Varieties of ARCHITECTURAL Imagination

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Imagine!

Imagine things otherwise!

Imagine this capability to imagine otherwise
as a critical, creative and collaborative skill!

Imaginative capability, vital for any kind of architect. While few would deny that imagination is a necessary and powerful tool of architectural invention, less thought is given to the varieties of imagination most conducive to architectural work. Even more difficult is the challenge of understanding how our imaginative faculty functions in the first place. For is it not a phenomenon akin to magic? —as philosopher, novelist and playwright Jean-Paul Sartre (among others) believed. But even Sartre, a notorious lover of existential ambiguities, endeavored to clarify what the magic of imagination entails.[1]

Some skeptics may fear that talking or even thinking about imagination destroys its magical effectiveness. Like asking a centipede to describe the sequence by which it moves its hundred legs, asking architects to explicate the workings of their imagination can provoke stupefied immobility, awkward gesticulations, and evasive assertions that operations of creativity cannot possibly be shared, let alone explained. Attempting such analysis, skeptical centipedes fear, would result in paralysis: tripping up imagination, limiting its freedom, stifling its wild and wiggly exuberance—as if any attempt at understanding stuffs imagination in a straight jacket. This essay imagines architectural imagination otherwise.

Happily, it's true that our imagination often works unconsciously. Aside from involuntary nighttime dreaming, psychologists have found that we drift into daydream about 2,000 times a day.[2] However, fully activating one's architectural imagination requires not only consciousness but conscious practice. Like exercising one's memory (or calves, quads and hamstrings), imagination develops greater strength, range, speed and agility, as well as more appealing vivacity when exercised regularly in a variety of ways. While it may be possible to pump-up imagination with imagistic steroids and psychedelic supplements, honing the special varieties of imagination most crucial to architectural work demands more subtle and diversified approaches. Far from diminishing architectural imagination, endeavoring to describe its varieties can make our understanding of its workings more richly nuanced and our engagement with its revelatory and generative powers more

comprehensive and profound.

Motivated, in part, by the Phantasmagoria design studio I led during the 2015-16 academic year, the following essay sketches an interrelated variety of imaginative agencies that are all operative in the best architectural work.
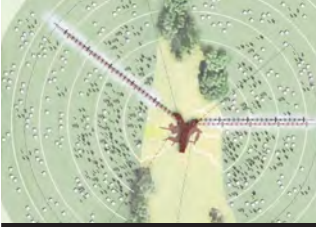
Personal Imagination

The most genuinely meaningful and broadly resonate architecture arises not simply from rational consensus on technical solutions, but more subtly and complexly from personal imagination in dialogue with worldly limits and potentialities.

Some presume personal imagination to operate autonomously—apart from reality. But this conceit leads nowhere. As Gaston Bachelard shows, "the imaginary is immanent in the real."[3] For Marco Frascari, our dreams and realities "coalesce."[4] And, as Hans Georg-Gadamer spins it, imagination is not opposed to reality but "disclosive of reality, though always in its own distinctive fashion."[5]

The most radical architectural imaginators indulge personal fantasy while interpreting reality and aspiring to universality. For instance, the dystopian images of Lebbeus Woods mingle realities of war with memories from childhood, and transform destructive technologies into architectural fictions that call on us to cobble together and imaginatively inhabit the missing architecture of peace.[6] The uniquely visionary edifices of Étienne-Louis Boullée similarly compel reflection on the sublimity of death. And they do so while incorporating personal experience on the heels of the tumultuous French Revolution. As Boullée recalls in his 1793 *Essai sur l'art*, his majestic design for the Cenotaph for Newton grew, in part, from a modest moonlit encounter with his own shadow at the edge of the woods: "Because of my particular mood, the image… made a most profound impression on me. My imagination exaggerated the scene, and thus I had a glimpse of all that is somber in nature."[7]

Italian architect Aldo Rossi also embraced the interpretive reciprocity of personal fascinations and worldly conditions. He felt it difficult to create imaginative works without some rigorous grounding and personal obsession. In *A Scientific Autobiography*, Rossi recollected the myriad obsessions spurring his architectural imagination, including a multitude of poetic images discovered in everyday experiences and artistic works: Empty city squares, abandoned buildings, and motionless locomotives, which he saw as silent

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vessels of frozen time and latent potential. Coffee pots and common household objects with strange shapes and vibrant colors, appearing as "miniatures of the fantastic architectures that [he] would encounter later." Childhood experiences climbing within the colossal statue of San Carlone, revealing to him the fundamental corporeality and interior-exterior duality of architecture. His youthful infatuation for Rosanna, whose name conjured a hue between flesh and flower, and whose beauty stood out against the peculiar green stucco of a certain Hotel Sirena. Seaside cabanas, he likened to miniature houses accommodating modest rituals of changing for a swim and celebrating intimate bodily contact with the world. And all manifestations of theatre—"a place where architecture ended and the world of the imagination or even the irrational began."[8]

These architects experienced reality—even its most subtle and commonplace aspects—as an epiphany, which they sought to translate into their work. As Paul Kidder asserts, "A person who has made a life in the world of architecture is someone in whose imagination such experiences loom large."[9]

Both the specific content and compelling force of personal fascinations, recollections, questions, quirks—and, above all, desires—help bring significant architecture into being. In a lecture to students, Louis Kahn insisted that "desire is infinitely more important than need… It is the core of the expressive instinct that has to be given play."[10] In another lecture, he explained that architectural desire stems not from consensus but from some profound discontent, or dissonance—a "desire for the yet not made, yet not expressed." He gives an example in the form of a question: "Did the world need the Fifth Symphony before Beethoven wrote it? Did Beethoven need it? He desired it and the world [now] needs it. Desire brings the new need."[11] Together with interpreting past and present experience, Kahn reminds us that personal imagination possesses the power to desire and engender what is yet to be. Such productive desire is proverbial: "A strong imagination begets the event itself."[12]

Kahn's philosophy resonates with that of Aristotle, who described the function of imagination (*phantasia*) as prompting individuals to reach out for what they desire—"to reach for the sweet"—striving for phenomena, entities and events, whether hoped for in the future or remembered from the past (*Rhetoric* 1370a6). Imagination makes palpably present what is absent, but in ways that remain always approximate and therefore bittersweet. As Alberto Pérez-Gómez shows, such bittersweet longing has profoundly productive consequences for architectural imagination.[13]

However powerful and stimulating one's personal imagination can be, we must not succumb to the fallacy that absorption in private desires is sufficient for architectural work. We must not be fooled by the "illusion of self-sufficiency," as philosopher Richard Kearney warns in the conclusion of *The Wake of Imagination*.[14] Rather, as Kearney and others emphasize, we ought to share our personal dreams and desires out of genuine fidelity and compassion for others. Indeed, personal imagination is an exemplary way of connecting with others, for it is a profound humanistic power we all share. Going further, Pérez-Gómez argues designers must reconcile their imagination with the lived world. This full world is exemplified for him by architectural projects of Sverre Fehn: "Passionately engaged and yet detached, this is a work of the personal imagination that is also radically cosmocentric, it is for and about the Other, proposing a world where we all may realize our spiritual wholeness."[15] Thus, along with personal imagination we must include interpersonal, intersubjective and cosmopoetic (or world-making) imagination, agencies that enable and oblige social and worldly exchange. This brings us to communal desire.

Collective Imagination

"Where is our Collective Imagination? Where is our civic imagination?" These are the provocations that architect, artist and activist Teddy Cruz posed during a lecture in March 2015.[16] Through such questions, coupled with stories of successful creative responses, Cruz advocates for a shift in architectural practice: challenging architects to reimagine their agency as springing from others, especially vulnerable and marginalized communities. Such a role obliges architects to become zealous enthusiasts not just for their own ideas and careers but for the genuine prosperity and well-being of cities, citizens and non-citizens. Given the ongoing global crisis of irresponsible consumption, unsustainable growth and extreme inequality, the future of cities, Cruz argues, depends not simply on the responsible production of individual buildings, but more on the "fundamental reorganization of socio-economic relations." Since governing institutions appear unwilling to reimagine themselves and these relations, architects have a crucial role to play in questioning unjust circumstances and empowering communities to reconfigure situations for the common good. "The best ideas about the rethinking of urban growth," Cruz projected, "will not come from epicentres of wealth and economic power, but from environments of conflict and marginalization, where citizens have taken it upon themselves to reimagine governance and the rules of the game." This is a "bottom-up" practice, ultimately requiring the support of authorities, but arising from the creativity of marginalized groups who share urgent

desires and concerns. Examples from Southern California include: teenagers reimagining the neglected space beneath a freeway as a skateboard park, then reconfiguring both its physical topography and legal jurisdictions to accommodate communal play; and disenfranchised immigrants reinventing domestic properties to host their own cultural programs and informal economies, and recreating the micro-zoning policies necessary to legalize and sustain their modest interventions.

The architect's role in such scenarios is to nurture, embrace and actively embody the social, spatial and political imagination of others, becoming an "enabler of their tacit knowledge," as Cruz puts it, helping them invent a set of procedures that reconfigure "top-down policies." Just as importantly, architects must give representation to otherwise invisible and disregarded struggles so that public desires, together with the underlying conditions and conflicts hindering them, may be shared, understood, persuasively argued for, and potentially fulfilled. Cruz's own expressive collages exemplify this representational imperative.

Cruz's call to temper private interests with the force of public imagination recalls the practice of Samuel Mockbee, founder of Rural Studio at Auburn University. Following the example of other civic-minded artists and leaders, Mockbee promoted the notion of "citizen architect." By inviting eager students to live, work, and imagine amid the poorest communities of rural Alabama, such citizen-students, Mockbee contended, enact the myth that architects make a difference.[17] In his 2016 book *Citizen City*, Vancouver-based architect Gregory Henriquez urges students and practitioners to cultivate civic imagination.[18] According to Henriquez, architects are often forced to accept uninspiring and unsustainable urban policies, but—as many of his firm's projects demonstrate—by participating in the daily life of cities, and by forging creative collaborations and trust with community groups, enlightened investors and politicians, architects can take a proactive role in shaping alternative (better) realities that inspire further desire and courage for change. New York City architect, educator and critic Michael Sorkin also both advocates and demonstrates the power of civic imagination through visionary urban designs, ambitious pedagogies and bold essays. Excoriating cynical architects "slopping noisily" at the trough of capitalism, Sorkin goads us "to share in the adventure of imagining happy, just, and sustainable futures for our cities."[19] As he put it bluntly in a manifesto: "If we can't imagine better times, we have no practice, no rights."[20]

On a fundamental level, these advocates remind us that architectural

imagination always entails socio-political exchange amid multiple contenders: discussion, debate, dissension and dreams; compromises, conflict and cooperation. Architectural imagination extends well beyond the minds and studios of individual designers. For this reason, architect Giancarlo de Carlo quipped, "architecture is too important to be left to architects."[21] His theorization and practice of participatory design in the 1960s anticipated many recent successes of community-driven processes, such as those embraced by the Turner Prize winning non-profit group Assemble (UK), and participants in the 2015 *Urgent Imagination: Art and Urban Developments* exhibition at the Western Front in Vancouver.

Ethical Imagination

We can learn from successes, but also from failure. When we encounter a "failure of imagination" the expression is less likely to refer to a building's lackluster appearance than to its instigators' lack of consideration for more appropriate responses to a particular situation. Poverty of ethical imagination can lead to designs that are grossly insensitive to cultural contexts. To make the best decisions and take the best action, one must be willing to recognize problems and be able to imagine and evaluate a plethora of "what if" scenarios—not simply determining what's possible but deciding what's best. This involves not only envisioning and embracing alternative realities, but also imagining their potential benefits and detriments from diverse points of view. This empathic imagination demands putting oneself in the shoes of multiple others while recalibrating one's own moral and professional compass, discerning, deliberating and desiring a common good. However "urgent" a present opportunity or crisis may seem, such careful consideration slows down the rush to judgment. Ethical imagination, the root of any collective imagination worth pursuing, takes time. It is an ethos marked by reflective pauses and awkward, even painful, interruptions.

At the conclusion to her essay on the "difficulties of understanding," Hannah Arendt describes the importance of the challenging yet indispensable work of ethical imagination: "Imagination alone enables us to see things in their proper perspective, to be strong enough to put that which is too close at a certain distance so that we can see and understand it without bias and prejudice, to be generous enough to bridge abysses of remoteness until we can see and understand everything that is too far away from us as though it were our own affair… Without this kind of imagination, which actually is understanding, we would never be able to take our bearings in the world. It is the only inner compass we have."[22]

In spite of, and indeed because of, imagination's near boundless scope of play—its inexhaustible agility and ability to intuit possibilities and reconcile seeming impossibilities, dilemmas and contradictions—it is crucial to our capacity to discern and respond to difficult truths. Thus, Gadamer (building on Kant) argues for the interplay and "harmonization" of imagination and understanding.[23] Similarly, Pérez-Gómez (drawing on surrealist André Bréton), posits the imagination as "our true instrument of knowledge, a gift for deciphering [and discovering] the innumerable enigmas that surround us.[24] Bringing this philosophy more directly to the enigma of architecture, Pérez-Gómez argues that ethical imagination is crucial for perceiving and presenting both meaning and beauty, as well as for orienting architectural action toward felicitous ends: "Imagination is precisely our capacity for love and compassion, for both recognizing and valorizing the other, for understanding the other as myself, over and above differences of culture and belief."[25] Ethical imagination is a precondition for any architectural practice committed to the most appropriate and desirable course of action in given circumstances. As Louis Sullivan gnomically put it, "This desire to act we call Imagination."[26]

Throughout his architectural career, at the dawn of American modernism, Sullivan spoke poetically of imagination's ethical role. In a fictional dialogue developed over many years (1901-18), he observed, "the power of understanding lies in the imagination and the heart… from the heart comes forth Sympathy… and [from] Sympathy is born that child of delight which illumines our pathway, and which we call Imagination." Architecture, he insists, must radiate these "living qualities," proving the architect to be "a well-wisher to humanity at large, not a stranger to it, and heedless of it." Such ethical imagination, he admits, requires "courage."[27]

Ecological Imagination

Although its roots are ancient, there has been a growing desire since the late 1960s to embrace an ethical stance not only toward other persons and cultures but toward the vulnerable ecosystem of our entire planet. Partly in response to the threat of nuclear annihilation during the Cold War arms race and the associated race to the moon, a counter-culture movement began shifting attention away from wars and rocket-science back down to Earth, promoting alternative low-tech ways of living in relative harmony with natural environments. Books like Stewart Brand's *Whole Earth Catalogue* (first published in 1968), and Reyner Banham's *Architecture of the Well-Tempered Environment* (1969), intensified such interests within architectural

disciplines, making ecological design not only attainable and urgent but fashionable. More recent "green" technologies and post-humanistic theories have normalized and radicalized ecological imagination. But there are limits and problems with some current approaches to sustainability. The blind faith some advocates place on technology—on global free-market economies that flatten cultural diversity; on grand technological solutions that further industrialize the landscapes; and on robotically-controlled modes of digital production that avoid and amplify ethical problems—can only lead to solutions that homogenize, obfuscate and evade the richly complex particularities and challenges of the very human and natural ecologies that need protection.

According to architect and educator Dean Hawkes, while sustainable approaches usually promote a quantitatively precise calibration of architecture with regard to energy consumption, they frequently fail to consider more qualitative aspects of settings and human experience with regard to the milieu. Hawkes' recent book, *Environmental Imagination*, aims to correct this neglect by giving attention to the "interaction[s] of light and air and sound with the form and materiality of architectural space," qualitative interactions which he holds to be "the very essence of the architectural imagination." Studying a series of settings designed by architects not typically known as environmentalists, like Sir John Soane and Sigurd Lewerentz, Hawkes argues that "the significant environmental propositions in architecture rest upon acts of imagination in which technics are brought to bear in the service of poetic ends."[28] This critique is by no means a dismissal of sustainable design practices calling for urgent reductions in energy use and green house gas emissions through a shift to renewable resources and construction practices. Rather, this is an invitation to expand the scope of ecological imagination: to consider the full reciprocity of worldly and human cycles—imagining geological, vegetal and animal agencies, together with seasonal and planetary rhythms, as ecologically linked with customs of daily life.

Considered along these lines, Environmental Imagination may be re-imagined as a synthesis of Cultural and Ecological Imagination. The pioneering planning theorist Patrick Geddess suggested this when he called for a "synoptic" understanding of cities and nature (*Cities in Evolution*, 1915).[29] More recently, David Leatherbarrow has encouraged cultivation of a "topographical" imagination, designing in reciprocity with particularities of place, cultural practices, and worldly horizons, embracing "topography" as the common ground of architecture and landscape.[30]

Vancouver architects John and Patricia Patkau speak about this most

Erik Arnason

Sakshi Misra
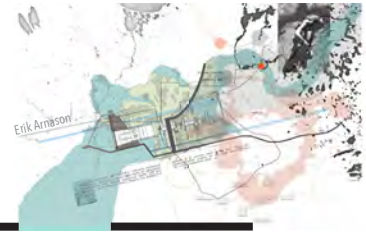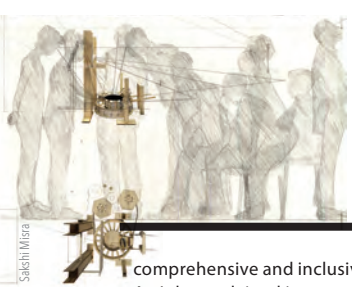
comprehensive and inclusive ethos in terms of "circumstantial imagination." As John explained in a recent lecture, "architecture arises from the synthesis of circumstantial considerations through an act of imagination… the more inclusive the imagination is to the diversity of circumstances which surround the project, the more complete the work of architecture."[31] Their approach considers nature, buildings and human actions as interrelated elements in an ecosystem inclusive of personal and collective desire: "Increasingly, we think of our work as a project of trying to establish relationships between things, a means of constructing mutually beneficial ground between the circumstances of the project, enduring natural systems, and the needs and desires of individual clients and communities."[32]

Embodied Imagination

We often speak about imagination in terms of vision, as making the invisible visible to the mind's eye. The "Eye of the Imagination" is an enduring image. Robert Fludd had it engraved as the "portal" to his 17th century work on the art of memory. The Roman educator Quintilian evoked it in his 1st century study of the varieties of persuasion: "There are certain experiences which the Greeks call *phantasies*, and the Romans *visions*, whereby things absent are presented to our imagination with such extreme vividness that they seem actually to be before our very eyes" (*Institutio Oratoria* 6.2.29). Any 21st century dictionary similarly defines imagination as the capacity to form images in the mind. However, imagination is not reducible to visions or visual impressions. Rather, like architecture, imagination is a full-body experience.

Imaginative agency belongs to all the senses. Beyond visual stimuli, smells, tastes, sounds and haptic sensations each activate, and are active in, imagination. The scent of freshly cut grass, sawdust, or a particular fragrance can transport us to other times and places, or bring a distant lover close. Smells and tastes of special foods can conjure family and festivities, whether in memory or anticipation. Phenomenologist Eugène Minkowski considered imagination in terms of acoustic reverberation, suggesting that truly poetic images become so powerfully alive as to reverberate in the consciousness and harmoniously echo and vibrate with the sonorous tonality of life.[33] Plato posited imagination in terms of touch, a kind of contact that warms and inflames us, or chills and stills us. He dramatized the quasi-erotic mingling of personal imagination and worldly images as a coalescing of inner flame and outer fire (*Timaeus* 45d-46c). Closer to our time, Gaston Bachelard considered the German writer Novalis to be a "Toucher," because his palpable poetry "touches the untouchable, intangible or unreal."[34] And, the architect Marco

Frascari imagines drawing instruments to be sentient extensions of an architect's body, through which we touch, shape and grasp realities of projected worlds.[35]

In *Phenomenology of Perception*, Maurice Merleau-Ponty showed how "the senses communicate among themselves."[36] He argued for a synesthetic and reciprocal understanding of perception and imagination, whereby worldly impressions are not only felt by all senses in dynamic concert but also become intertwined with transformations of human subjectivity. David Abrams' *Spell of the Sensuous* popularized these arguments,[37] and Juhani Pallasmaa brings them to bear more directly on architectural imagination in a series of publications considering interrelated topics: the "Embodied Image," the "Shape of Touch," the "Taste of Stone," the "Thinking Hand," and "Eyes of the Skin."[38]

Beyond involving all bodily senses, the architectural imagination senses and contemplates embodied inhabitation: anticipating purposeful movement and social activity in place and time. This entails interrelations of haptic, corporeal, spatial, situational, temporal and dynamic imagination. We could call this inhabitational imagination. With every plan sketched, architects imagine not only multisensory forms of enclosure but multivalent forms of life: embodied routines, common dwelling practices, and extraordinary social and civic events. With their own bodies, architects choreograph and hypothetically enact the embodied experiences of many others. This kind of heuristic and performative imagination approximates the dramatic art of dancers and actors who rehearse expressive movements and motives of characters in particular situations,[39] as well as the social science of anthropologists who study the ways cultural knowledge becomes sedimented and expressed in non-verbal practices of everyday life.[40] As Mark Johnson has argued, embodied interaction with physical and social surroundings—even in imagination—provides the basis for engendering meaning in architecture, just as it does in daily life.[41]

Linguistic Imagination

For many philosophers and a few architects imagination is held to be fundamentally linguistic, to operate primarily through verbal discourse with oneself and others. This may seem surprising to those who sense themselves working most imaginatively through non-verbal media, and to those who fear that thoughtful discourse trips-up and shuts-down imaginative powers. Nevertheless, whether or not one is fully persuaded, we should grant that discursive language—with its foundational aptitudes for vocabulary, syntax and

metaphor—plays a key role in architectural imagination and reflective practice.

Any reader who has been disappointed by a movie adaptation of their favorite novel will likely agree with Elaine Scarry, who argues in *Dreaming by the Book* that literary images are more vivacious and meaningful than pictorial ones, in part, because literary images depend on the active and intimate involvement of a reader's own imagination.[42] Paul Ricoeur provocatively asserts that all "images are spoken before being seen;"[43] and Bachelard likewise declares, "the voice *projects* visions."[44] Anyone may agree who has ever looked at a painting but failed to notice a significant detail until a person or placard verbally mentioned it. Far from killing imagination, verbal discourse "engenders imagination," bringing creative thought and the potential for understanding into being.[45] Understanding (which is always a work in progress) proceeds through, what Ricoeur calls, a "hermeneutic" imagination, an interpretive practice of reading—and reading between the lines—to decipher multiple levels of meaning and to grasp the resonance of a work's world with one's own.[46] This interpretive challenge recalls how "difficulties of understanding" are mediated by ethical imagination, as described by Hannah Arendt above.

Bringing such findings to bear on design disciplines, Alberto Pérez-Gómez argues that linguistic imagination is crucial to architectural interpretation and invention. In a section entitled "The Voice of the Architect," Pérez-Gómez describes how architects—through language—make promises, build consensus, forge alliances, shape hypotheses, form intentions, and contribute to the construction of cultural understanding. Verbal communication is not simply the delivery of thoughts already fashioned in our heads, but the very means by which we think, discover and make the potential for understanding available both to ourselves and others. What is of paramount importance for architects (and any public professional), Pérez-Gómez argues, is the capacity to articulate promises—to project, in the future tense and in dialogue with clients and collaborators, not simply what is possible, but what ought to be. Such verbal promises precede and accompany other representational projections that architects make and share. For any architectural project, a crucial promise is its program: "a proposal for lives to be lived."[47] The best proposals are forged through discursive imagination, which is fully embodied (gestural, figurative, social and situational). "Fundamentally," Pérez-Gómez contends, "the linguistic (hermeneutic) imagination permits the search for an appropriate relation between tradition and innovation, crucial for the proper social functioning of architecture."[48]

In our increasingly litigious and expeditious profession, language is often reduced to its narrowly indicative and instrumental function—unambiguously denoting predetermined outcomes. This tendency limits conversation and reduces language to techno-bureaucratic jargon. But, put to work in its full capacity, language is our most imaginative means to open up possibilities, raise important questions, and discover new approaches and meanings. For Gaston Bachelard, "the imaginative role of language" arises from the connotative inclination of every word "toward ambiguity, double meanings, [and] metaphors."[49] Likewise, for Pérez-Gómez, language is inherently inventive, by its polysemic, multivocal, and metaphoric nature. Metaphoric expressions allow us to see things not just as they are, but as we experience, imagine and desire them to be. Creating metaphors exercises our analogical imagination: revealing otherwise hidden (or forgotten) likenesses and similarities. To give a simple example: When we describe the "ceiling" of a room as its overarching "sky," we begin to lift and open that ceiling—from the closed prosaic domain of trusses, joists, sheetrock and lightbulbs, to a more poetic and universally resonate realm of worldly conditions. The ceiling of Tod Williams and Billie Tsien's Natatorium at Cranbrook is a perfect example. It was imaginatively projected not simply as the underside of an impressive 110-foot span of steel girders, but as a manifestation of an immense and dynamically variegated sky, with fluctuating moods and a constellation of luminous and galactic orbs. This vast but intimate gesture invites—as Billie Tsien promised at the project's groundbreaking ceremony—both the body and the creative imagination to float and soar.[50]

Narrative Imagination

By reinventing ways to describe common qualities and experiences, we re-make the world. This is one way of understanding poetic imagination—the first capability of any "real" architect, according to Sullivan.[51] Poetic expression awakens us to renewed realities and "restores life to lost [or forgotten] possibilities."[52] Poetic images augment our experience of reality, inviting us to reinterpret and re-make it, to live it anew. This connects to what Paul Ricoeur calls "the function of fiction in shaping reality."[53]

Linguistic imagination is closely allied with narrative imagination, which combines poetic images with fictional plots. The Renaissance poet Ben Jonson suggested that the plot is to poetry what the plan is to architecture (*Discoveries* CLXV). Like a plan, a narrative plot describes a sequence of interrelated events that unfold in time and have some meaningful relation to fate—to our hopes, fears and expectations of how things might turn out in the
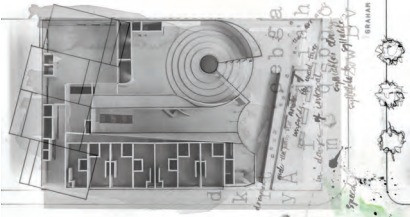
end. An architectural plan describes an arrangement of interrelated spaces for human affairs, configured in relation to particular contexts and orientated to a larger shared world. When an architect takes a colleague or client on a hypothetical "walk-thru" of a developing design, they verbally narrate a series of scenarios (approaching, entering, gathering, etc.), while tracing on a plan (with figure, pencil or surrogate cursor) the corresponding paths, pauses and prospects. Pérez-Gómez urges us to imagine architectural programs as open-ended plots: "not a simple list of parts but a literary narrative of proposed human actions and events for which architecture must provide suitable moods"—attuned with an "atmospheric" imagination.[54]

By "reading" the plan of architectural settings one discovers traces of life, tangible evidence of human desires, relationships and hierarchies. At the scale of cities, plans reveal the sedimented layers of socio-political conditions, vestiges of cultural practices, values and ambitions. According to architectural educator Diane Lewis, "the art of being able to read the 'score' of civilization by observing the plans of the cities that have composed its story, is the sweetest dessert of being an architect."[55] And this sweet reward is experienced in both memory and invention: interpreting historical plans reveals open narratives that took place in past epochs, just as preparing design drawings proposes potential narratives for future settings. Such historical imagination and conjectural imagination are complementary. Indeed, imagining "the reality of the historical past" is as much a conjectural and provisional act as projecting a future world is interpretive and reflective.[56] Or, as Federica Goffi argues, re-imagining historic settings through interpretive drawings is a profoundly productive means of architectural invention.[57]

Representational Imagination

Good architects may make good storytellers, but in practice architectural narratives are composed with both words and images. An architect's representational imagination is extremely interactive, multimodal and polyvalent. Through various graphic, digital, performative and material means, and at diverse scales, architects imaginatively interpret, recover, revise and project worlds that are not only constructible and inhabitable but desirable. Architectural representations do not merely provide instrumental depictions of things to come; rather, they have the potential to give presence to a world of qualities and conditions, and to make present (again) shared questions and desires.[58] In so many ways, imagination is synonymous with representation—indeed, everything this essay argues applies to both.
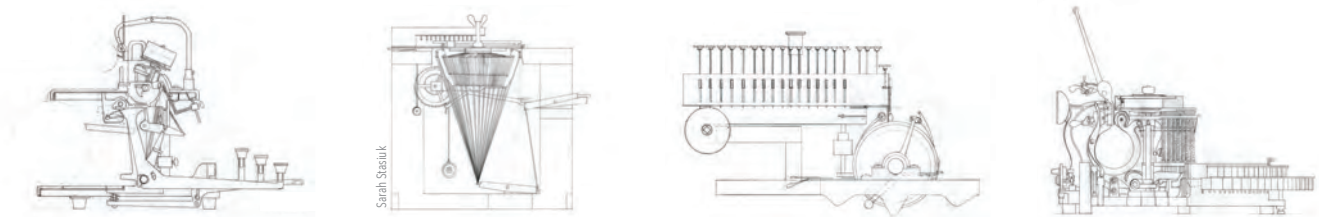
Material Imagination

It is sometimes presumed that architects first imagine forms in their minds and later manifest them in materials. Professional and academic authorities can exacerbate this mistake by enforcing and promoting strictly linear design processes with artificially segregated steps. A recent collection of essays aims to correct this mistake and restore the primacy of materials to the craft of architectural making. *The Material Imagination: Reveries on Architecture and Matter* presents numerous ways to think not only about materials but through and with them from the onset. Materials are not merely the clothing of ideas. Rather, the embodiment of architecture is a "true co-presence of meaning and material," as Paul Emmons' essay makes clear.[59]

Peter Zumthor speaks of his "passion" for materials as growing from formative experiences as a cabinet-maker. Dematerialized sketches are limited for him: his concern and passion is for architecture's "materialized presence." His desire is to "penetrate" the physical reality of building materials—stone, cloth, steel, and leather—with his imagination.[60] Toronto-based architects Brigitte Shim and Howard Sutcliffe, similarly describe their design process as involving collaborations with artisans and imaginative engagement with materials, including the most ephemeral and ethereal material of light, and the most enduring yet malleable substance of landscape.[61] These sentiments echo Bachelard, who spoke of the material imagination's "astonishing need for 'penetration.' Going beyond the seductive imagination of forms, it thinks matter, dreams matter, lives in matter, or—what amounts to the same thing—it materializes the imaginary."[62] The Renaissance architect and sculptor Michelangelo felt the relationship between imagination and material to be more profoundly reciprocal: his poetry reveals that he felt marble to shape the artist, as much as the artist shapes the marble.[63]

Unlike Michelangelo, who often worked chisel in hand covered with marble dust, present-day architects work more through mediating representations—words, drawings, and models. These representational media are the architect's primary imaginative means of sentient engagement with the works and worlds they propose. There was a time when such mediating artifacts were felt to have quasi-magical sympathies with the world, wherein qualities imbued in material representations had influential effects on elements of reality. Even the imagination was considered a material: akin to wax or clay, the malleable imagination received (like a stamp) worldly impressions; and, in turn, shaped figures that could be impressed into the world. This was a magical sympathy and transformation of reality through imaginative thought.

Modern science has purged much of the magic from our material and alchemical imaginations, but these are human capacities we can recover.

Tectonic Imagination

A recent design trend embraces the dematerialization of architecture, aiming to make buildings dissolve, evaporate and appear to disappear. Examples include: Diller and Scofidio's Blur Building, a pavilion that seems to float as a vapory mist (Yverdon-ses-Bains, Switzerland, 2002); and various installations by Ned Kahn, like Turbulent Line, which transforms the wall of a parkade into an effervescent veil rustling and scintillating with the wind (Brisbane, Australia, 2012). Yet, however diaphanous in effect, architecture's perceived immateriality in fact depends on material and compositional precision, requiring tectonic imagination.

A tectonic imagination involves arranging, combining and adjusting diverse parts into a relatively cohesive whole, while concurrently forging meaningful bonds between human and natural worlds. Although much of today's construction industry delivers standardized building components ready for assembly, peculiarities of place and program compel architects to make modifications and to invent mediating details between elements. David Leatherbarrow suggests, "The imagination necessary for this sort of adjustment or modification is a synthetic sort, the kind that brings together things that had been seen as different or incongruent, a concrete rather than a speculative imagination."[64] This concrete and synthetic imagination proceeds through construction details and building sections, prototypes and mock-ups, and recurring negotiations with artisans in workshops and on building sites. Such technical concreteness needn't imply any loss of evocative power and depth. As Alain Robbe-Grillet once explained (commenting on "the absolute reality of the things" in fictional stories of Kafka), "The hallucinatory effect derives from their extraordinary clarity and not from mystery or mist. Nothing is more fantastic, ultimately, than precision."[65] Thus, it remains a challenge to build suggestiveness through concreteness, to devise well-made works fostering qualitative participation with a world in formation.

Archi-tectonic imagination pursues internal tectonic resolution as well as openness and connection to the world. This is a kind of indefiniteness or receptive ambivalence that fosters cultural involvement. As Aldo Rossi mused, "In order to be significant, architecture must be forgotten." By this Rossi implies that architecture must recede enough for life to come to the fore, asserting itself only insofar as it "serves the imagination."[66] Just as

architectural ruins have the power to entice, prompting us to dream into and fill-in a partially given reality, "incomplete, imperfect and impermanent" architectures invite us to imaginatively engage with our unfinished world, as Rumiko Handa shows.[67] David Leatherbarrow similarly argues that "incomplete images lead to the creation of new works and that fragments provoke imaginings of complete forms."[68] Architecture at its best does not merely attest to the vital imagination of its makers but also engenders the living imagination of others. Architecture can, Pérez-Gómez hopes, become "the engine of imagination."[69]

Endless Variety

According to Louis Sullivan there are "thousands upon thousands of imaginations, each vital and peculiar." Although these varieties can be "classified and tabulated, and tagged" it is more important, he advises, to grasp their "indissoluble continuity," and thus "have a hint of the universal aspect of the imagination, of its fluency, its quality, its range."[70]

This essay has not exhausted the varieties of imagination pertinent to architectural work, but has sketched a strategic selection. The task of formulating a complete list would be impossible, since imagination is inexhaustible and self-proliferating: the more we imagine, the more ways of imagining we discover. Imagination is an endless labyrinth. Such is its pleasure, power and challenge. This essay serves as a kind of Ariadne's thread to help retrieve the sense and depth of imagination's windings.

In closing, we must acknowledge that, like a labyrinth, imagination can harbor danger. As fruitful as it is, imagination, Sullivan warns, "is also a great destroyer." Without the restraint of judgment, imagination can be misdirected to arbitrary or malicious ends. Alvaro Siza once denied that imagination played a significant role in his architectural work: "It seems to me that the idea for a design comes neither from inspiration nor from imagination." Rather, he claims, his designs arise from basic observation of a site. But observation is no easy task, he warns, for "learning how to see [is] a process that never comes to an end." The challenge, he clarifies, is "to rediscover the magical strangeness, the peculiarity of obvious things."[71] Taking Siza's denial with a grain of salt, his modest remarks point to a profound insight concerning the riddle of imagination: imagining things otherwise includes the courage and patience to see what is.

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events/2014-2015events/CE_2014_2015_Teddy_Cruz.html. See also, Teddy Cruz, "Latin American Meander: In Search of a New Civic Imagination," *Architecture Design. Special Issue: Latin America at the Crossroads*, 81.3 (May/June 2011): 110-17.

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50   Billie's comments are recoded in "Vision and Interpretation: Part 9, Tod Williams and Billie Tsien's Natorium," Cranbrook 1904-2012 Exhibition, https://www.youtube.com/watch?v=7IYVJI5ABfo.

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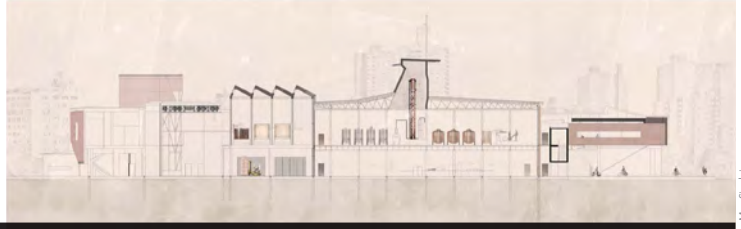
Mac Sinclair

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65   Alain Robbe-Grillet, *For a New Novel: Essays on Fiction*, trans. Richard Howard (Evanston, IL: Northwestern University Press, 1989. First published 1963), 165.

66   Rossi, *Scientific Autobiography*, 45.

67   Rumiko Handa, *Allure of the Incomplete, Imperfect, and Impermanent* (London and New York: Routledge, 2015).

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70   Sullivan, *Kindergarten Chats*, 57.

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IMAGES:
Student work from my *Phantasmagoria* graduate architecture design studio (2015-16).
page 71 (left): Evan Schellenberg, persona of a client for a live-work-performance space.
page 71 (right): Xue Wei, explorations of collage and capriccio.
page 72: Xue Wei, farming, drawing and dwelling machines.
page 73: Evan Schellenberg, vignettes for a back lane theatre.
page 74: Emily Bews, studies for an ecologist's luminous seed bank and magic lantern.
page 75: (left) Sakshi Misra, kinesthetic explorations of a *Theatre Optique.*
page 75: (right) Erik Arnason, drawing ecologies and rewriting sites.
page 76: Mac Sinclair, narrative studies for a museum of industrial alchemy.
page 77: (left) Sarah Stasiuk, plan for the lifeworld of words.
page 77: (right) Sakshi Misra, building skins and performative costumes.
page 78: Sarah Stasiuk, reading, writing and remembering machines.
page 79: Erik Arnason, section through a house of shifting shores.
page 80: Emily Bews, section through a community seed vault in the forest.
page 81: Evan Schellenberg, plan for a back lane theatre.
page 82: Evan Schellenberg, section for a back lane theatre.
page 83: Mac Sinclair, design for a transformative tasting bar, gin distillery and related cabinet of curiosity.

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