In Quest of Attuned Architectural Atmospheres / Contributions of Enactive Cognitive Theory and Neurophenomenology

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Alberto Pérez-Gómez, *Attunement, Architectural Meaning after the Crisis of Modern Science* (Cambridge MA: MIT Press, 2016).

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Aristotle tried to explain his concept with a fascinating analogy: "if the eye was a living creature, sight would be its soul," *De Anima* II, I, 412b 19. Cited by Evan Thompson, *Mind in Life, Biology, Phenomenology and the Sciences of Mind* (Cambridge MA: Harvard University Press, 2007), 226.

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René Descartes, *Meditations of First Philosophy*, trans. J. Cottingham (Cambridge UK: Cambridge University Press, 1986), 19.

In a recent book I unpacked the centrality of the concept of atmosphere for architectural meaning and its historical roots.[1] I explained the relevance of our growing concern with attuned places, at odds with the dominant concept of architecture as a geometric, aesthetic object. I showed the association of *Stimmung*, the unique German term implying both atmosphere and mood, with the traditional aims of architectural meaning since Vitruvius, encompassed by terms such as harmony and temperance, explaining how architecture had traditionally sought psychosomatic health, framing lived experience with order and stability congruent with local cultural values. *Stimmung* became a central concern for artistic expression in view of the adverse cultural conditions of the late 18th and early 19th centuries, and was engaged by practices of resistance against the dominant formalistic and technological assumptions of mainstream modern planning and building production. In order to fully grasp the possibilities of *Stimmung* and its implementation nowadays, creating life-enhancing atmospheres responsive to human action and to *place* in the fullest sense (as both natural and cultural context), a proper understanding of consciousness and perception beyond Cartesian misunderstandings is absolutely indispensable. To this aim, the correspondences between the insights of 20th. Century phenomenology and neuroscientific findings, sometimes known by the compound term "neurophenomenology," and the propositions of recent "enactive" cognitive theory are immensely valuable.

Contrary to Aristotle, for whom mind and the living body were always united – since "soul" is the capacity of the organism to *act* in manifold ways from vegetative nourishment, sentience, motion and volition, to intellectual conceptualization[2] – Descartes must be held responsible for imagining and promoting the *separation* of consciousness and life, transforming the former into an inner experience accessible to the intellect, the *ego cogitans*, based exclusively in the soul (today's brain). In his "Second Meditation" he goes as far as to doubt the very existence of the body's sentience; indeed, he can even doubt about having a body. The power of the imagination belongs to his thinking and therefore "it *seems*" to him that he sees or touches.[3] This, he concludes, cannot be false (regardless of the origins of the sensation in fact

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Claude Perrault, *Ordonnance for the Five Kinds of Columns after the Method of the Ancients* and my own introductory study, trans. I.K. McEwen of the 1683 first edition, The Getty Center, Santa Monica, CA., 1993, and C. Perrault, *Les dix livres d'architecture de Vitruve*, Paris, 1684.

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This is indeed, the fundamental purpose of his *Ordonnance*, a radical departure from pervious treatises in the European tradition. Op. cit. "Introduction," 33-38.

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Drew Leder, *The Absent Body* (Chicago IL: University of Chicago Press, 1990), 69.

or delusion); but sensing, in this particular way, is simply a "thinking."

The Cartesian understanding of mind and perception first appeared in architectural theory toward the end of the 17th Century in the writings of Claude Perrault.[4] Perrault took for granted that architecture communicates its meanings to a disembodied mind, thoroughly bypassing the body with its complex feelings and emotions. He assumed perception to be passive and meaning to be merely the result of the association of concepts and images in the brain. Like Descartes, Perrault believed that human consciousness was enabled by the pineal gland at the back of the head, conceived as a geometric and monocular point of contact between the measurable, intelligible world – *res extensa* – and the disembodied, rational soul – *res cogitans*. This consciousness was capable of perspectival visual perception, manifested as a picture composed with precise lines, like a copper-plate engraving; it assured the human capacity to grasp the immutable geometric and mathematical truth of the external world, closing the divide between the two heterogeneous elements of reality. Thus Perrault could question, for the first time ever in the history of architectural theory, the bodily experience of "harmony" applicable to all the senses in *action*, embedded in kinesthesia. This life-enhancing phenomenon had always been taken for granted since Classical antiquity and believed to constitute the primary quality to be observed in architectural design – the ineluctable foundation of all architectural meanings. For Perrault, sight and hearing were autonomous and segregated receptors, and therefore the inveterate experience of "musical" harmony expressed in architectural settings appeared to be a fallacy. Consequently, the quality of desire (*venustas*) to be conveyed by the architectural object in order to generate harmonious (meaningful) *place* was substituted by abstract aesthetic composition producing a dispassionate beauty through the able manipulation of the proportions of the classical orders, reduced to a simple, precise and exclusively visual method for instrumental applications.[5]

Today many Cartesian assumptions remain unquestioned by virtue of the extraordinary successes of the instrumental sciences, down to so-called artificial intelligence. The *ego cogito* or "soul," which Descartes still believed shared its rational cognitive capacities with God, was eventually identified with an organic "brain" by behaviorism and early 20th Century neuroscientists and cognitive theorists; the material brain came to be understood as the exclusive seat of consciousness and conceptualized as an information processor and dualism remained unquestioned. The broader philosophical reasons for its pervasiveness are complex and beyond the scope of this essay. The fact is that our organic basis can be easily forgotten, particularly in healthy functioning individuals. [6] Buildings evidently acquire meanings by virtue of their

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Greg Lynn, Michel Maltzan and Alessandro Poli, *Other Space Odysseys, Exhibition Catalogue* (Baden SW: Lars Müller/ CCA, 2010).

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Jean Baptiste Dubos, *Réflexions critiques sur la poésie et la peinture,* 2 vols., (Paris, 1719).

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Thompson, *Mind in Life*, 228.

mere existence, and these are easily identified with "information," salient when it is communicated by novel and unusual forms so that little else seems to matter, leading to a significant disregard for more primary sensory meanings offered to a fully embodied consciousness by their materiality. Avant-garde architects obsessed with complexity for its own sake, such as Greg Lynn, have even celebrated architecture's "liberation" from gravity, assuming architectural meanings are possible ignoring the living body's fundamental condition as earth-bound and *placed*.[7]

While Cartesian epistemology eventually became dominant in European culture, the issue of feeling or *sentiment* as a crucial dimension of artistic expression could not be easily dismissed. Writers on art, like the celebrated Abbé Jean-Baptiste Dubos, started to argue that artistic judgment pertained to feelings, perceived by a "sixth sense."[8] Yet, during the 18th Century aesthetic feelings (taste) could easily become reasonable rules; convertibility was argued often, facilitated by Descartes' epistemology, and supposedly generated inductively, in emulation of rational Nature. French philosopher Marie-François-Pierre Maine de Biran (1766-1824), however, did start to recognize the limitations of Descartes' epistemology and tried to grasp the source of the personal "I" in a "feeling of existence," meaning the *bodily experience of exercising effort in movement*.[9] This concept was taken up and developed in the writings of Romantic philosophers such as Schelling and Novalis and became a precursor of the late 19th Century American pragmatism of William James and John Dewey, and of the early and mid-20th Century phenomenology of Edmund Husserl and Maurice Merleau-Ponty. It thus lay at the root of later developments in American philosophy, like the contemporary work of Mark Johnson, of contemporary American and European existential phenomenologists, and also of the recent revolution in the cognitive sciences that has reconciled this discipline with the previously mentioned philosophical positions, particularly in the works of Evan Thompson and Alva Noë.

While the differences among all these positions are complex, they are united by a fundamental questioning of Cartesian dualism and by an awareness of the deep continuities between mind and life. These developments also reiterate the fact that phenomenology is not "anti-scientific," as it has been regrettably misunderstood. Indeed, recent approaches in cognitive science have given up depending on analytic philosophy and computer brain models and started acknowledging the relations between cognitive processes and the real world. "Embodied dynamicism," a very recent position in cognitive science that arose in the 1990's, called into question the conception of cognition as a disembodied and abstract mental representation, adopting a critical stance towards the extrapolation of

10 Thompson, *Mind in Life*, 10.

11 This insight is present in the Buddhist teachings of Nagarjuna from the 2nd. Century, titled *Stanzas of the Middle Way*. Cited in Francisco Varela, Evan Thompson and Eleanor Rosch, *The Embodied Mind* (Cambridge, MA: MIT Press, 1991), 220-1.

12 See Hans Jonas, *The Phenomenon of Life, Toward a Philosophical Biology* (Evanston IL: Northwestern University Press, 2001).

13 Nick Crossley, *The Social Body: Habit, identity and desire* (London UK: Sage, 2001), 70.

14 Ibid., 76-7.

15 Ibid., 245-7. See also Evan Thompson, *Waking, Dreaming, Being; Self and Consciousness in Neuroscience, Meditation and Philosophy* (New York: Columbia University Press, 2015), for a recent study of the nature of "self" that takes into consideration Hindu and Tibetan Buddhist insights and tests them through neurophenomenology.

all manner of computer models and its processes to explain the mind.[10] The mind and the world are simply *not* separate and independent of each other; nor is the mind merely a neural network in the head. Rather, the mind is an embodied dynamic system *in* the world. For Francisco Varela, Evan Thompson and Eleanor Rauch, who coined the term neurophenomenology in *The Embodied Mind* (1991), cognition is the exercise of skillful know-how in embodied and situated action, and cannot be reduced to pre-specified problem solving. In other words, the perceiver (subject), the perception (invariably affective *and* cognitive), and the thing perceived (object) could never be said to *exist* independently, they are always codependent and co-emergent.[11] In the same book they introduced the concept of cognition as "enaction," linking biological autopoiesis – the attribute of living beings as autonomous agents that actively generate and maintain themselves – with the emergence of cognitive domains. In this view the nervous system of any living being does not process information like a computer; rather it creates meaning, *i.e., the perception of purpose in life,* whose articulation becomes more sophisticated with the acquisition of language in higher animals, culminating in humanity's symbolic communication.[12] Indeed, in the human world the relationship of purposeful action to biological imperatives, such as primary homeostasis, is always opaque, since human actions are part of complex symbolic economies.[13]

The "life-world" in this model is not a pre-specified external realm represented objectively by the brain, but a relational domain enacted by a being's particular mode of coupling with the environment, beyond distinctions between nature and culture, and one in which cities and architecture play a prominent role. Let me emphasize the obvious: architecture is part of the life-world, not of some objective, material nature. For humans, the life-world is linguistic and symbolic, a setting of "perceived situation-work," beyond the "perception-action" of most animals and life in general.[14] *If only for this reason, the questions of architectural meaning and relevance can never be reduced to concepts such as sustainability, physical or psychological comfort and optimization.* Embodied experience in this approach is not a secondary issue (as it was after Descartes), but becomes central to the understanding of the mind itself. Though the nature of mind remains a contested issue in neuroscience, neurophenomenology recognizes that it is irreducible to the physical brain. The "I" as a *bodily subjectivity* radically does away with Cartesian dualism.[15] Being-in-the-world is thus beyond any subject-object dichotomy; it is neither first-personal (subjective) nor third-personal (objective), it is an existential structure that remains prior to all abstractions. While neurophenomenology calls upon both first person accounts and third person, scientific narratives to fully grasp

16 Alva Noë, *Out of our Heads: Why you are not your Brain and other Lessons from the biology of consciousness* (New York: Hill and Wang, 2009).

the nature of mind, it rejects the possibility of biometrics becoming an instrumental tool directed to the optimization of existential meanings, as in the case of urban design and so-called "intelligent" architecture.

In his 1907 lectures, Edmund Husserl recognized that every visual or tactile perception was accompanied and intrinsically linked to the sensing of one's body movements: in watching a train go by, for example, the train is given in conjunction with my sensing of head and eye movements. Husserl believed that kinesthesis was therefore a constitutive condition of ordinary perception, and this became a central point of departure for Merleau-Ponty's *Phenomenology of Perception*. In this seminal book, Merleau-Ponty rejected the explanations of associationism and behavioral psychology, and the idea of perception as the mere sum of stimuli conveyed by independent senses, simply communicating data to a brain where a synthesis of some kind might take place. Perception is not the later stage of sensation, with the sensory receptors as the starting point of any analysis. Rather, both perception and emotion are dependent aspects of intentional action: our engaged bodily, sensorimotor knowing of the world. Merleau-Ponty argued for the primacy of embodied perception at the roots of being and understanding, grounding other modalities of intellectual cognition, following Husserl's explanation of the limitations of hypothetical thought: we first know through our sensorimotor awareness that the earth does not move, for example. This is a primary certainty for our bodies that only secondly enables humans to construct an endless number of scientific or mythical explanations of the universe that may be more or less credible as we "prove" them through instrumental means. But the first phenomenological truth is a precondition for all others, expressed everyday when we speak, in every possible language, of the rising or the setting sun, and model our lives and our architecture according to ensuing rhythms and enabling metaphors.

The ideas developed by Husserl and Merleau-Ponty continue to be renewed today. Alva Noë (2009) has lucidly explained the enactive understanding of perception and cognition, emphasizing particularly that in order to understand consciousness in humans and animals we must look not inward, but rather to the ways in which a whole animal goes on living in and responds to their world.[16] Consciousness is always of something; it is always of things other than itself. Consciousness is not merely contained in the brain, bounded by the skull. This absence of limits has to do with complexity, the distributed nature of mental processes, and the involvement of the body in consciousness. Neurologist Frank Wilson wrote already in 1999 about the possibly insurmountable difficulties in understanding the workings of the human brain, pointing out that the concept of brain functional centers

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Frank Wilson, *The Hand* (New York: Vintage, 1999), 302-7.

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See Louise Barrett, *Beyond the Brain, How Body and Environment Shape Animal and Human Minds* (Princeton NJ: Princeton University Press, 2011).

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Noë, *Out of our Heads*, 7.

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Crossley, *The Social Body*, 70-3. See also Louise Barret, *Beyond the Brain, How Body and Environment Shape Animal and Human Minds* (Princeton NJ: Princeton University Press, 2011)

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Merleau-Ponty, *Phenomenology of Perception* (1963) cited by Thompson, *Mind in Life*, 80.

was tantamount to simplistic scientific reductionism, a position corroborated by recent findings in neuroplasticity. "The brain does not live inside the head, even though that is its formal habitat. It reaches out to the body and the body reaches out to the world. We can say that the brain 'ends' at the spinal chord, and that the spinal chord 'ends' at the peripheral nerves," but "brain is hand and hand is brain, and their interdependence includes everything else right down to the quarks."[17]

It is precisely due to the extended nature of consciousness, that architecture cannot simply emulate mimetic of animal shelters, however clever, functional or rational they may appear to us. Since the environment and the mind, human or animal, are deeply entwined, and specific bodily morphologies and environments shape their respective minds, there is a radical limitation to our "objectification" of the animal worlds, in the direction of biomimetism, for instance.[18] Human architecture cannot be assumed as simply driven by material or hedonistic factors, associated to psychotropic processes, and our human biological homeostasis (equilibrium) necessarily involves cultural issues, like our culturally framed-sexuality and our awareness and openness to death.

If, as Husserl, Merleau-Ponty and recent cognitive science suggest, perception is something we do, not something that happens to us (like other autonomous internal physiological processes such as digestion), it is obvious that our intellectual and motor skills are fundamental to cognition.[19] By the same token *the external world, the city and architecture, truly matters*. All living organisms are not only reactive but also proactive in both perception and action; their environments are particular, not "objective."[20] There is circularity in all organisms' relationship with their environments; our behavior is both affected by the environment and affects it. We could therefore not merely give up our intersubjective, emotionally charged spaces of communication, the necessarily bitter-sweet space of mortal human desire, for the comfortable, psychotropic visual space behind our computer screens, as some might think naively, without also giving up a fundamental dimension of our human consciousness. Neither do we relate to our symbolic environment as if it were a text in need of interpretation to be conveyed to the brain as "information": interpretation comes after we have the world in hand.

Thus architecture affects us, along the full range of awareness, from pre-reflective habits to reflective wonder. We are "already" in a shared social context, our subjectivity is intersubjective; we are "in the "game," like we might participate in a sports match, depending primarily upon prereflective, non-representational motor skills for our perceptions and actions. Each maneuver undertaken by the player modifies the perceived character of the field.[21] Human consciousness, understood

22 In addition, he elaborates on how self-consciousness (in various modalities) is present in dreams and even in dreamless deep sleep, an ancient position found in Hindu and Buddhist thought that can now be ascertained through neuroscience. See Thompson, *Waking, Dreaming, Being*, 1-20; 356-366.

23 Thompson, *Mind in Life*, 315-6.

24 Crossley, *The Social Body*, 54-6.

as action in this playing field, is by definition a skillful attunement to the environment. For humans the playing field is symbolic– the architecture of the city– framing focal actions and habits, enabling some and curtailing others, setting limits and thus making possible human freedom; *it does not appear primarily as an object, it becomes "present as the practical end" of the inhabitant's intentions.* This complex entanglement is a primary reason why the issue for architecture will always be meaning and not the mere optimization of pleasurable sensations.

Thompson clearly explains how reflective self-awareness is not the only kind of self-awareness.[22] This is a crucial point to understand the nature of architectural meaning. Experience also comprises a pre-reflective self-awareness *that is not unconscious*, one also present in dreams and even in deep sleep. Neurobiological evidence now vindicates this position, though Thompson's conclusions may be contested. Indeed, it has now become evident that the *present* temporality inhabited by the conscious living body is not merely a non-existing point between past and future, but a looped network of immediate and mediate memories and projections. Thus, significantly, present experience includes the pre-reflective bodily self-consciousness profoundly affected by the environment (architecture) that may be passive (involuntary) and intransitive (not object-directed).

It is thus possible to affirm with Thompson and Merleau-Ponty that this sort of pre-reflective self-awareness animates skillful coping.[23] At a primary level, our acting body *knows*, this is a body inhabited by motility and desire, the motion of life itself, the body whose foundational knowledge becomes stabilized through habits. Habits entail far greater personal agency than conditioned reflexes as understood by behaviourism, and yet they *are* habitual actions and thus challenge any over-intellectualized conception of the agent rooted in propositional mental acts.[24]

The pre-reflective body is fundamentally our sexual body, closest to our animal reality, and also arguably to our sense of the sacred. Our body recognizes its location in our surroundings without "paying attention," through "motor intentionality." This is the body capable of unspeakable athletic feats when threatened, and the body that knows another person or a place long before exchanging a word with the stranger or reading a travel guide. It is also the body in action housed by architecture – not necessarily a subject that contemplates it as an aesthetic object.

Thus we can grasp the fallacies involved in assuming that architectural meaning is what appears in the more or less striking pictures of buildings on a glossy magazine, in 2-D or 3-D images on the computer screen, or in comprehensive sets of precise working drawings. The most significant architecture is not necessarily photogenic. In fact,

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Cited by Martin Jay, "Sartre, Merleau-Ponty and the Search for a New Ontology of Sight," in David M. Levin, *Modernity and the Hegemony of Vision* (Berkeley CA: University of California Press, 1993), 164.

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Merleau-Ponty (1963), 235.

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Thompson, *Mind in Life*, 278-9; Alva Noë, *Varieties of Presence* (Cambridge MA: Harvard University Press, 2012) 82 f. and Noë, *Out of our Heads*, 35 f.

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Thompson, *Mind in Life*, 276-7 cites O'Regan (1992): "Despite the poor quality of the visual apparatus, we have the subjective experience of great richness and "presence" of the visual world. But this richness and presence are actually an illusion."

often the opposite is true. Its meanings are conveyed through sound and eloquent silence, the tactility and poetic resonance of materials, smell and the sense of humidity, among many other factors that appear through the motility of embodied perception and are given *across* the senses. Furthermore, because good architecture fundamentally offers a possibility of attunement, atmospheres appropriate to focal actions that allow for dwelling in the world, it is very problematic to reduce its effect (and critical import) to the aesthetic experience of an object, as is often customary. Strictly speaking, architecture first conveys its meanings as a situation or event; it partakes of the ephemeral quality of music, for example, as it addresses the living body, and only secondly does it become an object for tourist visits or expert critical judgments.

Indeed, a better understanding of embodied cognition leads us to question the commonly accepted idea that visual perception is like a picture. Contrary to Descartes' beliefs, we know today that sight is not simply a representation in the brain. As Merleau-Ponty put it: "It is by means of the perceived world and its proper structures that one can explain the spatial values assigned to a point of the visual field in each particular case."[25] Sight is integrated with the other senses in order for us to "make sense" of our experience of the world. This is what Merleau-Ponty demonstrates in *Phenomenology of Perception:* "The senses translate each other without any need of an interpreter, they are mutually comprehensible without the intervention of any idea." Emphasizing the primordial temporality of experience, he stated: "The lived perspective, that which we actually perceive, is not a geometric or photographic one."[26]

Evan Thompson and Alva Noë have further explained how vision is all-important, yet our experience is not picture-like.[27] The optical image is fragile at best: this was presumed in the call for optical correction in pre-modern architectural theories, acknowledging the limitations of human vision in order to enable the lived, tactile experience of perfectly adjusted and harmonious buildings. Merleau-Ponty and Noë use the well-known experiments with inverting glasses to prove the precariousness of the retinal image. Noë further explains how it is that seeing is not a process that starts from a retinal picture, for there are in fact no retinal *pictures*. The image at the back of the eye is incredibly imprecise and hardly a rendition in "high definition" of the world around us. Thus, seeing itself is not pictorial, its "high definition" quality is a result of our primary motor and sensory skills.[28] One may recognize the building in the picture or the drawing, it "shows up," but it is also obviously *not* present in the same way as the building might be in real embodied experience. The building in the picture is present *as absent*.

This is of course a major issue when it comes to questions of

29 Thompson *Mind in Life,* 278-9.

30 Husserl discusses this problem in multiple writings, starting with the "Lectures on the Consciousness of Internal Time from the year 1905," in *On the Phenomenology of the Consciousness of Internal Time (1893-1917)*, trans. J.B. Brough (Dordrecht: Kluwer Academic Publishers, 1991). The discussion and commentary on the topic is abundant and often highly technical. Thompson (2007), 317-28, offers a very lucid summary of Husserl's analysis.

31 Cited by Thompson (2007), 318.

32 Ibid., 326.

33 Ibid., 328-9 f.

architectural representation in design, dependent as it often is on the assumption of the identity between represented visual form and space in a computer model, for example, and the experienced reality in buildings. Thompson carefully analyses and rejects the assumptions of perceptual experience as pictorial, especially in the photographic sense assumed by many theorists.[29] He concludes that in fact *we visualize an object or a scene by mentally enacting or entertaining a possible perceptual experience of that scene*: note that discursive language plays a crucial role. This is a fundamental observation for architectural design that I have elaborated in my writings, seldom considered by architects, especially after the 19th. C., when the issues of architecture became generally reduced to the efficient solution of material needs or to the production of formal syntaxes.

Given that temporality and spatiality are intertwined in our primary embodied cognition of place, grasping the true nature of time-consciousness for a living body is also crucial. This is a complex problem that I can only sketch here. In the phenomenological tradition, the point of departure is Edmund Husserl's observation that it would be impossible to experience "temporal objects," like a piece of music, if our consciousness of the present moment were the experience of a *punctum*, of an instantaneous "now" that is in fact never "here."[30] William James has also suggested that "the practically cognized present is no knife's edge," but rather operates like a block, a temporal expanse with a "bow and a stern."[31] Husserl's central contribution was to disclose the structure of the "thick" present moment given to experience. According to him, time-consciousness has a three-fold structure, including primal impression, protention (looking forward) and retention (looking back); these work together and cannot operate on their own; their unified operation underlies our experience of the present moment as having "temporal width." Husserl further distinguishes between retention as "primary memory" and recollection or "secondary memory;" between protention or "primary anticipation" and expectation or "secondary anticipation." While "primary" protention and retention are "present," the secondary types of temporality are *re-presentational*: they are properly speaking memory (ultimately history, orienting reflective action) and foresight: our capacity to promise that becomes an architectural project.[32]

According to Thompson, Husserl's description of the absolute flow or "standing-streaming" of the living present corresponds precisely to pre-reflective self-awareness (which as we have noted is anything but "unconscious"), an argument now vindicated by some neuroscientists interested in the temporal dynamics of consciousness.[33] In the living experience of architecture, while working or engaged in focal actions, place is first *given* in this mode. The contents of the

34 See also Alberto Pérez-Gómez, *Built upon Love, Architectural Longing after Ethics and Aesthetics* (Cambridge MA: MIT Press, 2006), 69-73 f.

present moment arise and perish at different rates, depending on the nature of things; some have more permanence while others are inherently ephemeral. Buildings themselves are relatively permanent objects, stabilizing cultural memories; they can be judged through rational and even scientific criteria. The proper, primary temporality of architectural atmospheres, however, is not of this order. Rather it is effectively kindred to music, addressing the primary pre-reflective and engaged bodily consciousness, framing *actions*, like ritual or work, potentially articulated by the architect in a narrative program.

It is important to clarify how this differs from the temporality assumed by modern aesthetics, starting in the 18th Century, when architecture became more firmly associated with the "Fine Arts." Buildings became "objects" to be experienced "out of time" as dispassionate, beautiful "compositions," or at best in the linear time of voyeuristic criticism or tourism, as keenly reported by visitors to ancient ruins during the 1700's; experience became identified with aesthetic "judgment," connecting to emotions as mental associations, effectively bypassing the kinesthetic bodily senses and explaining its effects through Cartesian psychology. This understanding of architectural meaning came to fruition in the *parcours* used at the *École de Beaux-Arts* in the early 19th Century to judge the value of projects and adjudicate prices, a precedent for the well-known devices used by modernist architects in the early 20th Century, and still often implemented in contemporary building design. Today the concept of scientific time is at the root of the popular "fly-through" computer-generated presentations of building projects, and of the misplaced claims of the "dynamic" and "flowing" experiments in parametric design that freeze a frame from an algorithmically generated "changing" form, similarly to Edward Muybridge's famous stop-motion photography of the 19th Century. These are merely "re-presentations" of time that don't acknowledge the true nature of the living present as described above. These cinematic representations and "flowing" buildings may therefore provide surprising experiences and "neat" effects, but not much else.

In view of this we can speculate that architectural meaning, offered to our *presence*, unfolds in two different temporalities; one pertaining to the building as object, obviously imbued with relative permanence, and the other the temporality of the event, more elusive, yet primary. Form embodied in the materials composing buildings matters immensely in architecture. It matters at the level of re-presentation, as it becomes *memory* and contributes a poetic image, as I have explained in some of my writings.[34] While contributing to the configuration of atmospheres for focal actions, however, material form matters in a different, arguably more fundamental way: it creates a stage whose properties, available to the

35 This is a term coined by Dalibor Vesely to designate the profound dilemmas facing modern and contemporary practice. See Dalibor Vesely, *Architecture in the Age of Divided Representation* (Cambridge MA: MIT Press, 2004).

36 Thompson, *Mind in Life*, 403. See also Crossley, *The Social Body*, a remarkably lucid treatment of the issue of intersubjectivity through Merleau-Ponty, and its consequences for the understanding of the social body.

37 Ibid., 409-10.

38 Ibid., 403.

39 Ibid., 73.

40 Ibid., 121

41 Noë, *Varieties of Presence*, 125.

inhabitants, both limit and make possible their actions and habits. While these communicative functions of architecture have been traditionally integrated, the reflection offered here becomes particularly relevant in our times of "divided representation,"[35] where symbolic representations of "world" are simply unattainable for a fragmented, cosmopolitan society.

Elaborating on Husserl's understanding of lived temporality, enactive cognitive science has identified the importance of emotions in relation to protention: protention is manifested as desire, always unfulfilled in the living present, motivated by emotions in the environment. A lived world without affective valence, one merely comfortable, mute, neutral or sedated, and this concerns particularly the so-called intelligent urban environments and architecture often presumed as optimal for 21st Century humanity, would significantly curtail a sense of purpose in human action. "Affection" as the allure or pull of architecture does not refer to a causal stimulus-response relation, but to an intentional "relation of motivation" that must account for cultural habits. To repeat: the role of architecture is not optimization or problem-solving, but more properly, to reveal the space of desire: *venustas*.

As I have suggested, individual subjectivity is *from the outset* intersubjectivity, as a result of the communally handed down norms, conventions, symbolic artifacts and cultural traditions in which an individual is already embedded.[36] While emerging from the world of perception, linguistic, polysemic symbols – also termed natural language – create a break with sensorimotor representations.[37] This is the world of architectural communication, the real "context" of architectural endeavors, one that cannot be understood as being neatly divided into culture and nature, and presuming its objectivity for scientific analysis. Human mentality arises from developmental processes of enculturation, beyond the dichotomy of "nature versus nurture."[38]

Sensorimotor knowledge stabilizes primarily as *habits*. Habits eventually result in stable gestalts: mostly acquired flexible skills and competences, established yet always open to change.[39] All human actions share in the habitual. Habit is a trace left by actions. Present actions are shaped by habits because previous actions have given rise to habits. Such actions are never deterministic but always situated in *place* and motivated by purpose and meaning.[40] Habits are not like mechanical reflexes; habits and agency imply plasticity for humans. Alva Noë adds: "Habits are basic and foundational aspects of our mental lives. Without habit there is no calculation, no speech, no thought, no recognition, no game playing. Only a creature with habits like ours could have a mind like ours."[41] They are a form of practical understanding or know-how that manifests as competent and purposive action and attaches to the

42 Crossley, 127.

43 Dalibor Vesely, *Architecture in the Age of Divided Representation* (Cambridge MA: MIT Press, 2004).

44 Ibid., 79.

45 Noë, *Out of our Heads*,107.

world by way of the meaning it discerns therein. The importance of the environment in general and of architecture in particular is obvious in this regard, as are the stakes involved in significant formal "innovation." Noë suggests that we could think of the city, paraphrasing Goethe, as "frozen habit." Habits are neither intellectual knowledge nor involuntary action: they are knowledge that is forthcoming through the body's motricity and effort.[42] *The comprehensibility of architecture depends on acknowledging habits and framing them in new settings with appropriate atmospheres that may reveal limits and remain open to the ineffable.* Rather than seeking some unattainable radical novelty, good architecture might thus offer humanity authentic "situated" freedom.

Just like the lived, emotionally charged environment cannot be reduced to parameters, there is no way that one individual, architect or planner can subsume culture. This is a crucial aspect of our contemporary architectural crisis that has been brilliantly explained by Dalibor Vesely.[43] There are real limitations to the concept of the architect as "creator," imagining that his or her formal talent and skills may compensate for the flatness of our technological world. When habits sediment into environments that convey negative or hostile emotions, however, what is the architect to do? It is not enough to seek more comfortable or behaviorally adequate environments. With a clear understanding of the stakes, the architect must act seeking instead culturally-specific poetic images, perhaps taking clues from expressive moments in relevant art and literature, accepting the "experimental" nature of formal search and perhaps even shock to defamiliarize a complacent society. And yet again, this cannot amount to mere search for novelty. A consideration of viable tools of representation for an architect to create appropriate moods and atmospheres is central to this concern.

While this topic is beyond the scope of my essay, let me conclude by suggesting, as I have done elsewhere, the importance of narrative language, the language of fiction which is the potential of architecture. The reflective subject emerges from the pre-reflective realm; *it is a function of speech, of natural language*.[44] Emergent speech breaks the silence of the perceptual world and spreads further layers of significance over it; it brings the subject into relationship with itself. Speech cannot be planned without speaking, it is originally a pre-reflective act that brings the subject and object of speech, the speaking subject, into being: an embodied activity, a body technique which Alva Noë suggests may be closer to the grooming of chimpanzees than to the indicative character of semantics in reasoned discourse.[45] Languages are in fact gestural habits, the debris or sediments of the past communicative acts of a community, stored within the corporeal schemas of

46 Ibid.

47 Ibid., 133.

48 Crossley, 80.

49 See Walter Ong, *Orality and Literacy The Technologizing of the Word* (London: Methuen, 1972).

50 Vitruvius, *Ten Books on Architecture*, trans. I.D. Rowland and T.N. Howe (Cambridge UK: Cambridge University Press, 1999), 34.

51 Crossley, 148.

the contemporary population.[46] Language embodies the shared practical sense of a society; it gives durable form to habits of perception, conception and reflection that have formed within the group.[47] Yet, speech is the medium of reflective thought.[48] Natural language is thus the appropriate way to negotiate enactive knowledge towards further action; it is therefore indispensable to drive the architectural project.

Speech and orality are primary.[49] This is language understood in a sense very different from that of conventional poststructuralist linguistics. It is rather the emerging breath (air) that breaks the silence of the perceptual world and is capable of first giving shape to an atmosphere, spreading a further layer of significance over the world of perception. It is language as Vitruvius evokes it, as primary expression at the dawn of culture, emerging at the origins of architecture in that momentous occasion when humans, brought together by the need to keep a fire going, first assembled and *spoke*, contemplated the heavens, imitated its regularity and then built their first dwellings.[50] Emerging language brings a subject into relationship with its self through an articulated story, which is a life lived; it allows for the recognition of the ethical self that finds herself as invariable and distinct every morning (after about the age of 4), despite the constant mutations in an individual's lived experience. It enables the "me" that is constructed in the web of narrative discourse and imaginative representation and which is distinct from the "I" that embodies and repeats its history in the form of habits.[51] This is the language that enables one to negotiate enactive knowledge towards further action, the language of history providing ethical orientation for action and the language of the architectural program, properly understood as a fictional projection of potential human life: the language of promises, such as architecture. In avoiding natural language as a fundamental component of the design process, modernist practices, from early functionalism to contemporary design through algorithms are doomed to failure. Indeed, if Giorgio Agamben is correct, the aim of architecture, attuned atmospheres or *Stimmung*, lies precisely at the point of articulation between embodiment – in the form of habits – and language, which brings them to awareness and reveals their full affective and cognitive value.