THE NECESSITY FOR DRAWING

TANGIBLE SPECULATION

Michael Graves

IN A RECENT, RATHER TEDIOUS FACULTY MEETING, I made a number of marks on my pad that resembled the beginnings of a plan organization. After making several passes at my drawing, I found that I had reached an impasse. I handed the pad to a colleague who added a corresponding number of marks and returned it to me. The game was on; the pad was passed back and forth, and soon the drawing took on a life of its own, each mark setting up implications for the next. The conversation through drawing relied on a set of principles or conventions commonly held but never made explicit: suggestions of order, distinctions between passage and rest, completion and incompletion. We were careful to make each gesture fragmentary in order to keep the game open to further elaboration. The scale of the drawing was ambiguous, allowing it to read as a room, a building, or a town plan.

After each of us had taken several turns, we realized that the drawing had once again faltered. A third colleague was brought in. He casually dropped in a rather large stair on his first move: the ambiguity was lost. It seemed that, either the game had been so well understood that the jump in scale had reversed the rules, or that the third player had missed the point altogether and his set of marks had subverted the preceding ones. In either case, the speculative aspect of the original drawing could not absorb the shift in meaning that the figure of the stair produced. The game was over.

This little episode illustrates for me something that I previously felt only intuitively. For while it is probably not possible to make a drawing without a conscious intention, the drawing does possess a life of its own, an insistence, a meaning, that is fundamental to its existence. That a certain set of marks on a field can play back into one's mind, and consequently bring forth further elaboration, is the nature of this quite marvelous language. Good drawing, by virtue of this intrinsic reciprocity

between mind and act, goes beyond simple information, allowing one to fully participate in its significance, its life.

In exploring a thought through drawing, the aspect that is so intriguing to our minds, I suspect, is what might be regarded as the speculative act. Because the drawing as an artifact is generally thought of as somewhat more tentative than other representational devices, it is perhaps a more fragmentary or open notation. It is this very lack of completion or finality that contributes to its speculative nature.

There are of course several types of architectural drawing. By clarifying the dominant nature of each type according to the intention the architect assumes for his drawing, we find three primary categories: I the referential sketch, 2 the preparatory study, and 3 the definitive drawing. This sort of classification can never be pure, as all drawings have aspects of each category. However, it is important to identify the primary themes of each.

I THE REFERENTIAL SKETCH. This kind of drawing may be thought of as the architect's diary or record of discovery. It is a shorthand reference that is generally fragmentary in nature, and yet has the power to develop into a more fully elaborated composition when remembered and combined with other themes. Like the physical artifact collected or admired as a model holding some symbolic importance, the referential sketch is a metaphorical base that may be used, transformed, or otherwise engaged in a later composition, [1].

I presume that most of us are by nature lazy, and when we see something that interests us in the natural







[4]

[5]

or built landscape, we may deceive ourselves into thinking that we can remember it without drawing. However, if we do draw to remember, the chance that the particular image or set of images will stay with us is obviously increased, [2]. In making such a record of our observation, we of course do so with a point of view. It is that very bias by which the natural phenomenon is interpreted, reseen, that allows the artist to identify with the image and causes it to have special meaning for him. It goes without saying that what the artist or architect chooses to draw, using his sketch-book as a record of observation, reveals the examination of his artistic conscience, [3].

2 THE PREPARATORY STUDY. This type of drawing documents the process of inquiry, examining questions raised by a given intention in a manner that provides the basis for later, more definitive work. These drawings are by nature deliberately experimental. They produce variations on themes and are clearly exercises toward more concrete architectural ends. As such they are generally developed in series, a process that is not wholly linear but that involves the reexamination of given questions, [4].

Generally didactic in nature, these studies instruct as much by what is left out as by what is drawn. The manner in which they are able to test ideas and provide the foundation for subsequent development involves a method of leaving questions open through the presumption of incompleteness and the technique of *pentimento*—the erasure and subsequent reconstruction of thematic and figural representation, [5].

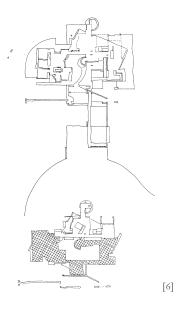
It has been said that the modern architect has made but one contribution to the techniques involved

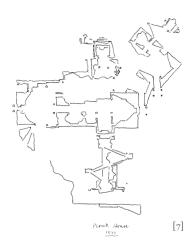
in the conceptualization of the building—the use of transparent paper. This medium, capable of being overlaid with successive reworkings of basic themes, may be in part responsible for the conceptual transparencies expressed in some modern building. The accuracy of this assertion is slightly beside the point. However, it is true that the difference between working on opaque and transparent surfaces will ultimately affect the understanding and conceptualization of any composition, [6].

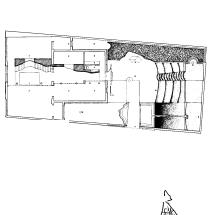
If one regards the plan as the generator of the general architectural scheme, then the initial organizational device, or the *parti*, will derive its clarity and compositional tension from the relative proportions of plan notations, such as distinctions between passage and rest, [7]. As one develops these ideas from general to specific through the overlay of successive plan variations, the configuration becomes more taut through the intelligence of successive decisions, [8]. Further, the plan drawing has the strength to indicate the relative proportions of the vertical dimension in facade and section, [9].

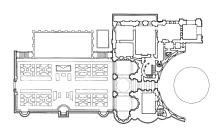
Not all drawings take advantage of this capacity. Compare, for example, the differences between the plan of a building such as the Villa Madama, [10], and Mies's project for a brick villa, [11]. The understanding that the plan notation presumes volumetric control seems to be extant in the former, while missing from the latter.

Though some would have difficulty with the assumption of the plan as the primary organizational device, and would choose an alternate point of departure, such as section, there is still the potential to express the essence of volume in the two-dimensional

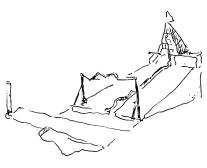




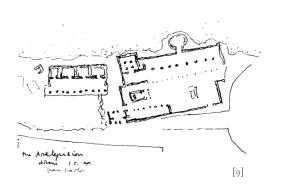


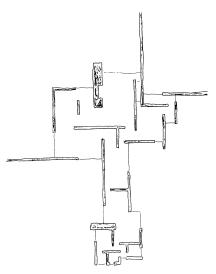


[10]







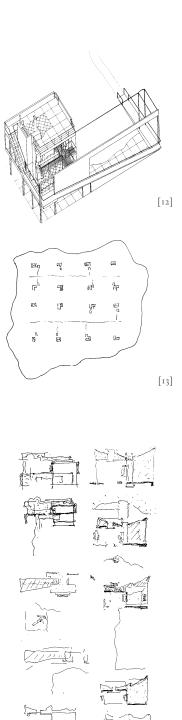


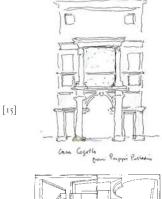
[11]

drawing. The issue is that the drawing that depicts only two dimensions is capable of conveying the essence of volume and surface—indeed, the aesthetic intent.

3 THE DEFINITIVE DRAWING. This is the drawing that becomes final and quantifiable in terms of its proportion, dimension detail-indeed in its complete compositional configuration. In the two preceding categories of drawing, the burden of experience was placed on the life of the drawing as much as on the architectural conception. In this final classification of drawing, however, the burden of inquiry is now shifted from the drawing to the architecture itself. The drawing becomes an instrument to answer questions rather than to pose them. This is not to say that these drawings attempt to imitate reality; however, they can be regarded as the final step taken in the drawing process that allows the built reality. As in the preceding classifications these drawings must also remain somewhat fragmentary, since no single drawing can explain the several aspects of a building's intentions. The various means of representation of architectural ideas (plans, sections, three-dimensional drawings) show the building as an artifact imagined not so much through the existence of any one of these fragments, but by the understanding of the tension among them, [12].

As an illustration of the three types of drawing, I will refer to selected drawings that were used to develop one of my recent projects, the Crooks House. This was a small house in a rather nondescript midwestern subdivision. The typical suburban solution to the problem of privacy is to locate the building as an isolated object in the approximate center of the site,







[17] the documenths - Arthorn



thereby leaving the landscape as residue, [13]. The Crooks House attempts to resolve the conflict between privacy and isolation by treating the major formal gestures as incomplete fragments of a larger organization, thereby setting up a dependence between object and landscape. Rather than a single center, a succession of centers is produced both in the building and in the landscape. These centers are linked by their mutual adjustments, which allow them to be understood as a continuum. While the Crooks House is small, it extends its sphere of influence by the fragmentation of both building and landscape, [14]. In this way one attempts to obviate the residual character of the adjoining sites and at the same time produce a spatial continuum that provides for necessary levels of public and private domain.

The referential sketch for the Crooks House arose from my habit of keeping a constant diary of visual notations, a record generally describing physical phenomena that may be employed in later compositions, [15]. A continuing fascination with diptychs, or two panel paintings, has led me to understand that dependencies can be established across a neutral datum, so that the "story" might only be told by crossing that datum, [16]. One assumes that the traditional diptych form inherent in all Annunciations is the ennobling formal gesture that established the conversation or announcement from one side of the composition to the other, [17]. Similar assumptions can be used to enrich the potency of the plan, creating different kinds of dependencies that are perhaps less equitable, but might be seen as more dynamic. For example, the potential of shared centers is developed in Asplund's scheme for the Royal Chancellery, [18].

[16]

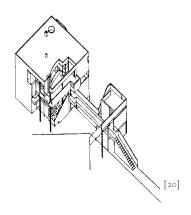
For me, the idea that seems to distinguish these general themes from others is that I had not only admired them intellectually, but had also made a visual record of them. Because of the act of drawing they were made more accessible to me, for by reinterpretation I was not only understanding the physical phenomenon but also seeing it in my own personal vision. I do not mean to imply that one simply borrows or draws on previously understood phenomena, but it is essential, I think, to bring about an assemblage of ideas appropriate to the fundamental basis of any given work.

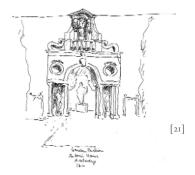
In the Crooks House, I knew that the dilemma of establishing enclosure in the open landscape would present obvious difficulties, in contrast to the rather simple enclosing gestures made possible through the physical presence of the building itself. The surfaces necessary to establish those enclosures in the landscape were remembered from the hedge walls of seventeenth- and eighteenth-century Italian and French garden design. This idea of land/building dependency, both in plan and surface, has been a continuing interest of mine, and becomes ever so much more germane when applied to an open landscape with little spatial definition of its own [19].

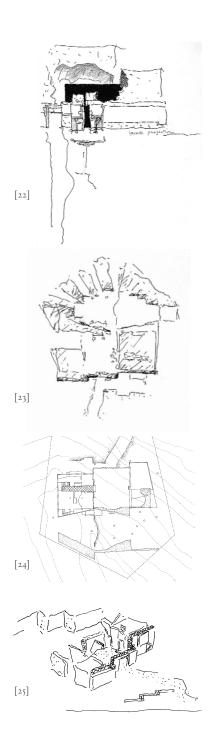
Previous inquiries into seeing the building as fragmentary or dependent (as in the Benacerraf House addition and the Hanselmann House) were difficult to read because of their extreme level of geometric abstraction, [20]. The preparatory studies for the Crooks House led me to see the relation between building and landscape as less abstract and more figurative. By figurative I mean to suggest that the location of one's body within the successive centers might be



[19]







encouraged not only by plan arrangement but also by surface analogies to both anthropomorphic and natural phenomena. A number of drawings had been made to study those elements of architecture that the classical world regarded as given, but that the modern architect has generally forgotten. The classical tripartite division of vertical surfaces, symbolizing foot, body, and head, was thought to engender a more direct relationship between man and his constructed landscape, [21].

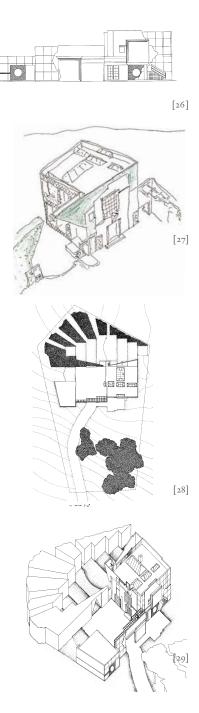
From my initial drawings, which designated gross assumptions of solid and void, figure and ground, [22], one passed rather easily to more detailed notations describing the building/landscape continuity. This continuity was imagined by drawing the land and the ground-level plan as if they were continuous, [23]. The vertical interruptions of surfaces were understood with appropriate thicknesses, ranging from the poché provided by hedge-walls to that of internal service walls. The possible reciprocities of internal and external organization were seen through the similarities in figural notations. I rather literally described the hedge-walls as architectural, and corresponding internal walls as metaphorical hedges. The textural roughness of these analogies was seen in contrast to the smoother surfaces provided by an assumed Cartesian order, [24]. The level of contrast, first conceived of in black and white and further elaborated in color, provided the levels of distinction and continuity that were desired for the building/site dependencies. There was an attempt in these drawings to regard the proportioning of the various plan notations as setting up hierarchies that predicted desired volumetric conditions, [25].

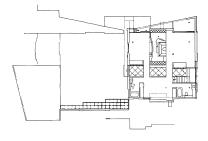
The elevational or surface proportioning in turn played back themes that were initially established in

plan. However, it should be stressed that the plan notations were kept "wet" so that both plan and vertical surfaces could remain mutually dependent. Though one started this process with plan notations, the primacy of plan over surface was soon blurred by their subsequent equity in the proposed aesthetic, [26].

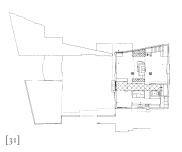
Though the plan and elevation studies described the surface proportions, three-dimensional drawings were needed to imagine the building as an insertion in the constructed landscape. The correspondence of plan to the vertical surfaces was tested by seeing the object in the round. The metaphorical analogy of hedge-wall to building wall seen in three dimensions of course reveals aspects of the volume that are restricted by the two-dimensionality of the plan and elevation drawings alone, [27].

The definitive drawings were made to fix as much as possible the various two- and three-dimensional aspects of the entire composition. The rather abstract nature of the line drawings was seen as a method of controlling the proportional aspects of the building, [28]. Where one might expect in the final drawings an attempt to incorporate all the figural and polychromatic interests of the building in an effort to approximate reality, I think the reverse might be true [29-33]. The drawings made in previous stages of the building's development probably come closer to the essence of the imagined composition than the cool, objective renderings of the final drawings. This would seem to leave open and unsaid some aspects of the building's ultimate intentions. However, these aspects can probably be best assessed in the art of both the preceding speculative drawings and the ultimate built reality. In other words, one is still drawing while





[30]





[32]



prescribing aspects of the building, such as its polychromatic value, when the built object can be seen in its context. One is finally rendering the constructed object itself. This approach of course presumes an aesthetic that is open and capable of successive elaborations and compositional variation.

One could ask if it is possible to imagine a building without drawing it. Although there are, I presume, other methods of describing one's architectural ideas, there is little doubt in my mind of the capacity of the drawn image to depict the imagined life of a building. If we are ultimately discussing the quality of architecture that results from a mode of conceptualization, then certainly the level of richness is increased by the component of inquiry derived from the art of drawing itself. Without the discipline of drawing, it would seem difficult to employ in the architecture the imagined life that has been previously recorded and concurrently understood by virtue of the drawn idea.

VOLUME, SURFACE, AND PLAN

AS MICHAEL GRAVES PUT FORTH in his article "Le Corbusier's Drawn References," Le Corbusier described architecture according to three categories: volume, surface, and plan. These elements provide a useful framework through which to look at Graves's own drawings and photographs.

The ability to reduce architecture to its basic forms is a recurring theme in the sketchbooks of Graves and is critical to understanding the development of his later body of work. The sketches produced by Graves tend to focus on the primary volumes of the architecture and strip away any extraneous ornament. This reduction carries over into his architecture, providing an archetypal language of abstracted forms. Graves uses his photographs to capture any detail, color, or texture that his drawings miss; these too become part of his language. Like any language it grows and adapts, but essentially it remains the same.

Graves's twelve drawings of St. Cecile Cathedral in Albi, France (pages 183–187) are the most he produced of any single building on his Grand Tour. Coincidentally, the building also occurs most often in the sketchbooks of Louis Kahn. Graves was fascinated by the history of St. Cecile as a town. As well, he was captivated by its mass and how shadow heightens the purity of its architectural forms. The twelve drawings show the cathedral as a mass that extends from the land-scape. In *Albi no. 8* (page 185), the primary volumes in the foreground, the vertical cylinders of the cathedral, and the rectangular spire reduce the architecture to its basic forms. Here Graves consciously eliminates details and concentrates on the presence of light as a modifier of space.

The drawings of Carcassonne (pages 188–191) and the distant view of the Alhambra (page 224) represent similar attempts by Graves to reduce an architectural landscape to its primary mass stripped of ornament. *Baths of Caracalla* (page 76) is an expressive depiction of the space with a minimum use of line work. Its architectural character is revealed through the mere delineation of linear and convex forms. Like





LEFT: Michael Graves, nude study, February 20, 1961, pencil.
RIGHT: Michael Graves, nude study, February 14, 1961, pencil.

Michael Graves & Associates, El Gouna Golf Hotel and Club, Red Sea, Egypt, 1997–2000.



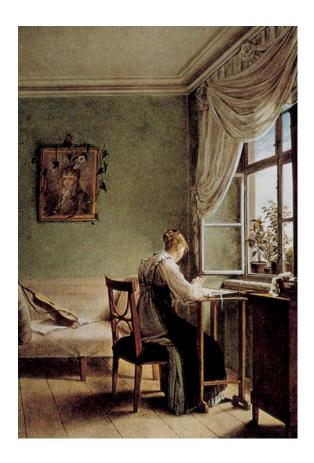
his architecture, the drawings of Graves break mass down so that varied volumes and an inflected surface might allow viewers to better relate.

In the photographs of Hadrian's Villa at Tivoli (pages 88–90) and the drawing "Basilica of Maxentius" (pages 28–29), architectural volume is heightened through the inclusion of shadow. Capturing light, or the absence thereof, as well as the particular quality of light specific to each site is important to how Graves thinks about architecture. For him, shadow is a material that has its own metaphorical potential. He carefully studies shadow throughout his design process, from the referential sketch to the built work. His design for the El Gouna Golf Club and Hotel provides an example. The project's location—the Red Sea in the Egyptian deserts—provided the architect with a blank canvas onto which he could literally paint the landscape with his collection of primary volumes.

These forms recall his sketches of a village in Mykonos, Greece (pages 170–173) and photographs of Ostia, Italy (page 103). Here light plays a critical role as a tool in defining mass as well as serving as an expressive element that can be captured and transformed to varying degrees. Architectural elements such as wooden trellises and deep arcades and windows supplement palm trees scattered throughout the village to provide shade and filtered light and create a natural balance between the architecture and landscape.

Like light, color accentuates form and its relationship to the overall mass. Graves's use of form and color illustrates his dexterity in going between his skills as a painter (the manipulation of two dimensional form) and as an architect (the manipulation of three dimensional form). An ambiguity exists in an architecture that simultaneously implies depth through form, pulling you into the design, and the inverse, when color works to flatten the composition. For Graves, "No matter what the subject or scale, form and color are integrated in one continuous thought."²

THE ABILITIES TO IDENTIFY THE BODY in the vertical boundaries between space and surface, and to recognize the horizontal surface of the landscape, on which these elements rest is critical to how Graves thinks about architecture. Through his drawings and photographs he seeks to reestablish the wall as an element that maintains a physical presence as well as a metaphorical one. While in Rome, Graves began to question Modernism's use of the glass plane to create a homogenous world, one in which the outside and inside were visually merged. He wrote, "The long culture of



Georg Friedrich Kersting, Girl Embroidering, ca. 1814, oil on canvas

architecture that proceeded the modern movement described these two places as different but related. One could frame the quite wonderful light coming into the bedroom, yet could also close that light out to obtain privacy. Those differences, however, began to dissolve with the glass plane."

Graves's sketch of Botticelli's *Annunciation* (page 241, fig. 17) describes the wall's capacity to maintain both a physical and a symbolic presence. In the painting, the archangel in the foreground seemingly places his hand on the frame in the middle ground. This precise alignment implies an impossible spatial condition. Botticelli uses this alignment to draw attention to the division that exists between the interior, the sacred realm of the Virgin Mother, and the exterior of the profane world. A vertical connection is also established by the lily carried by the archangel Gabriel. A symbol associated with the chastity of the Virgin Mother, the flower aligns with the tree in the background and provides an implied heavenly connection. It serves to plainly describe the physical path of the archangel across the threshold.

Georg Friedrich Kersting's painting entitled *Girl Embroidering*, a painting that Graves commonly refers to in his lectures, is arranged in thirds with a frame positioned on each side of the main figure. The frame on the left contains a portrait wrapped in leaves and flowers, while that on the right is a literal window that provides direct and diffused light, creates scale with its divisions, and reflects the flowers on the sill to the inside. The success of the painting lies not in these quantitative measures but in the qualitative effect produced by the light. In describing a candle Graves said, "We enjoy the flame's warmth and its special kind of light. It isn't pragmatically necessary, but socially it's an agreeable thing to do; it's romantic. It's a convention that we have a hard time giving up even though we have other more sophisticated means of warming and illuminating a room. I suppose the reason we haven't given up on the candle is because we'd be missing out on the magic of the experience." Kersting's painting heightens our understanding of the potential of the window as a device that can transcend its physical potential and enter into the realm of the spiritual.

These paintings, referenced often by Graves, comment on the nature of the opening and its physical and, more impressively, its metaphorical role in mediating between interior space and the landscape. His interest in the wall as an architectural element that possesses enormous metaphorical potential in its ability to define the threshold between inside and outside, the sacred and the profane, is found repeatedly in his travel drawings and sketches.



Michael Graves, Entry of Graves Residence, Princeton, New Jersey, 1991, Ektachrome slide.

The sketchbooks and photographs show an intense interest in the nature and potential of the wall as a threshold. The drawings of the Pazzi Chapel (page 111–113) are shown in terms of a clear procession and a series of thresholds. They represent the depth of the facade and show an entry that mediates between the scale of the city and that of the human figure. Graves articulates three zones between the profane and open landscape and the sacred interior volume: the threshold defined by the arch, the zone between the arch and the entry, and the door to the chapel. For Graves, this procession to the center of the building is important as an experience within which man can find his own center, thus allowing him to identify with the building. Additional drawings of the Pazzi Chapel take the visitor into the building and show a framed view of the sacristy, another threshold, and the final passage into the carved out area of the altar.

For Graves, the window, too, is an element that provides a clear division between inside and out. His photograph of a window at the American Academy, *Window with Shutters* (page 84), is activated by two shutters, mounted to a stone frame, that are neither entirely open nor closed. The window relates to the scale of the human figure, manipulates the quality of light, and possesses a timeless quality, one described by its aging materials and the ivy that surrounds it.

These same qualities are found repeatedly in the architecture of Graves. The Warehouse, his residence in Princeton, is a guide to how he understands the role of



Michael Graves, Archaic Landscape, 1993, colored pencil.

the wall as a mediator. The entry sequence is a series of thresholds that diminish in scale as one approaches the front door. "Growies," as Graves fondly refers to vines such as wisteria, spill from a trellis over the first threshold and are replaced above the door by a constructed lintel. These elements describe a sequence that takes us metaphorically from a natural landscape to a more formal controlled landscape to a man-made environment.

WALKING THROUGH THE STREETS OF ROME was a kind of visceral experience understood through the facades and streets and squares, through the organization and texture of the city. From his study of its two-dimensional plans, he was able to understand the formalist activity of architects like Baldassare Peruzzi, Antonio da Sangallo, Donato Bramante, and Andrea Palladio. In their etchings he saw the effects of various light conditions on those plans; he found it extraordinary that they represented choices between one kind of possibility and another.

Like the paintings of Cézanne, Graves's *Archaic Landscape* compositions represent the buildings in the landscape in elevation and do not rely on traditional perspectival methods. Visitors enter the landscape from the bottom of the canvas and work their way up through the composition. This describes an arrangement that, while cubist in its pulsations between foreground and background, still maintains a definite foreground, an accessible middle ground, and a background. This simultaneous

reading of horizontal plan and vertical elevation is a device used in the cubist compositions of such painters as Juan Gris, to whom Graves often refers. Graves claims, "I like to consider architecture from the point of view of the still life." Other Graves drawings show a compositional equality or oscillation between the horizontal and the vertical surface that allows for multiple readings. In his drawing Siena, the Baptistry of the Duomo (page 116), a path that recesses into the drawing can be read as a pyramidal form in elevation. "In the landscapes I'm experimenting not only with the forms of the building fragments as ideas, but also that which is held between them. The idea of making buildings relate to each other in a grouping that is only semi-tight or semi-loose fascinates me. It's probably landscape-related: about the experience of leaving one building and going to another, occupying the ground as well as the building."

For Graves, the plan is a tool for organizing space along the horizontal land-scape. In his architecture, he uses the plan to connect a series of experiential vertical planes that define as well as frame space. Such layered series of elevations that can be understood as prosceniums is a common element in his architecture. The photograph *San Marco, Framed View from Piazza Arcade* (page 126), shows a foreground in deep shadow. Where we would expect to see severe perspective in the foreground, the surface in shadow becomes a flattened proscenium through which to view the rest of the image.

The photographs and drawings of Michael Graves are an investigation of volume, surface, and plan. These images reveal elements of an architectural language that transcend issues of style to discover an underlying meaning.

Michael Graves "Le Corbusier's Drawn References," in Le Corbusier: Selected Drawings, (London: Academy Editions, 1981), 8–25.

Alex Buck and Matthias Vogt, editors. Michael Graves: Designer Monographs 3 (New York: St. Martin's Press, 1994), 74.

Michael Graves, "Somehow with Spirit: Designing Rooms with Character." (lecture, Design Center of the Americas, Ft. Lauderdale, FL, February 1987).

^{4.} Buck, Michael Graves, 73.

^{5.} Ibid., 71.

^{6.} See Janet Abrams, "Graves's Travels: Giants and Dwarfs," Michael Graves: Buildings and Projects 1990–1994, Karen Nichols, Lisa Burke and Patrick Burke, eds. (New York: Rizzoli, 1995), 6–11.

BIOGRAPHY

MICHAEL GRAVES was born in Indianapolis, Indiana in 1934. He received his architectural education at the University of Cincinnati and Harvard University. In 1960, he was awarded the prestigious Rome Prize and studied for two years at the American Academy in Rome. His years in Rome marked the beginning of a long-term relationship with the Academy: he has served there as architect in residence, president of the Society of Fellows, and trustee, and has received the academy's 1996 Centennial Prize.

Upon returning from Rome in 1962, Graves established himself in Princeton, New Jersey as both professor and practicing architect, becoming both an influential theorist as well as a diversified and prolific designer. He is the Robert Schirmer Professor of Architecture, Emeritus, at Princeton University, where he taught for almost forty years. As a young architect, Graves was a member of the so-called "New York Five," characterized as "white" modernist architects of the 1960s. In the following decades, he emerged as a leading figure of an American movement interested in transforming the abstractions of modernism into more contextual responses.

Influenced by his studies in Rome, Graves has continually embraced the idea of designing the complete environment and developed a professional practice encompassing planning, architecture, interior design, product design, and graphic design. The architectural practice, Michael Graves & Associates (MGA) has undertaken a wide variety of projects for public and private clients worldwide, including mixeduse developments, office buildings, courthouses, embassies, museums, theaters, libraries, healthcare facilities, university buildings, sports and entertainment facilities, restaurants and retail stores, hotels, apartment buildings, and private residences. Among his most well-known projects are the Humana Building, cited by *Time* magazine as one of "the 10 best buildings of the decade [1980s]"; the San Juan Capistrano Public Library; the Emory University Museum in Atlanta; The Newark Museum; various projects for the Walt Disney Company; the Denver Central

Library; the Ministry of Health, Welfare and Sport in The Hague; the U.S. Courthouse in Washington, D.C.; and the scaffolding for the 1999–2000 restoration of the Washington Monument. In addition to designing the interiors of all of its projects, the firm has developed an award-winning stand-alone interior design practice. MGA's sister company, Michael Graves Design Group, has produced a wide range of furnishings and artifacts, from furniture, lighting fixtures, and hardware, to housewares and decorative accessories, for retailers such as Target and manufacturers such as Alessi, Steuben, Disney, Dansk, Delta Faucet, Progress Lighting, Baldinger Architectural Lighting, and David Edward Furniture.

Michael Graves has been the recipient of several of the most prestigious architectural awards, including the 2001 Gold Medal of the American Institute of Architects and the 1999 National Medal of Arts, a Presidential Award. In 2005, AIA-New Jersey established the "Michael Graves Lifetime Achievement Award" and conferred it upon Graves in its inaugural year. Considered a distinguished advocate for the arts, Graves has also received the New Jersey Governor's Walt Whitman Award for Creative Achievement, the Arts Person of the Year Award from the New Jersey Center for Visual Arts, the Indiana Arts Award, and the National Sculpture Society's Henry Hering Medal for inclusion of art in architecture. He is a fellow of the American Institute of Architects and a member of the American Academy of Arts and Letters. He has been awarded eleven honorary doctorates. He has lectured on his work throughout the world and has served as a visiting professor at numerous universities. Graves's work has been presented internationally at museums and galleries, and his drawings, models, and paintings are owned by many prominent museums and private collections.

ABOUT THE AUTHOR

BRIAN M. AMBROZIAK studied under Michael Graves at Princeton University and worked for four years as a project designer for Michael Graves & Associates. His own competition and design work has been recognized internationally and has received numerous awards. In 1999, he co-authored *Infinite Perspectives: Two Thousand Years of Three-Dimensional Mapmaking*. He is currently assistant professor at the University of Tennessee's College of Architecture and Design.