A Systemics of Architecture and Art in Our Experience of Space and Human Inquiry

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What brought me to be interested in architecture is my early interests as research methodologist and artist in the occupancy and psychology of space.

The problems of design became acute in my experiences of being with others concerned with the design of social systems.

Systemics and sociocybernetics also became relevant to framing, conceptualizing, and working with others in various kinds of spaces.

I noticed the blatant neglect of psychological and social effects of our physical surroundings on intentions to collaborate and perform in human organizations of various kinds.
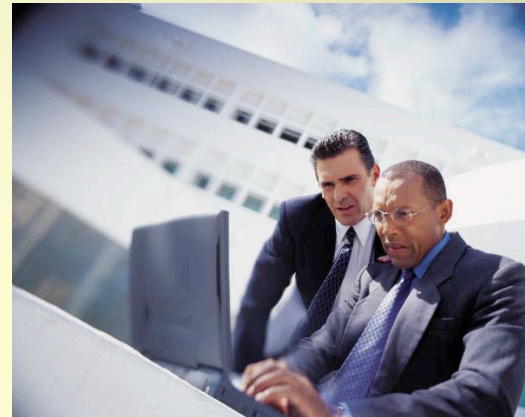
It was as if it did not matter where we were as long as we worked together to do what we were there to do.

I have been involved with systems research and sociocybernetics for two decades. I have been particularly interested in what we may call *human activity systems*, a phrase inspired by the work of Peter Checkland (1981).

A group of people form this kind of system when we may emphasize as the most important defining quality of such a system to be the interactions among the persons.

The system is not very visible much of the time, but only in our imagination. However, when people meet to communicate in person and by means of technology, the system is activated, it comes alive.
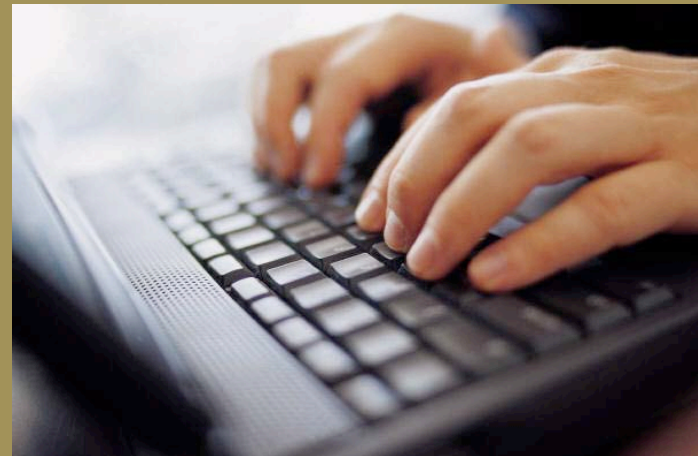
It is the communications among the persons that make the system visible. In vivo, it is what we mean by a human activity system.

It is common that we are members of many human activity systems simultaneously and during our lives.

The structures and places associated with human activity systems are what brings the field and occupation of architecture to my interest, because architecture I believe has a tremendous omnipresent influence on human activity systems.

Today, most of us live our lives in cities. We live and work in contained and well defined spaces.

Typically, we are separated from the natural environments that were common for most of humanity several generations ago.

Considering the longevity of human history, the change from non city to city life has come fast.

An alternative way to think about it is that the architecture of life of a human being is in general very different today than two hundred years ago.

What does this mean?

What may it portend for the future of humanity,

if, for example, we live primarily in cities?

What is the role of architecture in this case?

It is a non controversial fact that the space a living being inhabits has a profound influence on that living being.

It is a given that, along with the internal condition of a living being, the environ constitutes the determinant reality of that being.

Architecture shapes and organizes the environment for human beings; thus, de facto, architecture is an important environmental force.
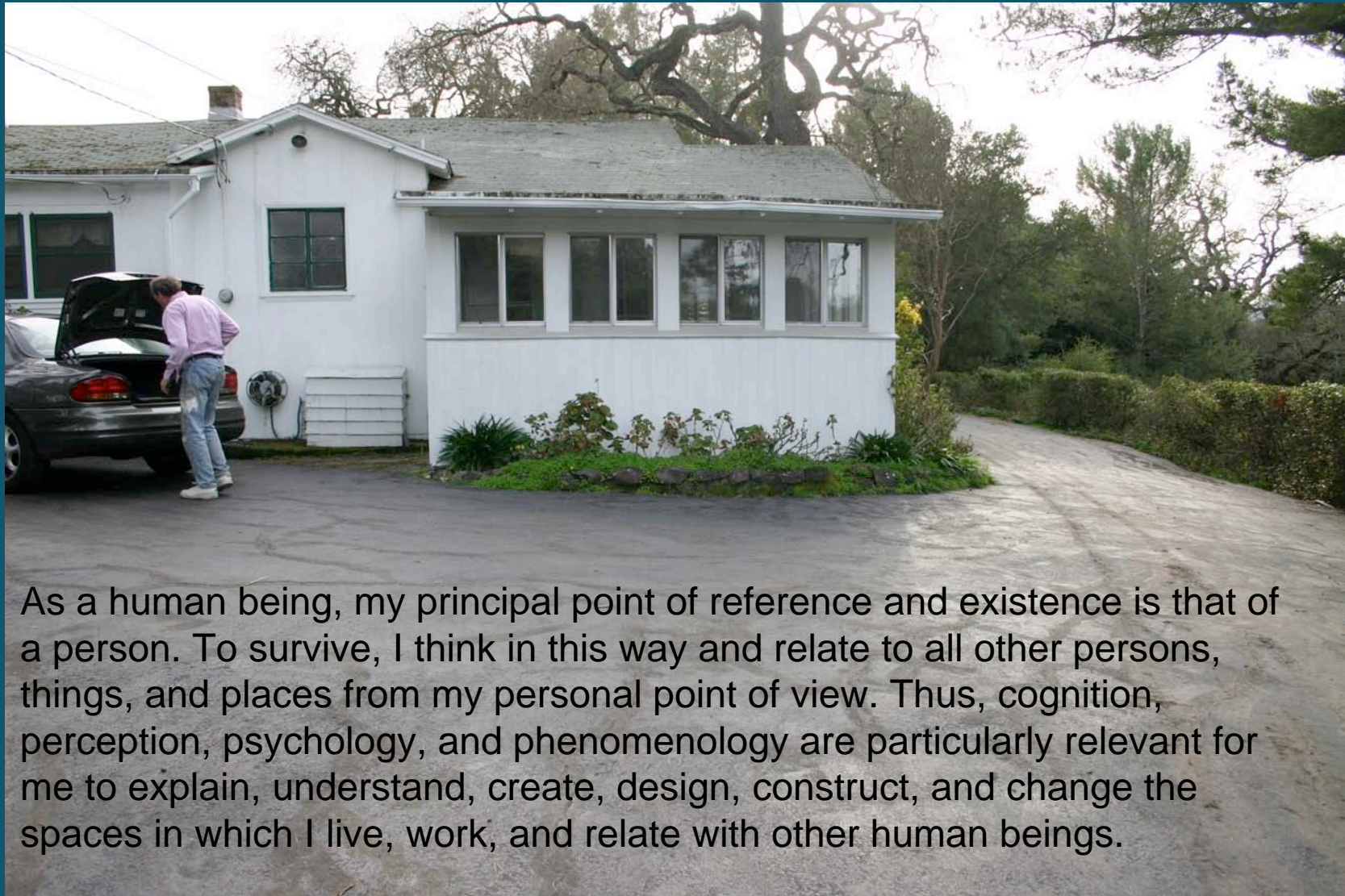
As a human being, my principal point of reference and existence is that of a person. To survive, I think in this way and relate to all other persons, things, and places from my personal point of view. Thus, cognition, perception, psychology, and phenomenology are particularly relevant for me to explain, understand, create, design, construct, and change the spaces in which I live, work, and relate with other human beings.
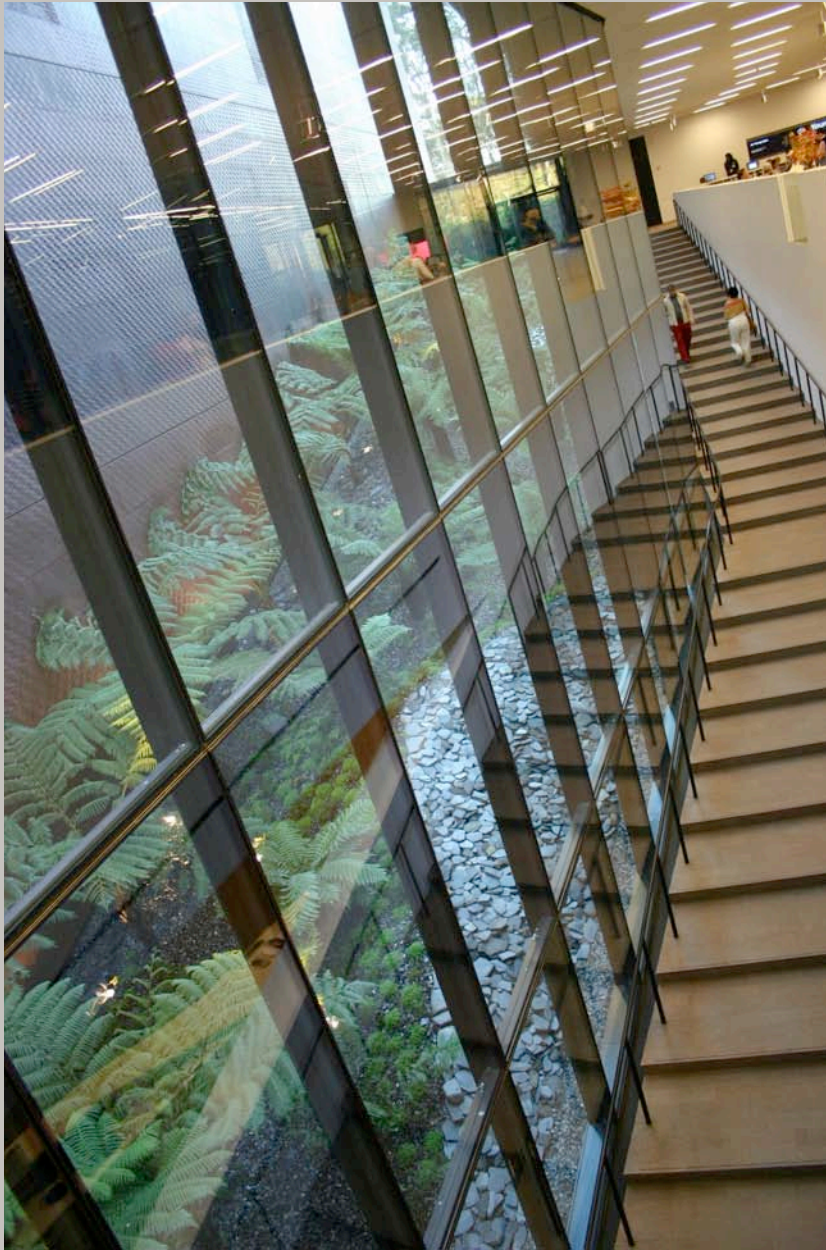
Three Sides of Experiencing Space

By means of perception cognition, we experience space in chiefly three ways:

1 - In fixed body positions, we sense what is (sensual modalities).

2 - We sense what is, while the body is in motion (serial, sequential perception).

3 - We integrate what we sense what is from multiple separate body positions, locations, and senses (perceptual constancy, invariance).

The three-sided scheme of experiencing space is an artificial articulation, because we are doing all three simultaneously most of the time.

The complexity of the triangulation experiencing space with duration (time) becomes even more profound when we take into consideration that the relations among the elements of the space we perceive change:

when we experience the passage of our body through the space, for example, changing odors across the garden;
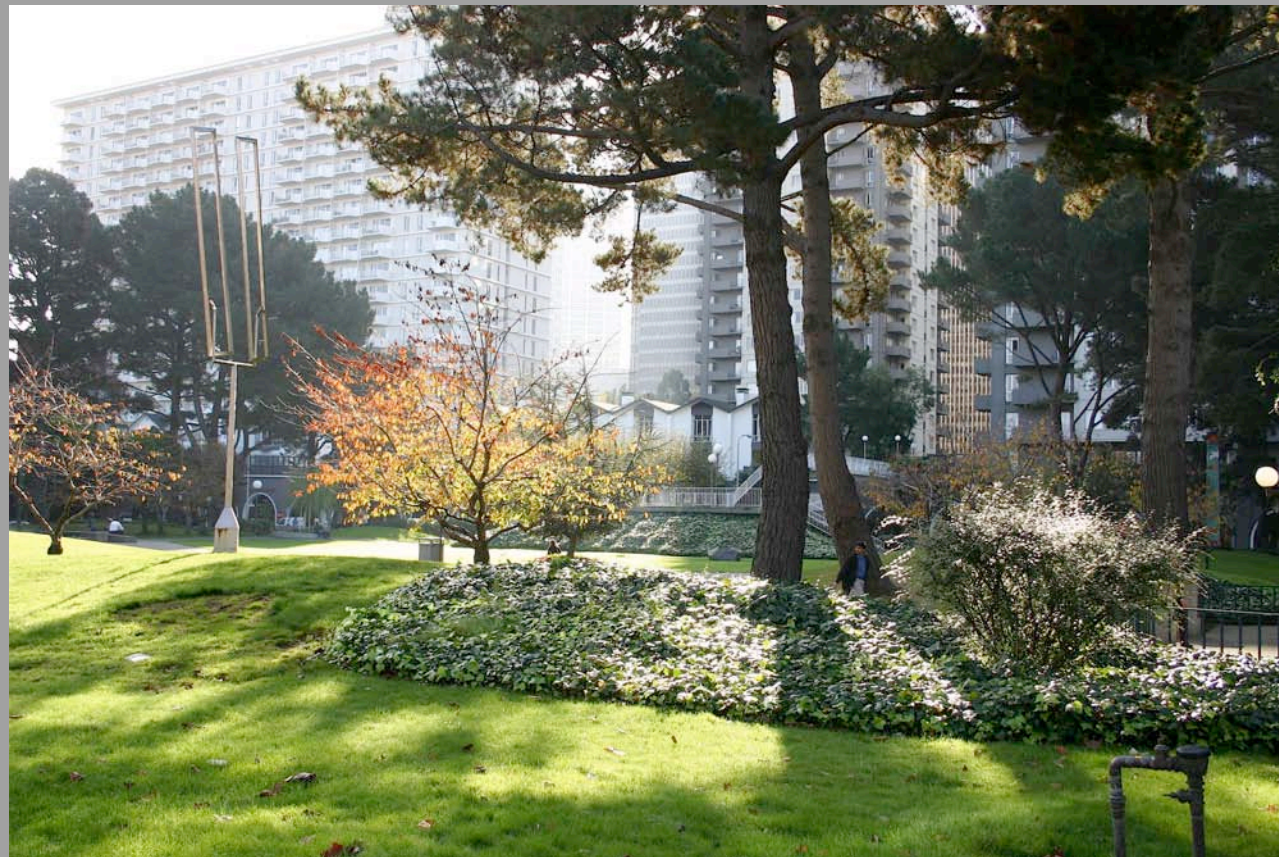
when we experience the space through the day, for example, changing reflections and shadows on the wall;

when we experience the same place through the
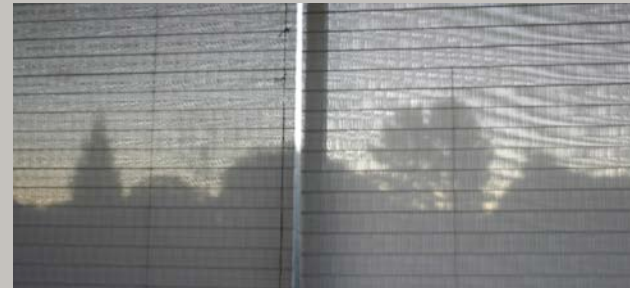seasons, for example, temperatures.

"As we move through spaces, the body moves in a constant state of essential incompletion. A determinate point of view necessarily gives way to an indeterminate flow of perspectives. The spectacle of spatial flow is continuously alive . . . It creates an exhilaration, which nourishes the emergence of tentative meanings from the inside. Perception cognition balance the volumetrics of architectural spaces with the understanding of time itself. An ecstatic architecture of the immeasurable emerges. It is precisely at the level of spatial perception that the most architectural meanings come to the fore." (Holl, 2000, p. 13)

A point of view
gives way to
spatial flow, and
an architecture
emerges.

Speaking of phenomenology, the totality of the space is
our experience, essentially syntheses of our senses.

What might a phenomenology of organized space entail?

When lights, sounds, odors, and objects pervade a space, the space, as we experience it, is as much about what is there as what is not.

empty - - - - - - - - - full

present - - - - - - - - - absent

visible - - - - - - - - - invisible

loud - - - - - - - - - silent

colored - - - - - - - - - black/white

soft - - - - - - - - - hard

hot - - - - - - - - - cold

strong - - - - - - - - - weak

What sights, sounds, smells, touches and tastes make my space of this place?

What are the materials

synthetic and artificial?

What is natural?

Who and what

occupies the space?

What interactions and influences do the elements added have on our experience of the place?

From a phenomenological-hermeneutic (ontological) perspective, organizing the space of the environment is to manifest patterns, which become forces.

With our perception cognition of sounds, lines, shapes, colors, odors and contacts,
we may read, reap and make meanings --- the essential structures and contents of consciousness.

Architecture, Human Beings, and the Phenomenon of Induction

Put people together in a place. Define the space by means of an architecture. After some time, their interactions may induce a system. That is to say, a social system of some kind emerges, a system defined not simply by the collective beings, but more definitively by their interactions. The nature and qualities of the interactions make the system what it is.

If we select one element extremely and focus on it, consider whether the whole
goes out of balance, whether the result experienced manifests imbalance.

Can a strong force or energy from one element destroy that of others in the space?

In short, the chosen element dominants space. One element overshadows the
others, like one large tree covets the sunlight that would nourish the other trees.

The effect is to block out or mask the other elements from our experience.
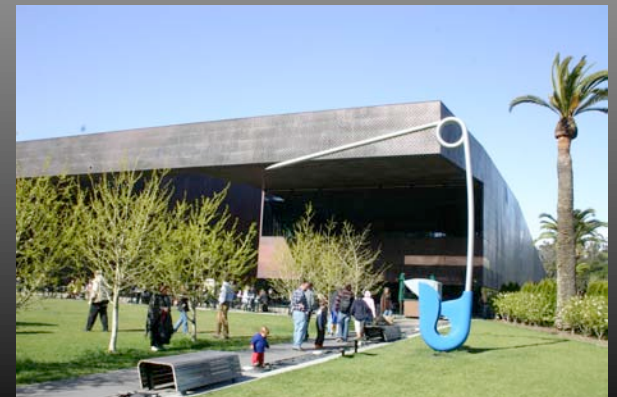
Is ideal architecture balance?

Salk Institute, Kahn, 1972

San Francisco Museum of Modern Art, Botta, 1995

However, note the relevance to reductionism and the multi-sided experience of being in space. If one element captures our attention, does it keep it, or does it lead to another element, and then another, until we feel surrounded, immersed, and part of the whole?

Is ideal architecture integration?

Thesis: The spatial organization we impose through architectural decisions contributes to inducing the emergence of the human social systems of those who inhabit the space.

In what ways might the architecture of the space act as an inducement?

More specifically: What is it about the architecture (container, organized space) that induces, promotes, facilitates, explains, enhances, empowers, and improves the intended human activity system?

One implication: From the design, organization, and construction of the spaces we inhabit, the emergent qualities bring preeminent importance to the trans disciplinary nature of architecture.

The Trans Disciplinary Nature of Architecture

For an architecture to occupy a space in new ways means the inclusion of cultural elements; recognition of the unique qualities of indigenous materials; imaginative perspectives; knowing physical, physiological, psychological, social, and economic effects of the architecture in space; current environmental conditions and fauna; perceiver's angle of vision; history of the place; and preconceptions of the inhabitants.
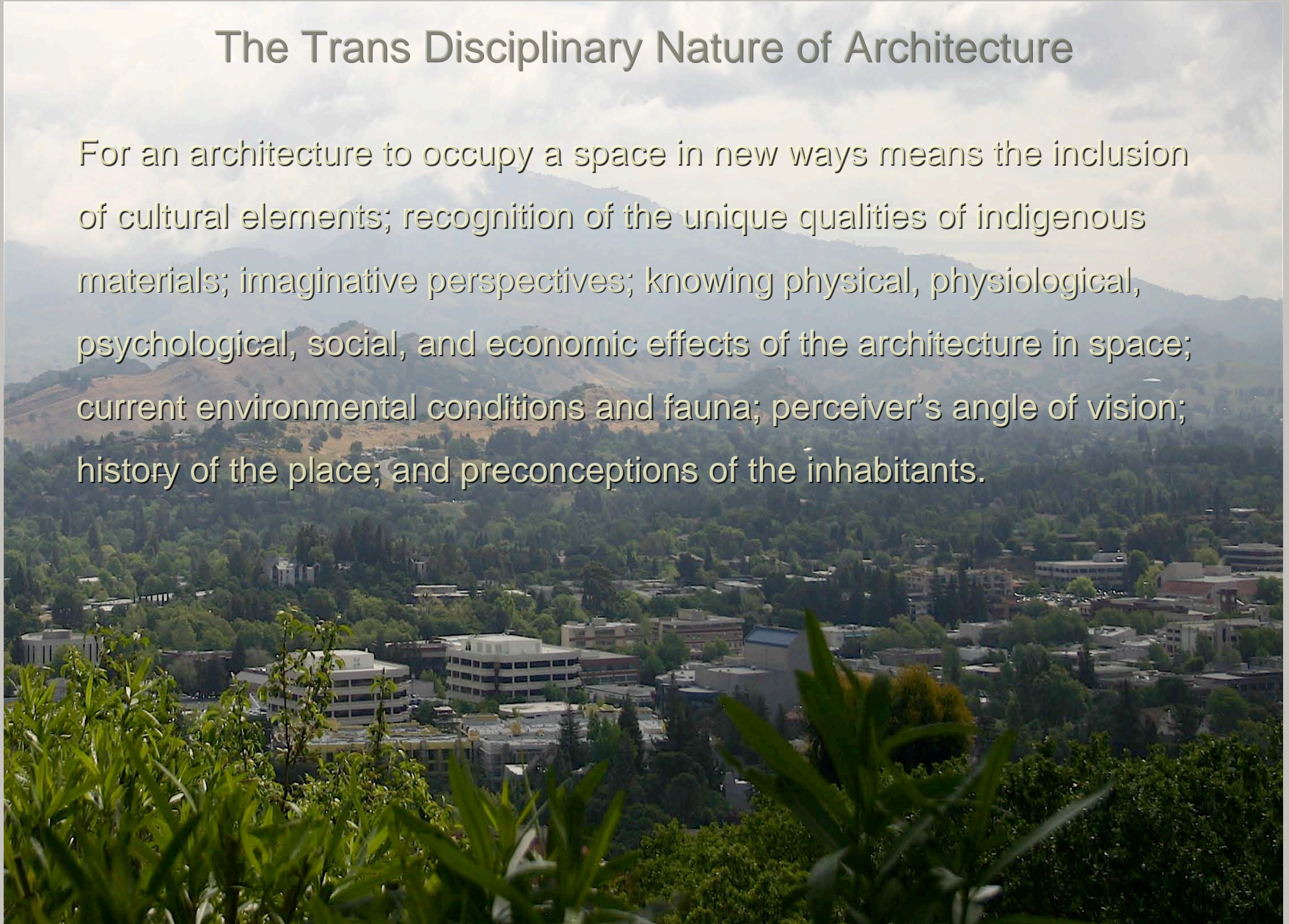
Systemic Levels of Relational Complexity in Architecture

Any systemic theory draws to one arena what we know across all disciplines relevant to the theory. If we were to construct a general theory of architecture, drawing upon a general theory of systems, one approach would be to describe the complexification of architectures as systems at increasing levels of complexity, that is, what we take to be the:

1) links between two primary elements in space;

2) links of relation among a set of elements, a composition or

     configuration of elements, a complex, an organized space;

3) links among compositions, across sets of elements, organized spaces;

4) links between compositions and context, organized spaces in context;

5) links of duration across other levels.
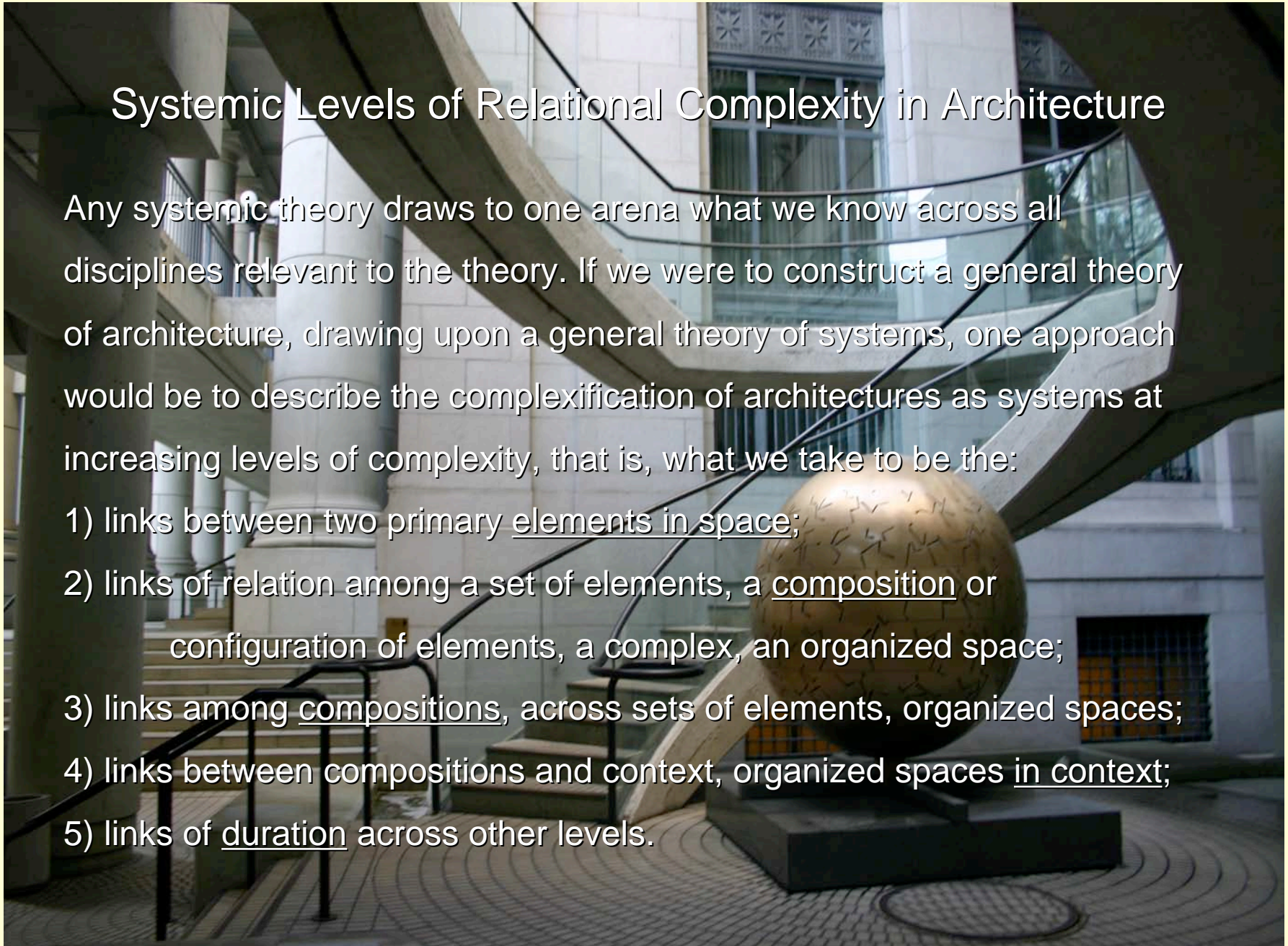
Framing is a natural inherent perceptual cognitive process of being human.
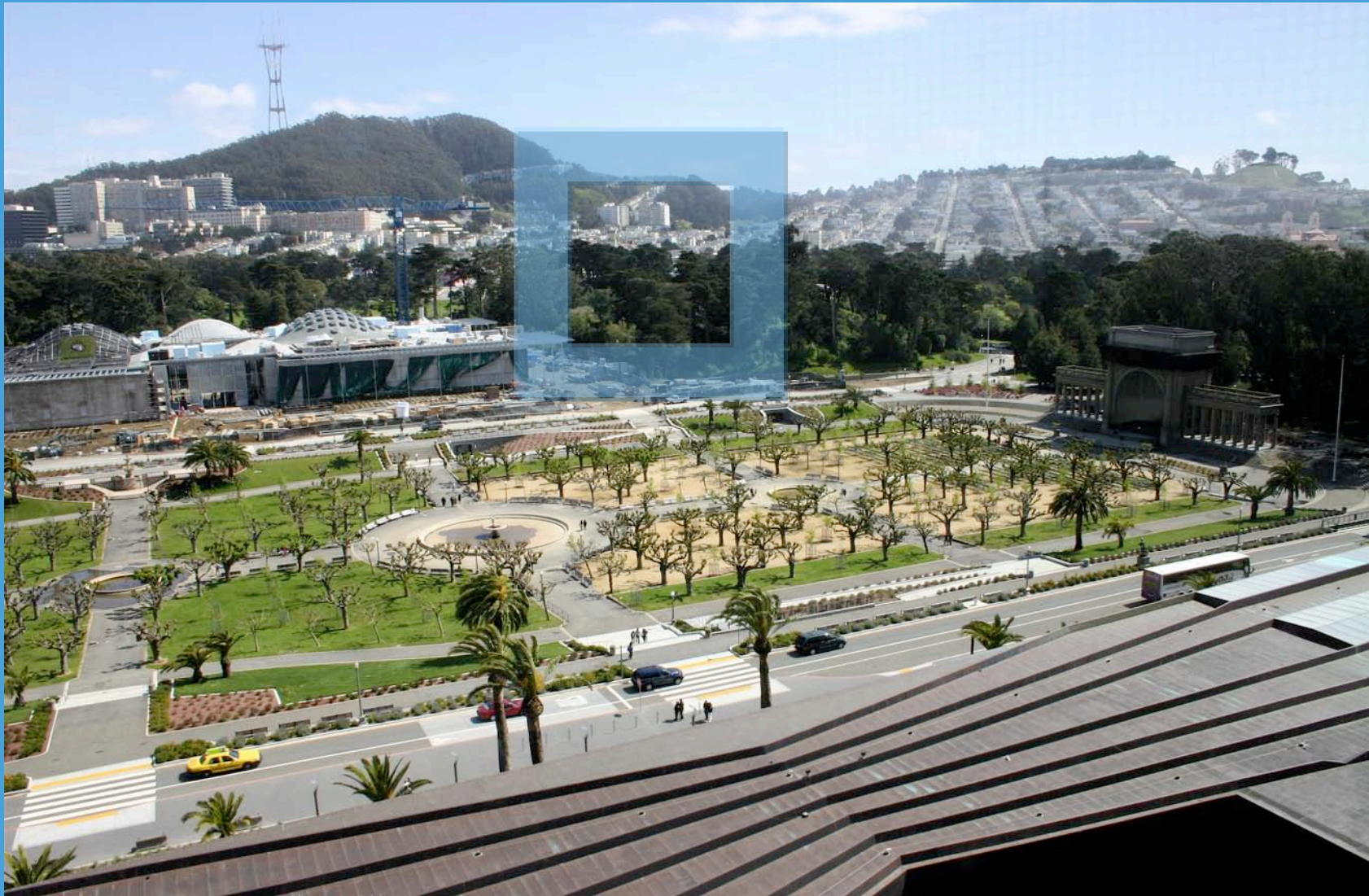
What is included and excluded in the frame is an act of profound importance having major consequences.

To line out some aspect of the space is to frame, to make
separations in the space, to break the space into parts.

separation, openness, possibility?

The window is an elementary frame, depicted as a square. What does each square communicate, induce?

solidity, stability, strength?

separation, entrance, exit?

confinement, imprisonment, control?

separateness, security, safety?

fluctuation, alternation, tension, creativity?

Arena of Inquiry (paradigm) is another example of framing (Collen, 2004).

Philosophically, an arena of inquiry
(paradigm) comes with an epistemology,
ontology, axiology, and methodology.

LOGOS (knowing) - to know about space - knowledge
• what we know about spaces
• what we know about defining, controlling, organizing,
  and constructing spaces
• what we know that may be applied to this space

ONTOS (being) - to be in space - experience
• what we think and feel being in spaces
• what we see, hear, smell, taste, touch, and taste in
  spaces
• what it is to be in this space

AXIOS (valuing) - to value space - importance, ethics
• what is important to respect and honor in spaces
• what are the rights and wrongs, good and bad aspects
  of spaces
• what values are relevant to this space

METHODOS (doing) - to organize, make space -
methods, practices
• what do we do designing and constructing spaces
• what methods and practices apply to this space
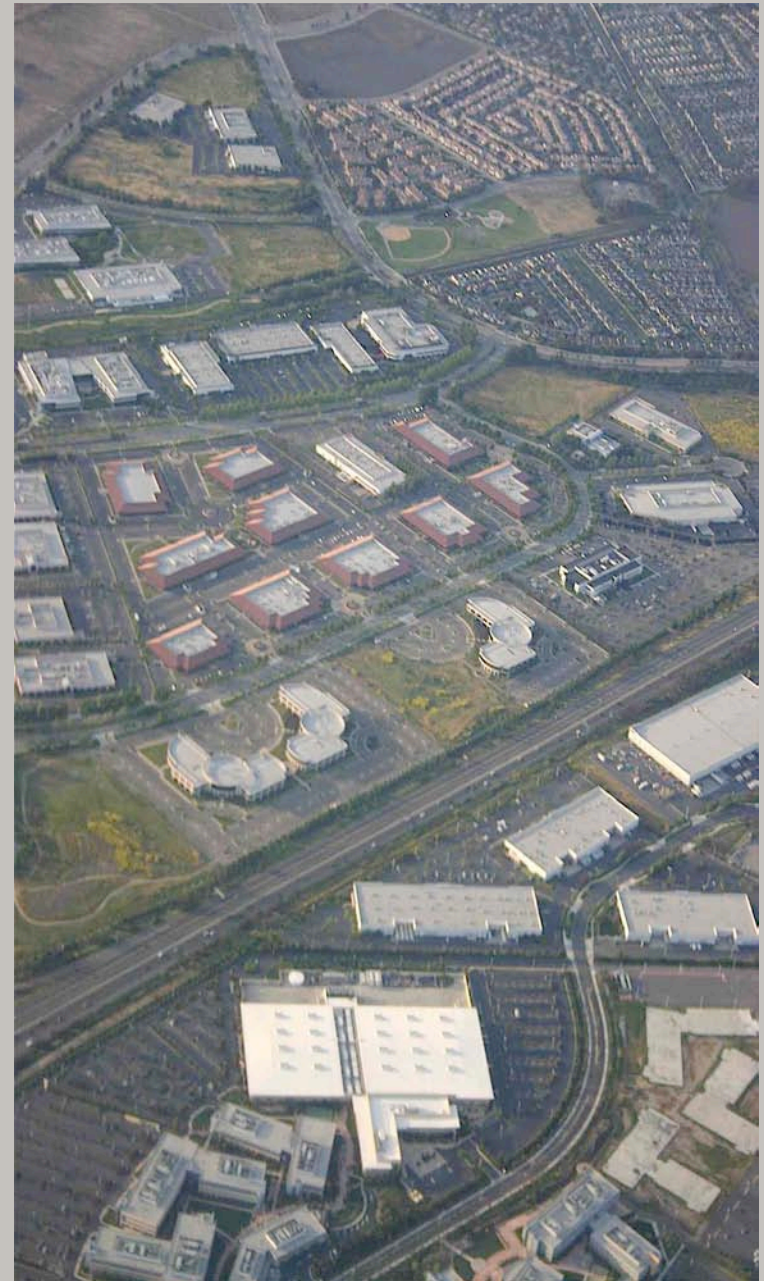
The philosophy is comprised of the basic assumptions and ideas that define the arena of inquiry. The arena is an integrated whole that influences the work and process of the inquirer, in this case, the architect.

If human interest is seeking to know, we find human interest comes to expression and action in five ways. Discussed in terms of arenas for human inquiry (paradigms), each has a different aim:

NATURAL inquiry ----> explain

HUMAN inquiry ----> understand

CRITICAL, ACTION inquiry ----> change, improve

SPIRITUAL inquiry ----> unite

SYSTEMIC inquiry ----> multiples of the above

When the architect adopts and works within one arena (paradigm), it is a way (frame) of thinking that influences and guides, but also limits thinking. But it is necessary to have to enable the discipline to exist. For the disciplined inquirer, in this case the architect, the frame (arena, paradigm) provides the rules, conceptual relations, principles, and accepted practices to make the decisions required to compose and present the organization of space for human inhabitation.

I found a paradigm scheme close to mine, published recently by an architect (Mobach, 2007). He describes paradigms to study effects of organized space, and I add a 5th to discuss paradigm for application to architecture:

F u n c t i o n a l   Is it useful, efficient, functional? Does it work?

I n t e r p r e t I v e   How do people feel in the space, how do they experience it? Is it reflective and enlightening?

E m a n c i p a t o r y   Does it empower or subdue? Does it liberate or imprison? Does it control or free?

P o s t m o d e r n   Does it stimulate diversity and creativity? Is it heuristic and pluralistic, or delimiting and homogenizing?

S y s t e m I c   Combine, balance, configure, complement; multi-methodological rather than one paradigmatic frame.

As an architect, which paradigm has influenced

you while engaging in your last project?

What was the result?

What architecture might have been the result

had you worked in another paradigm?

What is an architecture of each paradigm?

Can we speak of functional, interpretive, emancipatory, postmodern, and systemic architectures?

What key assumptions, ideas, concepts, principles, methods, and practices comprise each architectural paradigm?

Is the scheme not an architecture of paradigm?

To have available and know the scheme in advance, likely would provide architects with more informed choices and a higher level of awareness making the decisions required to design human habitats.
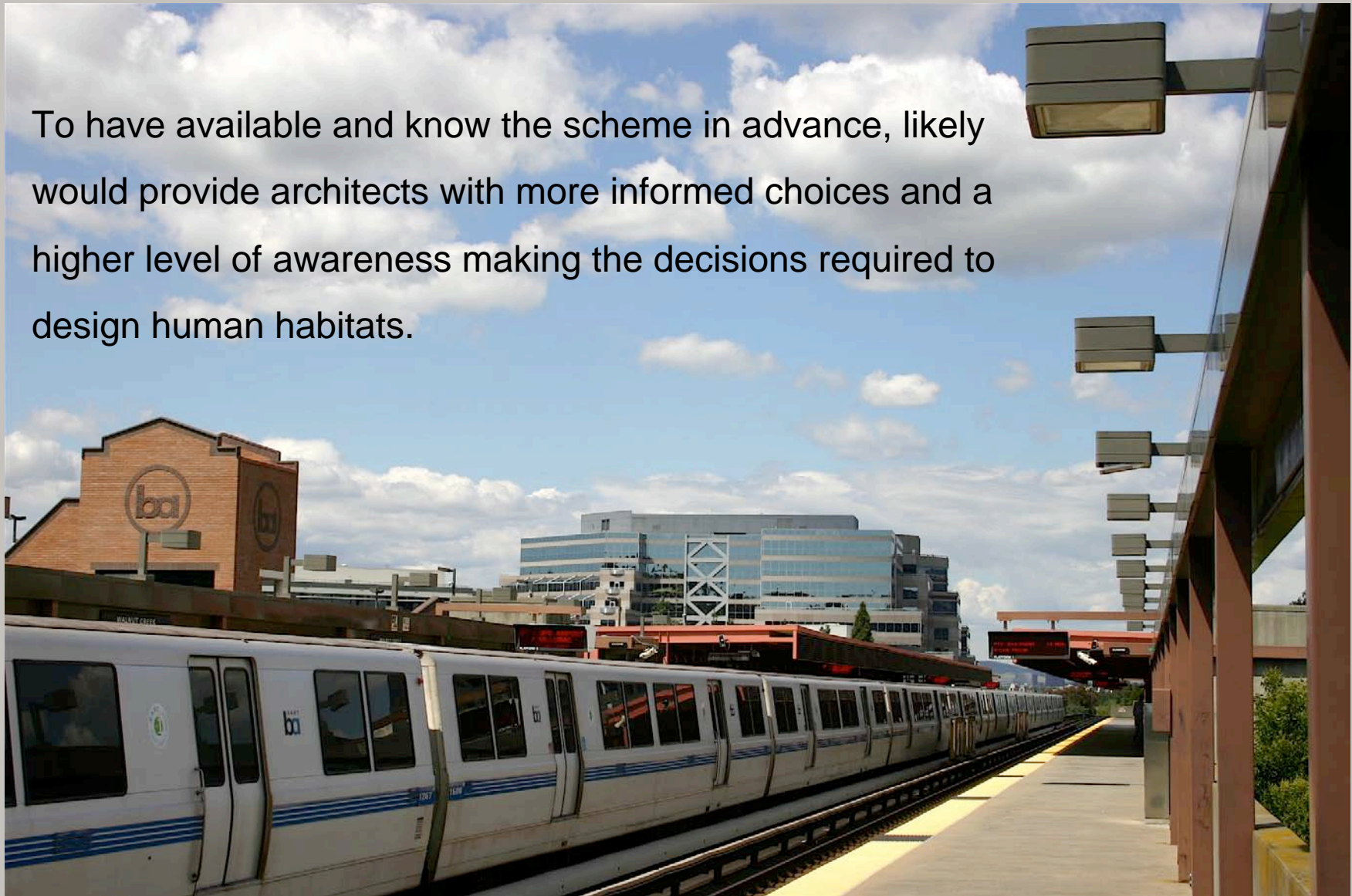
For example, you have a job to do, but what is this place you are to apply your profession?

Sector	Paradigm	Type
make consumer products	Natural inquiry	functional space
Examples: business offices, factories, schools, prisons		
socialize	Human inquiry	social, interpretive space
Examples: restaurants, bars, cafes, homes		
treat persons	Critical, action inquiry	ameliorative, emancipatory
Examples: hospitals, spas, clinics		space
worship a deity	Spiritual inquiry	sacred space
Examples: churches, synagogues, mosques, temples, shrines		
multiple activities	Systemic inquiry	combinations of the above

In conclusion:

The above subjects are areas

of potential collaboration

between our two institutions,

which, with much enthusiasm,

I invite.
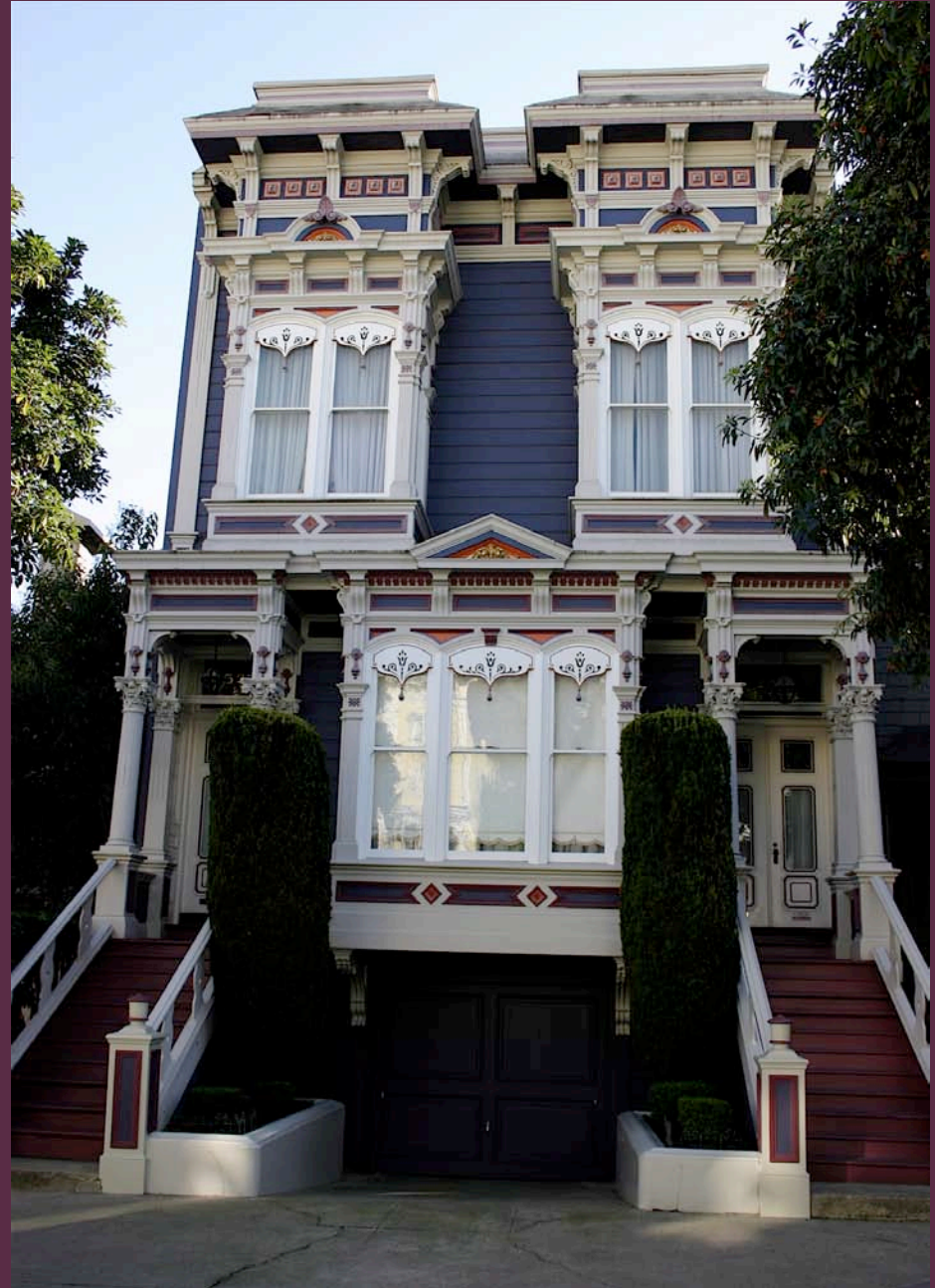
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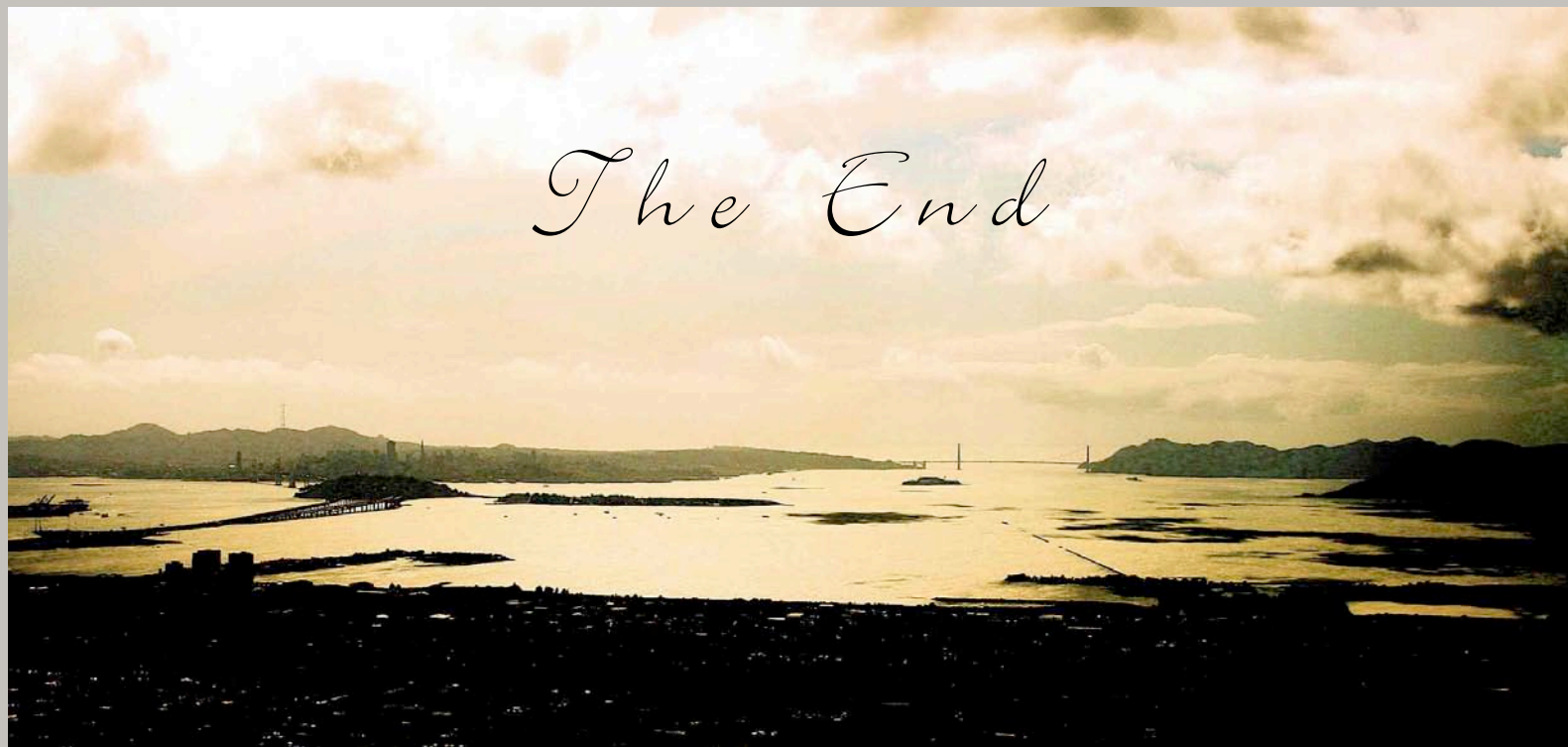
Resources

Checkland, P. (1981) *Systems Thinking, Systems Practice*. New York: Wiley.

Collen, A. (2004). *Systemic Change Through Praxis and Inquiry*. New Brunswick, NJ: Transaction Publishers.

Holl, S. (2000). *Parallax*. New York: Princeton Architectural Press.

Holl, S. (1998). *Intertwining*. New York: Princeton Architectural Press.

Holl, S., Pallasmaa, J. and Peréz-Gómez, A. (2006). *Questions of Perception: Phenomenology of Architecture*. Tokyo: Nobuyuki Yoshida.

Mobach, M. (2007). A critical systems perspective on the design of organizational space. *Systems Research and Behavioral Science*, 24(1): 69-90.

Zumthor, P. (2006). *Atmospheres: Architectural Environments, Surrounding Objects*. Second expanded edition. Basel: Birkhäuser.

Zumthor, P. (2006). Thinking Architecture. Second expanded edition. Basel: Birkhäuser.