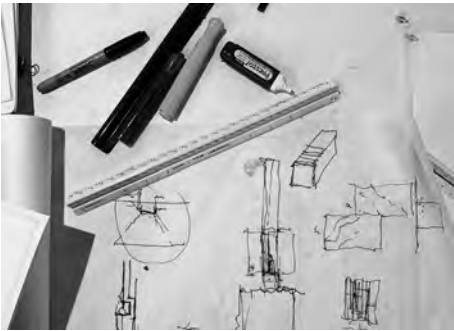


# ON SLOWNESS, REVISITED

**Tod Williams and Billie Tsien**



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- 1    Tod's desk, September 2019, Courtesy of Tod Williams Billie Tsien Architects | Partners
- 2    Competition Sketch, Andlinger Center for Energy & the Environment, Princeton University, 2008, Courtesy of Tod Williams Billie Tsien Architects | Partners
- 3    Sunken Garden, Andlinger Center for Energy & the Environment, Princeton University, 2015, ©Michael Moran

The work of our studio has always been generated through an ongoing conversation, reflecting on our collective experiences and listening to the many voices of people we meet throughout work and life. At peaks and valleys of this conversation, we have tried to formalize our thoughts, evident in the essays that follow. Over time, these texts become voices from the past with whom we can re-engage. We can see how we've evolved, what we've learned, and what remains true. Twenty years ago we wrote one such essay that began as lamentation for the loss of the drawing tools of architecture but was really a call for "slowness".

It was meant as a quiet and personal observation in the Spanish journal 2G. What has surprised us is that teachers still assign this essay and students respond to it perhaps now more than when it came out.

For an architecture student today, reading over the description of lost and disappearing tools must feel as if they were hearing stories of quill pens and vellum. But certainly the idea of "slowness" is ever more fragile and evermore precious. Its pursuit is either a way to save ourselves or a path to obsolescence. But we are optimists and we believe it is the only way in which one makes things that last. Unlike the speed and ubiquity of social media though, architecture still remains essentially slow and is based in one place. It is a discipline of physicality, of realness, and materiality. There is and never can be a digital equivalent.

So what has changed in the way that we work in the studio? We now use the tools that are the universal tools of architecture- the computer and the evolving programs that are its language. We use Revit and Rhino and Sketch-Up but for us these are a language for transmitting information but not for developing ideas. Ideas still begin and are developed with the hand. [ 1-2 ]

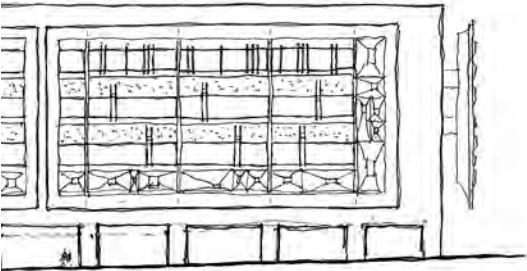
A sketch becomes a digital drawing. The drawings are a compilation of the basic knowns - bleached and bare. The nuance, the shades and shadows, the idiosyncrasies are developed slowly in the layers of drawings that are drawn over the prints. So those tools of direct translation- the pencil, the pen are replaced by tools of editing and shaping - colored markers,



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- 4 Rendering, U.S. Embassy Mexico City, Rendering by MARCH
- 5 Mock-up sunscreen section during design phase, Courtesy of Tod Williams Billie Tsien Architects | Partners
- 6 Sunscreen sketch, U.S. Embassy, Mexico City, Courtesy of Tod Williams Billie Tsien Architects | Partners

thick sharpies and boxes and boxes of whiteout. In fact whiteout is the power tool of choice because it is about bringing back uncertainty to what appear to be the facts. And we continue to make real physical models often using unfolded rhino models as a quick base. [ 3 ]

Indeed as the world has become more digitally based we rely more and more on the physical. We now will not build a project unless we are able to have several mock ups made. It is part of our contract. We visit all the quarries that are being considered. [ 4-6 ]

We go to the stone finishing yards to understand not only the techniques we know but sometimes to discover new ones. We go to the factories where furniture is made, where the rugs are woven, to the yards where the bricks are produced, to the shops where the metalwork and the windows are fabricated. [ 7-8 ]

Each time we learn so much and as importantly we make a personal connection with the people who are supplying and making our work. We see and we get to know each other. There is a greater sense of trust and also a sense of shared mission. The physical connections apply not only to the material but to the relationship. [ 9-10 ]

With time and perhaps with greater maturity as well we have become more and more clear that we are here to be of service. That relieves us from the “burden” of trying to be “creative.”

We do not have to generate an imaginary problem. One of the greatest aspects of an architectural practice is that we are asked to solve someone’s problem within the constraints of a site, time and budget. We have parameters, and within those parameters we can go very very deep.

So to be of service is very different than being servile. To be servile is paying lip service to the problem and constraints. It is to stay shallow. To be of service is to so deeply commit to the problem that you discover answers that neither the client nor you would have ever imagined.

For us and our studio that is where the present and the future lays. [ 11 ]

## ON SLOWNESS, TOD WILLIAMS & BILLIE TSIEN, 2G, 1999

In an earlier edition of 2G devoted to Arne Jacobsen, Knud Aerbo, one of his former associates, spoke of Jacobsen’s office:

“What we had when we worked with Arne Jacobsen: A drawing table—a 90 x 160 cm uneven table top—a side chair with a straw bottom. Our own T-square and a pencil which had to be sharpened with a knife... Drawing pins to hold the paper; tape was not invented yet... If you look at it today, you will have to say: it could not be done. But luckily we did not know then.”

- 1 clutch pencil, lead, and lead pointer\*  
bunny bag\*  
pounce\*  
erasing shield\*  
lettering template\*  
(\*soon to disappear)

"There is a secret bond between slowness and memory, between speed and forgetting. Consider this utterly commonplace situation: A man is walking down the street. At a certain moment, he tries to recall something, but the recollection escapes him. Automatically, he slows down. Meanwhile, a person who wants to forget a disagreeable incident he has just lived through starts unconsciously to speed up his pace, as if he were trying to distance himself from a thing still too close to him in time.

In existential mathematics, that experience takes the form of two basic equations: the degree of slowness is directly proportional to the intensity of memory; the degree of speed is directly proportional to the intensity of forgetting."

Recently, one of the architects in our studio put down the telephone and said incredulously, “No more leads!” Calling to place an order for new “F” leads, he was told that Faber-Castell was no longer making them. People apparently do not draw enough anymore to make it worth their while. This is just the latest disappearance. And it seems to be happening more and more often to more and more tools that we use. Lettering and shape templates are disappearing. In 1993 we were told that there were only 144 more Dietzgen lettering templates in all the warehouses in the United States. So, we bought twenty. The “S”s and “4”s on these templates are wearing out, breaking, and there are no more templates to be had. Because we hear that they too are being phased out, we are hoarding ink pens. It is isolating and disorienting; a very strange feeling, rather like waking up to find that that the tide has come in, and familiar landmarks are submerged. Slowly, the tools of the hand disappear.

In the United States, the practice of architecture has come to rely on the computer. In offices the word “efficiency” is always mentioned, and in design schools the capability to create and rotate complex forms in space is lauded. So, with surprising speed, the tools of the hand are becoming extinct.<sup>1</sup>

This is a lamentation for lost tools and a quiet manifesto describing our desire for slowness. We write not in opposition to computers—in fact we are in the midst of bringing them into our studio—but rather it is a discussion about the importance of slowness. We write in support of slowness. [ 12 ]

## Slowness of Method

Our desire to continue to use the tools of the hand, even as we may begin to use the computer, has to do with their connection to our bodies. Buildings are still constructed with hands, and it seems that the hand still knows best what the hand is capable of doing. As our hands move, we have the time to think and to observe our actions. We draw using pencil and ink, on mylar and on vellum. When we make changes, they occur with effort and a fair amount of tedious scrubbing with erasers, erasing shields, and spit. We have to sift back through previous drawings and bring them to agreement. So, decisions are made slowly, after thoughtful investigation, because they are a commitment that has consequence. It is better to be slow.

We like to keep the stack of finished and unfinished drawings nearby so that the whole project can be reviewed easily. Their physical presence is evidence of work done, and a reminder of what there is to do. The grime that builds up from being worked over is poignant and satisfying. We see the history of the presence of our hand. To have the actual drawings in reach allows us to understand the project in a more complete and comprehensive way. In the buildings we design, we struggle to achieve a unity and sense of



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- 7 Stone quarry, Madurai, India, Courtesy of Tod Williams Billie Tsien Architects | Partners
- 8 Mock-up, TATA Consultancy Services, Banyan Park, Courtesy of Tod Williams Billie Tsien Architects | Partners



wholeness that can come from a balance of individual gestures within a larger and more singular container. The focus of a computer screen feels too compartmentalized and tight to see and understand the whole. And if every time a change is made, a new printout is made, there is the problem that the printouts are too clean. They don't show the scrubbed and messy sections of erasure, so there is no evidence to indicate the history of the development of an idea. Crucial to creating wholeness is the understanding of the development of the idea.

We work together, twelve people in one room without divisions. Much like a family, we expect that others will help whenever we need them, and however we need them. So there is no division of labor into design, production, model-making, or interiors. Each architect is involved in the making of contracts, billing, and writing of letters. Since we have no secretary, the phone is answered by whomever has the least patience with the ringing. Because each person must be a generalist, a certain amount of efficiency is lost, as each person must learn all the tasks of the office. We ask that people constantly shift their attention between their particular task and one which helps the office as a whole. What this rather casual approach to office management accomplishes is that everyone knows what is going on around them. If there is a problem, it is shared, and of course we try to share the joys as well. The sense of well-being in the studio must be supported and nurtured by each member.

So our way of working allows us to have the experience of slowness. Tools are connected to the slower capacity of the hand; the presence of hand-drawn pages documents both the path of thought and the destination. The generalization of tasks means our office works not as an efficient machine, but as a loose and independent and somewhat inefficient family. The slowness of method allows us breath and breadth.

We have written a Mission Statement for the office: Whatever we design must be of use, but at the same time transcend its use. It must be rooted in time and site and client needs, but it must transcend time and site and client needs. We do not want to develop a style or specialize in any project type. It is our hope to continue to work on only a few projects at a time, with intense personal involvement in all parts of its design and construction. We want the studio to be a good place to work, learn, and grow, both for the people who work in the office and for ourselves. The metaphor for the office is a family. Each person must take responsibility for their own work, but as well must be responsible for the good of the whole. We do not believe in the separation or specialization of skills. Each architect in the office will work through all aspects of a project. We would like to be financially stable, but this will not outweigh artistic or ethical beliefs, which will always come first. The work should reflect optimism and love. The spiritual aspect of the work will emerge if the work is done well.



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- 9 Stone panels cut with CNC machines and finished with hand carving for Jali screens, Courtesy of Tod Williams Billie Tsien Architects | Partners
- 10 Completed Jali Screen, TATA Consultancy Services, Banyan Park, Mumbai, 2014, ©Michael Moran
- 11 Sketch, Hands, Tod Williams & Billie Tsien. "Our work is not just made from our hands as designers, but the many hands that bring a project to life."

## Slowness of Design

In a public forum we were asked, “What is your design strategy?” We were at a loss for words. There is no strategy for either an ascendant career, or more importantly, the way that we design. It is so easy to use the cushion of past thoughts to soften the terrifying free fall of starting a new project. It is inevitable that, as we accumulate a longer design history, we repeat things unconsciously. Still, perhaps naively, but in earnest, we try to start each project with a blank slate. The design is incremental—small steps that are made in response to the site, the client, the builder, and our own intuition. We try to fight through what we have learned, toward the freedom found in innocence. The design is a slow and often uneven accumulation of stitches, that are often ripped out part way through while we struggle to make clear, or to understand, what the pattern and organization might be, even as we avoid as much as possible knowing what the final image might be.

So, the first intuitive drawings are usually very rough plan forms which might demonstrate the gesture of the body’s movement and how that is expressed by a mass in relationship to the land. We always show these drawings to the client because we want them to understand the intuition or gesture that is the genesis of the design. It is also a way of saying, “I don’t know what I am doing yet, but I do have a feeling about it.”

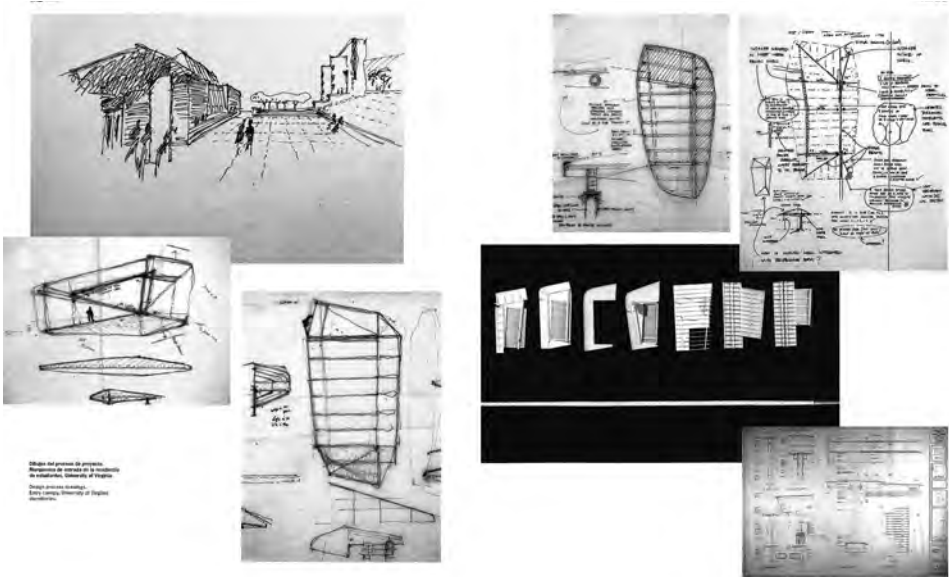
Often, as the plans are worked through, an idea about a section or a detail or a piece of cabinet work will come to mind. And for a while the plans are put aside and the stray thought is pursued. Progress is a stutter step, not a forward march: three steps forward, two to the side, and one step back. It is a choreography that somehow pulls itself together. With each project, it feels as though we are infants learning how to walk. We pull ourselves up, wobble, take a few steps, and fall down.

This way of developing the design mirrors the working method of the office: moving back and forth between advancing the particular task and attending to the myriad details that are the sidetrack. One generally thinks that to be “sidetracked” is a bad condition, but we think that it is enriching. The sidetrack is simply a parallel route. It has been said that architecture is the mother of all the arts; meaning, one supposes, that it is the generative root. We prefer to think that architecture is like a mother caring for a toddler: she must keep hold of the larger vision of the adult whom the child will become, while stopping to clean up fingerprints and wipe noses.

For us, elevations are always the last part of a building to be developed. Often we are at the end of design development before we even begin to rough out the elevations. This is because elevation drawings close down the process of questioning by making the image of the building too clear, too “graspable,” and therefore too final. Clients, magazines—in fact, we as architects



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12 Photo by Peter Arnold, 1998

13 Scan of excerpt from 2G

and human beings—all want an easy and clear answer. But it is better not to provide one before the interior habitation and the structure of the building has been given enough time to develop as the logic for the facade.

In our current practice, the construction drawings are produced on 30" x 42" mylar sheets using pencil and ink. Notes are typed up on the computer and Xeroxed onto what we call "stickyback," which is an acetate with an adhesive surface. This is glued to each page. The working drawings consist of the typical site plan, plans, reflected ceiling plans, wall sections, and general details. At the same time, and continuing through almost the entire construction process, is a sketchbook. The page size is 11"x17," which is the largest sheet size that our Xerox machine can duplicate. Divided into sections of cabinetwork, miscellaneous metals, window details, roofing details, and miscellaneous building details, the sketchbook can often run up to two hundred pages. Based on previous experience we try to have the contractor set an allowance for certain trades like cabinetwork or metal fabrication. There are several reasons why the sketchbook is useful. It allows several people to work on parts of a specific section at the same time. It means that questions can be answered quickly by issuing a sketch sheet rather than by going back to the large drawing set. Most importantly though, it means that we don't have to stop designing at the issuance of construction documents. It allows us to continue to develop drawings and details even as the project is being built and constructed.

Finally, during the construction period, the project architect—who has been involved since the beginning intuitive drawings—supervises the construction. Often on larger projects, the project architect has moved to the site for as long as a year and half. In this way as questions come up during the course of the project, the choices that are made are made with a sense of the history of the idea and they are true design decisions that accrue to wholeness. They are not simply the result of expediency in the field. This position of "not knowing a priori" is antithetical to the general model of the architect as hero. This is a damaging model because it discourages the slowness of process that comes from the patient search. Certainty is a prison. [ 13 ]

### Slowness of Perception

As our work matures, the perception of it is less and less understandable through photographs. One can only understand it by being there and moving and staying still. One reason is that we have been trying to integrate our buildings into the landscape. Thus, often the most important space is the empty space that is contained by the built forms. This empty space is the heart of the project at the Neurosciences Institute in La Jolla. It is the invisible magnet that holds together the separate buildings, and provides the coherence that makes the project feel whole. So



what is not there is equally important, perhaps more important, than what is there. How does one photograph nothing? One experiences it.

And because we develop our facades as late as we can, we are not relying on a flat plane to carry the strength of the building or to transmit a sense of the place. So it is difficult to shoot the facade of a building because it is only seen by itself, and not, as your eyes see it, in relation to the buildings next to it, in relation to the empty space next to it.

So there is no quick take on our work; no singular powerful image that is able to sum it all up. We are not sure how to present our work. We know that the answer is not a computer-generated “fly-through,” or even a video of the real thing. The pacing and the viewpoint of these methods are still too consistent. They are cold, machine-like lenses that follow a too-logical sequence of movement. A human eye scans panoramically, and then suddenly focuses down on a tiny point. You see the ocean, and then you see a grain of oddly colored sand. The boundaries of what one chooses to perceive are constantly expanding and contracting.

And of course there are the myriad of stray thoughts, memories, and images that are called up by what you see in the color and shade of an actual space. There are the distractions (and perhaps one can also see them as positive additions) of sound, smell, shifting light, and the conversations of passers-by. This can only happen when you are there. So, we suppose we can only offer this monograph of our work as a suggestion of what we do, or perhaps even as a pack of lies, which must be proven or disproven by your own feet and eyes.

## **SLOWLY (IMPROVING) VISION, TOD WILLIAMS & BILLIE TSIEN, 2G, 1999**

We wrote this essay as a continuation to *Slowness* in 1999 for the publication 2G.

During a recent telephone interview, a student asked me to describe “our architectural vision.” The question, asked by a person still in high school was so naïve as to be easily dismissed, yet so profound that I realized it was deserved a thoughtful and considered response.

As architects committed to resolving problems of human habitation through built form, most of our thoughts of peering into the future are restricted to such questions as, “How will potential users need their space to function when they move in, or, several years hence, what issues of growth and change might there be? What kind of expansion and use might be expected? Will there be more children? Guests? How much storage in the future? What kind

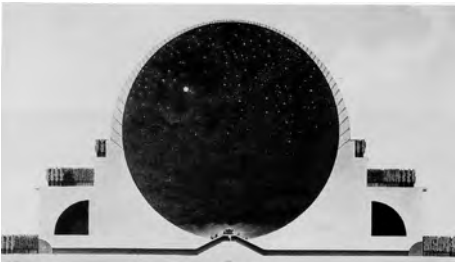




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14-15 "Carceri", 1761, Giovanni Battista Piranesi

16 "Cenotaph de Newton", 1784, Étienne-Louis  
Boullée,



of maintenance will be required? How long will the roof last?”

These concerns for a project's future are similar for practicing colleagues all over the world. They are issues that carry such important implications that they occupy much of our creative thought. We believe that creative resolutions to such questions are often precisely the ingredients of our creative search. The sporadic moments when the answers manage to transcend the questions are the foundation of what we imagine to be our vision. The constructed result of answering these questions is Architecture. [ 14-15 ]

But this answer, as understandable as it might be for most practicing professionals, provides little inspiration for a thoughtful and concerned high school student.

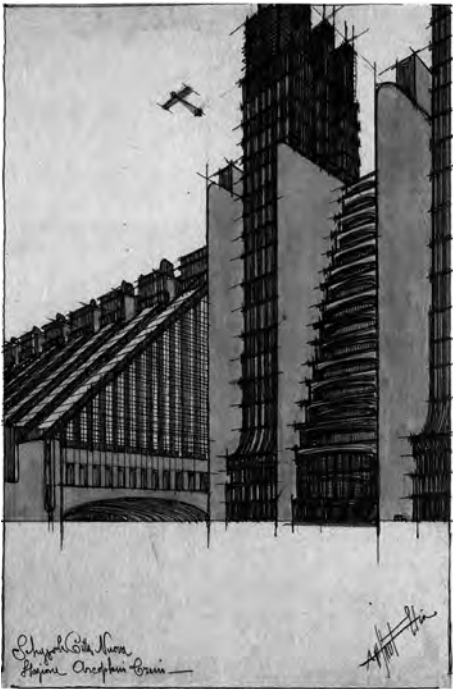
So I thought about the work of the visionary architects—Boullée, Ledoux, Sant'Elia—and came across *Twelve Lines*, a poem by Louis Kahn:

Spirit in will to express  
 can make the great sun seem small.  
 The sun is  
 Thus the Universe.  
 Did we need Bach  
 Bach is  
 Thus Music is.  
 Did we need Boullée  
 Did we need Ledoux  
 Boullée is  
 Ledoux is  
 Thus Architecture is.

The power of the drawn idea can be almost as irresistible as the sun, and as Bach. Piranesi's dark, layered, mysterious drawings, Sant'Elia's bold studies for the Citta Nuova, the Mile-High tower of Frank Lloyd Wright, have all reverberated in our collective architectural imaginations. Today, cyber-architecture occupies many students' imaginations. [ 16 ]

Visionary architecture achieves its greatest power as unbuilt work. What is lost in the actual realization of the work? Is the thought more powerful when it is expressed without dilution than the ambiguity that results from responding to a complex series of factors so common and necessary as client, cost, code, and use?

Antoni Gaudí is one architect whose work has retained its vision in built form. He is one of the most extraordinary, elusive, and intriguing of the visionary architects. Yet upon examining the Colònia Güell models, one is struck by the absolute logic that informed the fantastic. A series of strings with small, weighted sandbags were used to determine



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17 Citta Nuova, 1914, Antonio Sant'Elia

18 Maqueta de la Cripta Guell, 1898-1915, Antoni Gaudí

the curves created by gravity. Gaudí's work is so based on the physical observation that it seems very much in the spirit of observations made centuries earlier by Leonardo da Vinci. Da Vinci is a prime example of an artist, an architect, an inventor, whose visionary ideas may be best appreciated in hindsight. As much as he was appreciated during his lifetime, he was also very much criticized. Today, however, virtually all of his work is regarded as 'visionary,' even though it was originally generated by very practical applications, and was part of a larger society. It is the product of practicality and devotion to problem-solving. The techniques he and Gaudí used were very much a product of their time and place. Gaudí's work, principally executed in the '20s, when most of the great architectural minds were looking to the machine for inspiration, hardly foreshadowed the future. Rather, it was an observation and rumination on the present. He, as Leonardo, was trying to solve a problem set before him at that moment.

So how does one address the question of 'vision' in built work?

Perhaps we are looking for a clear vision rather than looking to be visionary.

Vision can be attained after a long period of building. To be visionary is exclusive of building.

We believe clear vision is slow in evolving, as is 'good work.'

We are not visionary architects, but we are beginning to see more clearly.

We have chosen to work in a particular way; it is a way at once ordinary and connected to the world around us. But it is precisely in the ways it is ordinary and connective that it produces extraordinary results. In this way, it may (eventually) be considered to have vision. [ 17 ]

## Relationship to the Earth

Architecture is connected to the Earth. Too many buildings have an ambiguous relationship to the land. As long as we live on Earth, we will be dealing with principles of gravity, atmosphere, and the very richness of Earth's surface.

Virtually all adults, standing, are connected to the ground with their feet, their line of vision a mere four to six feet above it. This is the point of origin of our waking perception. Architecture must first be concerned with this zone: our feet in contact with the ground. The surface of the Earth is the canvas of the architect. The precise detail of this zone is ours to affect. If we give away responsibility for these crucial areas of concern (to the landscape architect, to the interior designer), we then reduce and weaken our ability to be effective within our most intimate environment. [ 18 ]



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## Location on the Earth

We need shelter from the brilliant sun in a desert site in Phoenix, but within an infill house condition in New York, we need as much light as possible. The construction methodology in Phoenix will necessarily be different from that of New York, because of codes, labor, material availability, site accessibility, and a host of other reasons, all of which could be conquered, if one wished. And people do wish! Whether by purchasing a Big Mac or hiring an important 'signature' architect or artist, there are people who choose to ignore or erase the differences of locale. The exploration of ideas (which are universal) and locations (which are singular) should give rise to an unlimited series of connective responses. It is easy to step up and order the known; more difficult, risky and slower to search for the original. [ 19 ]



## Care for Our Vision

As we become older, it is a little discouraging to discover our eyesight is less clear, particularly when near- and far-sightedness occur at the same time. Fortunately, this is a problem which is easily solved. A more difficult one is realizing that in this section of our lives we have more demands than ever, and with so much on our minds we find ourselves walking without seeing. But early this summer we attended a screening of Federico Fellini's film, "The Nights of Cabiria." Twenty-five years had passed since we had seen it first, and here we were astonished. A story was revealed to us in ways we never could have appreciated when we were young. Was it that the film's vintage had come into its own, or had our ability to see the work improved over the years? Our understanding and compassion for the human condition does improve with time. We have more to bring to our work as we grow older. Even as we may lose our ability to see distance, the accumulation of life as experience enables us to see depth. Over time our vision is (slowly) improving.