element in which sensing and sensible, subject and object, occur together, wherein “between the seeing and the seen, between touching and the touched, between one eye and the other, between hand and hand, a blending of some sort takes place – then the spark is lit between sensing and sensible, lighting the fire that will not stop burning.”<sup>2</sup> Indeed, the tactile can be taken as primary insofar as it is by means of the tactile that the embeddedness of vision in the world is explicated. The visible “envelops, palpates, espouses the visible things.”<sup>3</sup> Merleau-Ponty asks:

*What is this prepossession of the visible, this art of interrogating it according to its own wishes, this inspired exegesis? We would perhaps find the answer in the tactile palpation where the questioner and the questioned are closer, and of which, after all, the palpation of the eye is a remarkable variant. ...*

*[B]etween my movements and what I touch, there must exist some relationship by principle, some kinship, according to which they are not only, like the pseudopods of the amoeba, vague and ephemeral deformations of the corporeal space, but the initiation to and opening upon a tactile world. This can happen only if my hand, while it is felt from within, is also accessible from without, itself tangible, for my other hand, for example, if it takes its place among the things it touches, is in a sense one of them, opens finally upon a tangible world of which it is also a part.<sup>4</sup>*

Compared to vision, the immediacy and density of contact with things through touch better reveals the common dimension of the sensing and the sensed. For the hand that touches is manifestly a thing in the world – a thing we can see, and indeed a thing we can touch (with the other hand). It meets resistance when it slaps against the table in the same way that

the ball meets resistance when it lands in the palm.<sup>5</sup> This commonality of touching and touched – their mutual embeddedness in the place of contact – is what makes it possible for the tactile world to open up to sensing. This phenomenon, in fact, is enough for us to overthrow our naturalistic idea of the thing as object, as essentially separate from ourselves, since we find ourselves suddenly *among* the world of objects, and this, as he says elsewhere, “results in an ontological rehabilitation of the sensible.”<sup>6</sup> This is the crux of Merleau-Ponty’s later ontology – or not crux but what he terms *chiasm*: the flesh of the world finds expression in both sensing and sensible as two sides of the same coin. While there is a gap (he uses the term *écart*) between these two sides, they are nonetheless characterized by “overlapping or encroachment, so that we may say that the things pass into us, as well as we into the things.”<sup>7</sup> It is a relation of intertwining, such that there is not an ontological separation between the self and the world, but an emergence of self from the world (and of the world from self). As he says in a working note to *The Visible and the Invisible* with the header “The chiasm,” “A relation to Being is needed that would form itself *within Being*.”<sup>8</sup> The experience of tactility is the best example of this relation because it most clearly depends on our moving about within the world, discovering its resistances and textures through grasping, stroking, or palpating actions, and providing resistances of our own through our acts of touch. Given the nature of this bodily engagement with the world, it is very difficult to imagine that we simply *represent* the world through touch, or that a world of objects is translated by touch into a tactile representation.

Only once we see this do we see that vision and the visible operate according to the same principle; that, in fact, “the palpation of the eye is a remarkable variant” of the tactile encounter with things, and vision does in fact participate in the sensible world as surely as does touch. For at

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a fundamental level, as the example of tactility demonstrates, this is just what it is to sense: to make contact with the world, to be among things rather than before them. After all, I am visible as a seeing thing, even if by physiological circumstance I am not directly visible as a seeing thing to myself; as Merleau-Ponty notes, “[i]t is a marvel too little noticed that every movement of my eyes—even more, every displacement of my body—has its place in the same visible universe that I itemize and explore with them.”<sup>9</sup> Just as it is only by belonging to the world of touchable things that the hand is able to feel, so the eyes can only see by virtue of their being within a visible world.

So we see that this sort of belonging is characteristic of sensing in general; that the sensible world is open to us as sensing beings because of our chiasmic relation to it from within—an active participation, a movement that always takes us beyond ourselves in the incessant palpation of our surroundings. And, as actions are carried out by our whole moving, sensing body, rather than merely any isolated sense, the unity of the body is entailed in any sensory experience. The senses interpolate each other, and operate according to each other’s modes. Thus we *see* the tactile qualities and *feel* the visible qualities of things; or as Merleau-Ponty puts it “there is encroachment, infringement, not only between the touched and the touching, but also between the tangible and the visible, which is encrusted in it, as, conversely, the tangible itself is not a nothingness of visibility, is not without visual existence.”<sup>10</sup> The chiasm, in which sensing and sensible are intertwined, also allows for the intertwining of the senses with each other. As he notes elsewhere, “Cezanne said that one could see the velvetiness, the hardness, the softness, and even the odor of objects. My perception is therefore not a sum of visual, tactile and audible givens: I perceive in a total way with my whole being; I grasp a unique structure of the thing, a unique way of being, which speaks to all my senses at once.”<sup>11</sup>

To “see,” then, is to be intertwined through all our senses with the world around us. Vision therefore does not involve rendering a picture or representation of the world, which would entail standing outside of it, at a distance. Merleau-Ponty takes Descartes’ *Dioptrics* as paradigmatic of “thought that wants no longer to abide in the visible and so decides to reconstruct it according to a model-in-thought.”<sup>12</sup> On the Cartesian view, there is a separation between “the thing itself” outside us and that which occurs for the mind, “that other thing which is only reflected light rays and which happens to have an ordered correspondence with the real thing.”<sup>13</sup> Such a conception leads Descartes to hold outline and form as most essential in engravings, for they “present the object by its outside, or

its envelope” in contrast to which coloring is merely incidental decoration.<sup>14</sup>

But we don’t perceive the world from the outside, we perceive it—and can only perceive it—by participating in it. In being “[i]mmersed in the visible by his body, itself visible, the see-er does not appropriate what he sees; he merely approaches it by looking, he opens onto the world.”<sup>15</sup> In contrast to Cartesian representationalism, “I do not see [space] according to its exterior envelope; I live it from the inside.”<sup>16</sup> For the painting that moves us is not the one that most accurately renders the form of the object, but that which binds us with the things of the world, in which the world has been allowed to express itself through the expressive body of the painter. Merleau-Ponty quotes Klee, who says of artistic expression, “A certain fire wills to live; it wakes. Working its way along the hand’s conductor, it reaches the canvas and invades it; then, a leaping spark, it arcs the gap in the circle it was to trace: the return to the eye, and beyond.”<sup>17</sup> Being expresses itself in a gesture that ties together the individual and the world such that “it is impossible to say that here nature ends and the human being or expression begins.”<sup>18</sup> It is in the resonances that leap from the world to inhabit the artist, course through her and emerge back into the world again, that artistic expression is achieved. Though the thought is inspired by painting, the principle applies to experience generally: it is through chiasmic participation in the world through moving acts of perception and gestures of expression, that meaningful inhabitation is accomplished.

#### HEINRICH WÖLFFLIN AND ARCHITECTURE AS PARTICIPATION IN THE WORLD

If we don’t presuppose, as so much of Western thought has, a representationalism that places the subject and the world in ontological opposition to each other, and instead start from the

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Merleau-Pontian perspective that, as fleshy beings, we are part of the world and belong to it, what will be the consequences for how we conceive the built environment? Rachel McCann, in applying the lessons of Merleau-Ponty's later philosophy, speaks of architecture as a "carnal echo," which emphasizes that the power of an architectural work emerges from the intertwining of human beings with their surroundings.<sup>19</sup> We can see in the analysis by the 19th century art historian Heinrich Wölfflin that, in fact, traditional Western architecture has been motivated, consciously or not, by a logic of carnality.

In "Prolegomena to a Psychology of Architecture," Wölfflin argued that the forms that had defined traditional architecture since classical times reflected the ways in which we relate to the world as embodied beings, especially through what we would now call a proprioceptive sense. What had sometimes been reduced, in Wölfflin's estimation, to a question of being "pleasing to the eye," was in fact a question of how we relate to structures as motile upright creatures. As he wrote, "physical forms possess a character only because we ourselves possess a body. If we were purely visual beings, we would always be denied an aesthetic judgment of the physical world. But as human beings with a body that teaches us the nature of gravity, contraction, strength, and so on, we gather the experience that enables us to identify with the conditions of other forms."<sup>20</sup>

Wölfflin is giving expression here to an idea that is consonant with the fact that we do not stand before the world as cognizing observers, but belong to it as participants. For our manner of understanding structures is not purely conceptual; rather, it proceeds from our own experience as fleshy beings with our own mass and weight. As he writes, "we read our own image into all phenomena. We expect everything to possess what we know to be the conditions of our own well-being."<sup>21</sup> We understand the physical world in terms of the categories we share with it; so, for instance, we "have carried loads and experienced pressure and counterpressure, we have collapsed to the ground when we no longer had the strength to resist the downward pull of our own bodies, and that is why we can appreciate the noble serenity of a column and understand the tendency of all matter to spread out formlessly on the ground."<sup>22</sup>

This natural experience of weight, of the downward pull that roots us and that is both condition and constraint for our upright, vertical postures, is expressed in traditional architecture not just in the column, but also, for instance, in the use of rustication at the lower portions of buildings. By emphasizing the mass of materials, rustication produces a sense of bottom-heavy stability, a sense that is not just established visually,

but proprioceptively, involving our own sense of balance, and a sense of movement as well. Similarly, arches over doors and windows discharge the weight of materials around the apertures so that they protect movement (entrance and egress of our bodies, or even just of our line of sight) without being oppressive, while elements conveying a freer sense of movement, expressiveness, and even whimsy are typical of the upper portions of buildings built in traditional Western styles. This logic is expressed in Louis Sullivan's prescriptions for office building design, for instance, which Kent Bloomer describes as "an expression of taut firmness at the bottom, an expression of efflorescence and ornament at the top," allowing the building as a whole to express an "upward awakening."<sup>23</sup>

For Wölfflin, "[o]ur own bodily organization is the form through which we apprehend everything physical."<sup>24</sup> This apprehension, he claims, is a sort of empathy, and it is self-evident in our relations to others: children can't see someone cry without bursting into tears themselves; people adopt the expressions of strangers around them; a person who is hoarse speaks and we clear our own throats.<sup>25</sup> But it extends as well to our interactions with objects, structures, and everything else in our world as a general characteristic of our experience. Hence, for instance, an architectural asymmetry "is often experienced as physical pain, as if a limb were missing or injured."<sup>26</sup>

There is thus an anthropomorphism that is essential to the meaning of structural forms – an anthropomorphism that is present whether we will it to be there or not.<sup>27</sup> We read the relation of height to width in a building, for instance, as a relation between a sense of ascent and repose. This kinesthetic sense in turn connotes a whole personality: an upright orientation is vital, active, dignified. A horizontally-oriented building, on the other hand, may connote restfulness or calm (or

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perhaps inertia and sloth – and whether the former sense is evoked or the latter we might chalk up to the quality of the design). The perfect square, meanwhile, is distinctive for lacking a clear anthropomorphic orientation: it “is called bulky, heavy, contented, plain, good-natured, stupid... We can not tell if the body is reclining or standing.”<sup>28</sup>

Think of what it means, in this light, to say that a building “faces” the street, or that we stand at the “foot” of the stairs leading up to the entrance, or that, as Juhani Pallasmaa says, “[t]he door handle is the handshake of the building.”<sup>29</sup> Structures lend themselves to these metaphors because they reflect us back upon ourselves through a close and profound resonance. A door or window that has a vertical orientation, for instance, frames the upright form of the human body, an effect that may be emphasized through the use of arches or transom windows that extend and emphasize headspace: every aperture is a kind of potential aedicule. The picture windows that became popular in the postwar period, on the other hand, suggest a supine form, and thus bear a sensation of inertness. Or think again of how the freest movement of energies—the rhythmic and organic character of foliated ornamentation, for instance—are natural to the upper portions of buildings in traditional architecture, a reflection of the fact that, as Wölfflin points out, the most expressive part of the human body is the head.<sup>30</sup> If, on the other hand, a design is indifferent with regard to this anthropomorphizing tendency, we may read it as “turning its back on us,” seeming “cold” or “lifeless,” being orientationally “indecisive,” as the form of the square is for Wölfflin; that is to say, we imbue the meaning of structures with human characteristics, even if they are only notable for their absence. Whatever these characteristics might be, they solicit us to respond in an embodied way, much like a person who engages us in a conversation, with their particular tone and body language and so forth. The question of whether a structure solicits a disposition in us that enhances our sense of bodily well-being is the question of whether that structure is *dignifying*.

We can reflect again on the flesh of the world from the Merleau-Pontian perspective. Consider the flesh of buildings: in their weighty mass, their anthropomorphic form, and not least their function as places of human inhabitation, they are chiasmically intertwined with our own flesh. They are organic in this sense, and organic in this specifically human way: as products of thought and language (which are themselves expressions of bodily capacities, from the Merleau-Pontian perspective), they express human ideas, the carnal existence of those ideas made manifest in the material world, and made manifest precisely for the sake of our



own inhabitation in the world. For this reason, the flesh of architecture perhaps gives clearest expression to what it means to belong to the world, to participate in it, to continue into it and to be a continuation of it.

The architect Peter Zumthor describes architecture as “a kind of anatomy... Really, I mean the word <body> quite literally. It’s like our own bodies with their anatomy and things we can’t see and skin covering us—that’s what architecture means to me and that’s how I try to think about it. As a bodily mass, a membrane, a fabric, a kind of covering, cloth, velvet, silk, all around me. The body! Not the idea of the body – the body itself! A body that can touch me.”<sup>31</sup> Zumthor conceives of architecture as an extension of our bodily organization into the world. (Figure 1) But architecture is also the manner in which the world draws us to inhabit it. And in this intertwining of body and world is the possibility of a certain kind of expression, an elevation of the experience of inhabitation as such.

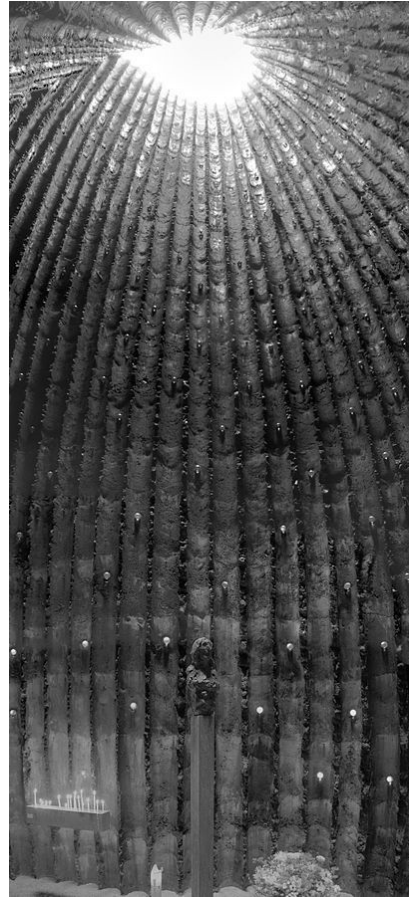


FIGURE 1 WACHENDORF  
FELDKAPELLE INTERIOR, BY  
PETER ZUMTHOR

#### CONCLUDING REMARKS

The chiasm, Merleau-Ponty says, is “an exchange between me and the world, between the phenomenal body and the ‘objective’ body, between the perceiving and the perceived,”<sup>32</sup> and the flesh is the “element”<sup>33</sup> in which the chiasmic intertwining between the body and the world takes place. Such an ontological perspective lends credence to Wölfflin’s analysis of the bodily logic of traditional Western architecture: if our bodies participate in the world from within, rather than across the distance that would separate an ontologically distinct subject and

object, then it would make sense to understand architecture – the practice of providing the means of inhabitation for human bodies – as expressing the “basic conditions of organic life;”<sup>34</sup> that is, as being organized according to the same principles as those by which our bodily experience is organized. Moreover, when Wölfflin’s treatment of architecture is cast in terms of Merleau-Ponty’s later ontology (a philosophical project which, of course, he antedates by more than half a century), it can help us to conceive just what it would mean to think about – and *do* – architecture from such an ontological orientation.

This orientation can help to diagnose a particular peril of contemporary architectural practice: the emphasis on the conceptual over the concretely material. Pallasmaa has argued that over the last century, architecture has increasingly become “an art form of instant visual image.”<sup>35</sup> In adopting this purely visual disposition, we are rendering our structures “repulsively flat, sharp-edged, immaterial, unreal.”<sup>36</sup> This disposition is expressed especially in a commitment to abstract form, an uncanny echo of the Cartesian “model-in-thought” that Merleau-Ponty criticizes.<sup>37</sup> The over-emphasis on the visual, absent a synesthetic engagement with the other senses, is emblematic of a dualistic separation between the object outside of us and our mental experience of that object. What leads Descartes to regard outline and form as the most essential elements in engravings also leads architects toward the supremacy of the purely visual.

Consider, as an example of the trend, Rafael Viñoly’s comment that his recent prominent addition to the New York skyline, 432 Park Avenue, (Figure 2) is based on “the purest geometric form: the square... The body of 432 Park Avenue remains abstract and radical – a pure product of the grid.”<sup>38</sup> The elevation of geometrical abstraction as an aesthetic ideal stands in telling contrast to Wölfflin’s characterization of the square as “bulky, heavy, contented, plain, good-natured, stupid.” What appeals to Viñoly from a perspective of intellectual abstraction is indecisive and “stupid” when considered from a perspective of embodied engagement.

This tendency is exacerbated by something Loureiro has pointed out: that the technologies employed in architectural design have increasingly subsumed the creative and poetic craft of the architect in such a way as to elevate the visual image of the architectural work above the built work itself. “Now,” he writes, “it is the picture that generates the building. Photo-realistic 3D renderings... are ‘models for photographs,’ and not depictions of architectural ideas.”<sup>39</sup> Meanwhile, Rob Imrie has found that discussion of the body is all but absent in architectural education, and in the thinking of many contemporary architects.<sup>40</sup>

But if we regard the human body as participating in the flesh of the world, and thus as intertwined with things, including architectural works which are so essential to our experience of inhabitation in the world, we will acknowledge that this intertwining occurs through all the senses, and that these senses seek out, in Wölfflin's phrase, "the conditions of our own well-being."<sup>41</sup> We might find the conditions for well-being in ornament, for instance, which can play such an important role in the kinesthetic sense of an "upward awakening" in a building, to use Bloomer's phrase. We might find it, as well, in the use of natural materials which integrate a haptic sense; as Pallasmaa says, "stone, brick, and wood... allow the gaze to penetrate their surfaces and... enable us to become convinced of the veracity of matter." The textures of these materials are of the natural world. They have a depth that is lacking in concrete and glass: "Natural material expresses its age and history as well as the tale of its birth and human use."<sup>42</sup> These materials take us beyond the visual, beyond the bird's-eye view of the tabletop architectural model and the flat forms of geometrical abstraction, into that synesthesia that characterizes our sense of belonging as participants in the world.

Of course, Wölfflin was writing in the 19th century, and could speak of the principles of Western architectural design as adhering to a generally continuous tradition going back to classical times.



FIGURE 2. 432 PARK AVENUE,  
NEW YORK

But I am not suggesting that the lesson to draw here is that architecture needs to return to its traditional forms to recoup a sense of multisensory engagement and of participation between human beings and the built environment. If the various modernisms and post-modernisms that have arisen since Wölfflin's time have tended toward obliviousness with regard to this function of architecture, by ceaselessly challenging convention they have also opened up the field to as many new architectural possibilities as can be imagined. Architects like Pallasmaa, Zumthor, Steven Holl, and many others have found in this realm of possibilities new ways of giving expression to the idea of architecture as participation in the world. As varied and heterogeneous as embodied experience is, these possibilities will surely never be exhausted.

So, finally, we might find the conditions for our well-being by asking a new range of questions. Rather than asking what a work of architecture represents, we can ask: what spirit of participation in the world does it elicit, and how does this relate to the purpose of the structure? How does it engage us through all of our senses? What ideas are expressed *through* the body? To ask such questions is to ask how architecture performs its essential function: to structure our inhabitation of the world. It is also, notably, to acknowledge an ethical dimension intrinsic to architecture. For if architecture is properly attentive to this function, then it is attentive to producing well-being for every human. There could be no more ethical a task.

#### ENDNOTES

1. Merleau-Ponty, Maurice. *The Visible and the Invisible*, Alphonso Lingis, trans (Evanston: Northwestern University Press, 1968), 200.
2. Merleau-Ponty, Maurice. "Eye and Mind," in *The Merleau-Ponty Aesthetics Reader*, Johnson, Galen A. and Michael B. Smith, eds. (Evanston: Northwestern University Press, 1993), 125.
3. *Ibid.*, 133.
4. Merleau-Ponty, *Visible and the Invisible*, 133.
5. Perhaps we only understand the notion of resistance in things in the world because we experience it as bodies. Merleau-Ponty describes the body as an "exemplar sensible, which offers to him who inhabits it and senses it the wherewithal to sense everything that resembles himself on the outside" (Merleau-Ponty, *Visible and the Invisible*, 135). These comments suggest a kind of bodily logic which we extend or project onto the world, and by which we come to understand the world, an idea that resonates with Wölfflin's theories on architecture.

6. Merleau-Ponty, Maurice. "The Philosopher and His Shadow," in *Signs*. (Chicago: Northwestern University Press, 1964), 166-7.
7. Merleau-Ponty, *Visible and the Invisible*, 123.
8. *Ibid.*, 215.
9. *Ibid.*, 134.
10. *Ibid.*
11. Merleau-Ponty, Maurice. "The Film and the New Psychology," in *Signs*, Richard C. McCleary, trans. (Chicago: Northwestern University Press, 1964), 49-50.
12. Merleau-Ponty, "Eye and Mind," 130.
13. *Ibid.*, 131.
14. *Ibid.*, 133.
15. *Ibid.*, 124.
16. *Ibid.*, 138.
17. *Ibid.*, 147.
18. *Ibid.*
19. McCann, Rachel. "Entwining the Body and the World: Architectural Design and Experience in the Light of 'Eye and Mind,'" in *Intertwinings: Interdisciplinary Encounters with Merleau-Ponty*, Gail Weiss, ed. (Albany: SUNY Press, 2008), 267.
20. Wölfflin, Heinrich. "Prolegomena to a Psychology of Architecture," in *Empathy, Form, and Space: Problems in German Aesthetics 1873-1893*, Harry Francis Mallgrave and Eleftherios Ikonou, trans. (New York: Getty Center for the History of Art and the Humanities, 1994), 151.
21. *Ibid.*, 152.
22. *Ibid.*, 151.
23. Bloomer, Kent. *The Nature of Ornament*. (New York: W. W. Norton & Company, 2000), 83. Ironically, the modernists' *cri de coeur* that form must follow function derives from Sullivan's declaration that "shape, form, outward expression, design, or whatever we may choose of the tall office building should in the very nature of things follow the functions of the building" (Sullivan, Louis. "The Tall Office Building Artistically Considered," in *Kindergarten Chats and Other Writings*, (New York:

Dover, 1979), 208.). Sullivan's point was that visual functionality could be *enhanced* by ornament, not that any expression that wasn't structurally necessitated ought to be suppressed.

24. Wölfflin, "Prolegomena," 157-8.

25. *Ibid.*, 156.

26. *Ibid.*, 155. So ubiquitous is the desire to find symmetry in things, Wölfflin observes, that in the case of that rare object that on the face of it defies symmetry – the one-handed mug – we unconsciously treat the handle as the "back" of the mug, so that a lateral symmetry is maintained (*Ibid.*, 164).

27. This anthropomorphism extends to other objects as well, and even to geographical regions: Yi-Fu Tuan notes that cities give the impression of having a front and a back, and "[m]ost people in the United States probably regard the northeastern seaboard as the nation's front" (Tuan, Yi-Fu. *Space and Place: The Perspective of Experience*. (Minneapolis: University of Minnesota Press, 1977), 42).

28. Wölfflin, "Prolegomena," 168.

29. Pallasmaa, Juhani. "An Architecture of the Seven Senses," in *Questions of Perception: Phenomenology of Architecture*, Steven Holl, Juhani Pallasmaa, and Alberto Perez-Gomez. (New York: William Stout, 2006), 33.

30. Wölfflin, "Prolegomena," 176.

31. Zumthor, Peter. *Atmospheres*, 11. Accessed July 11, 2015. <http://ebookbrowse.net/gdoc.php?id=466463785&url=982c587b925fe3103a612676616e5bd>.

32. Merleau-Ponty, *Visible and the Invisible*, 215.

33. *Ibid.*, 139.

34. Wölfflin, "Prolegomena," 160. Though Wölfflin is concerned with Western architecture, it would be interesting to apply his insights to non-Western traditions.

35. Pallasmaa, Juhani. "Hapticity and Time," *Architectural Review* 207 (2000). See also his argument in *Eyes of the Skin* (London: Academy Editions, 1996).

36. Pallasmaa, "Seven Senses," 29.

37. Merleau-Ponty, *Visible and the Invisible*, 134.

38. Garutti, Francesco. "Rafael Viñoly/432 Park Avenue/New York," *Abitare*, June 2013.

39. Loureira, Felipe Guimarães de Souza Fernandes. "The Image in Power: Vilém Flusser and the Craft of Architecture," *Architecture Philosophy* 1(2) (2015): 222.

40. Imrie, Rob. "Architects' Conceptions of the Human Body," *Environment and Planning D: Society and Space*, 21 (2003), 47-65.

41. Wölfflin, "Prolegomena," 152.

42. Pallasmaa, "Seven Senses," 29.