PROSPECT AND REFUGE, ENTICEMENT AND PERIL are fundamentally characteristics of habitable spaces; as such they belong to landscape and architecture and their surrogates in pictures or words. We now come to some characteristics that occupy a somewhat different position. They have been repeatedly associated, not with spatial experiences alone, but with many other aesthetic experiences; they are also central to all four essential families of survival behavior. These characteristics have been variously termed “likeness tempered with difference” (Gerard Manley Hopkins);1 “similitude in dissimilitude” (William Wordsworth);2 “a pattern that contains the unexpected” (John R. Platt);3 and “on the one side, order, regularity, simplicity and harmony, and, on the other, disorder, irregularity, complexity and discord” (Jay Appleton).4 For reasons I explain later, I am going to use the terms “order” and “complexity” for the two sides of the matter; and since, like prospect and refuge, these turn out to be a matched pair, it will often be useful to link them as “ordered complexity” or “complex order.” In this chapter I want to explore the relationship of these paired characteristics to architecture, suggesting in the process a more detailed theoretical basis and a more extensive working terminology for critical and creative application.

If these characteristics are ubiquitous to the aesthetic experience, is it not likely that they can be applied to just about any piece of architecture that has had its admirers? Yes, probably—but still there may be a few points worth discussing. For example, what place do these characteristics occupy in the evolutionary argument we have been using? Discussing that point may reveal some of the usefulness these characteristics have held for us, and may thereby clarify what we are predisposed to value in them. Then there is the question of degree: given the value of order and complexity, is more or less of one or the other better or
worse? What is the optimal amount? What empirical evidence points to it? Then too there may be different elements to which such characteristics may apply and differences in scale, from a small residential room to an urban space that includes several major buildings. And there may turn out to be distinguishably different ways of experiencing these characteristics, some more pregnant with architectural possibilities than others—and some that present a problem or two.

The Pleasures of Categorizing and Differentiating

Creatures are beset by information. They—most clearly and complicatedly those we call the “higher” animals—must in some way process this information if they are to respond with appropriate behavior. Such processing demands an ability to sort the information into some kind of order, and also to grasp fine distinctions within it.⁵

One most basic sorting task for any creature involves distinguishing its fellow creatures from others; if it cannot manage this, it has little chance of either finding a mate to produce offspring or caring for that mate and offspring. The creature Homo sapiens must be interested in identifying fellow Homo sapiens, and we are. From the earliest times of which there is record we have created and surrounded ourselves with simulations of ourselves. The Venus of Willendorf, perhaps roughly contemporaneous with the advent of language, is one piece of evidence. So are the west portal figures of Chartres cathedral, of later date, that usher us into the place that purports to offer eternal survival (figure 84) and the figure on the southwest corner of the cathedral of Orvieto that, like those at Chartres, is about life-size (figure 85).

These examples of course are literally anthropomorphic. We also see ourselves where we are not; much architectural detail consists of elements suggesting human characteristics in less literal ways. Figure 86 includes several representations of the human figure, and also some bits that suggest parts of the human body but in fact are purely architectural. The classical column, as here, has been interpreted anthropomorphically since Vitruvius,⁶ the argument being that its bulging taper and flaring top, in their expression of support, resemble a human figure bearing a burden.⁷ Parts of the column, moreover, and many other details of the scene, are similar in size and shape to elements of our bodies. Here one value of the classical tradition may be quite simply stated: it encourages us to order scenes like this according to elements that suggest the component parts of ourselves. But such clues are not the exclu-
The parish church of Saint John the Baptist, Burford, Gloucestershire.

1120—. Anthropomorphic details (© Dennis Nason).

Reims cathedral, 1210—90. The south aisle looking toward the west front.

number of alternative interpretations. Abundant information from the environment reduces our uncertainty and helps us to predict accurately the conditions of our immediate future. Redundancy — repetition of information — still further improves the chances of accurate interpretation. Thus the obvious survival value of an interest in adequate and redundant information; a brain structure that "likes" those characteristics should be selected for.

We seem to have such a brain; we seem to like informational abundance and redundancy. But what are the processes by which this liking happens? Sommerhoff believes our brain an-
Nature's fractal games: Italian broccoli. The overall conical shape is repeated in the smaller cones that proceed in helical arrangement around the large one. These in turn are helically wrapped by littler cones, which in turn are wrapped by... and so on to the least size the eye can make out and, presumably, beyond.

This process can work hierarchically. Individual petals of a daisy are not just similar to those of another daisy; they are also like one another. And they relate to one another by being spaced at regular intervals. So the complete daisy repeats not only other complete daisies but also, within itself, its own constituent elements and the interval relationship between them. Again one can imagine “conditional expectancy” at work: the mind perceives the daisy as like other daisies and is satisfied; notes in the daisy the petal, then two or three the same with a like interval between them; anticipates a continuation of this additional hierarchically nested organization; and experiences satisfaction in this realization. Is this one reason for the value we attach to flowers? Fractal geometries are an elegant epitome of this hierarchical characteristic. Italian broccoli, one of the most wonderful of natural fractal geometries, can produce in Homo sapiens that most honest evidence of pleasure, a smile or a laugh (figure 88). Its infinite progression of hierarchical order generates delight.

A further point can be made about the appeal of repetitive intervals. In ourselves and the world around us many events occur in intervals as regular as the daisy’s petals: our walking or running steps are rhythmic, as are those of the animal world; even birds that arrest wing movement to glide on the wind resume wing movement to a regular rhythm. Our heartbeat and breathing are rhythmic, and so are the crushing of the ocean surf, the chirping of crickets, the cries of many birds—even the sounds of creatures of the sea. Through such complementary associations, repetition of interval may enrich the satisfaction of an isolated feature, a total image, or an event.

Most creatures, however, are selected for the ability to make some fine distinctions. Predators, including ourselves, are more successful if in considering similar individuals in a category of prey—woolly mammoths, for example—they are attuned to differences in size (the smaller, the weaker) and in agility (the slower, the more easily caught). Fellow members of
If we return to the premise that survival-advantageous conditions and conditions Homo sapiens likes ought to match, we should not be surprised to find that ordering (not “looking at a total jumble”) and distinguishing (seeking “a challenge to incorporate new material into [our] model of the world”) are characteristics of our creative and appreciative activities. If we turn from observer to observed, we see that pleasurable phenomena or artifacts are likely to show corresponding characteristics of order and complexity.\(^ \text{15} \)

Having got this far, we can see that there is an even more general and ubiquitous circumstance in which liking complexity, and liking to find ordered categories in it, would have been advantageous to our ancestors. A complex natural surrounding is probably rich in quantity and variety of resources; a simple surrounding is probably deficient. Creatures with a predilection for complex environments who make sense of them efficiently maximize their resource options and so have greater odds of reproductive success than those with neither a preference for the complex environment nor the skill to process its information. In this way a predilection for complex environments, and for sorting out the information they present, will be whetted over generations.

Complexity and order, under various near-synonyms, have long been thought central to the aesthetic experience; this centrality may well explain what has been called the “will to form,” Kunstwollen; “there is something in man which leads him to find pleasure in formal beauty.”\(^ \text{16} \) If we accept that natural selection, in a sense, “designs” species, we may acknowledge that we have been designed to like order and complexity. The value we assign to them in the events and images of our lives is therefore neither occasional, exceptional, nor trivial; it is pervasive and fundamental.

I would take a moment to defend the terms “order” and “complexity.” In the first paragraph of this chapter I cited others that have been used: “likeness tempered with difference,” “similitude in dissimilitude,” “a pattern that contains the unexpected,” and “on the one side, order, regularity, simplicity and harmony, and, on the other, disorder, irregularity, complexity and discord.” In relation to many families of aesthetic experience—music or poetry or architecture—several of these phrases seem inaccurate. I do not see that music, for example, needs “dissimilitude,” while “difference” seems severely inadequate. Nor does “disorder” or “irregularity” quite fill the bill; those terms seem off the mark for many examples in the arts. I realize that the term “complexity” can also be flawed because some aesthetic experiences seem to include simplicity, in one or another interpretation of that word; but I would argue,
sciously we perceive both, and the sounds, at least, we perceive as an order of some complexity. This is characteristic of many phrases that remain in memory. Lincoln’s “of the people, by the people, and for the people, shall not perish” is musically rhythmic in the stresses that naturally arise from its syllables, while the sequence of seven p’s establishes a secondary coherence of consonant sounds. Churchill’s “Never in the field of human conflict was so much owed by so many to so few” arrests the ear and the mind through the rhythmic recurrence of the hard s’s and long a’s, complemented by the soft i of conflict, the u of much, the a and y of many, and the flowing ew that closes the phrase.19

To this I add my own experience of hearing poetry whose appeal depended entirely on sounds and rhythms because the language, and therefore its cognitive meaning, were unknown to me. Examples include Clytemnestra’s speech on the message from Troy in Aeschylus’s Agamemnon, in classical Greek; Dies Irae, in Latin; and the prologue to Beowulf in Old English. They seem almost music—certainly the temptation in reading or speaking them is to give them a musical character. Robert Fitzgerald says of the Aeneid, “As a poem it is carried onward victoriously by its own music.”20

Which brings us to music. Music almost universally includes a complex order of rhythm: an assemblage of rhythmic beats, stresses that organize the beats into meters, and usually additional rhythmic material that builds further complexities into a rhythmic structure. In much—most—music there are complex orders of tones as well: sequences of tones including multiple simultaneous tones relate to one another through differing but complementary resonances. To these complex structures of sound can be added the complementary resonances of each tone taken individually, and the distinctions of instrumental and vocal timbre. Then there is the development and re-development, repetition and contrast, of thematic material. Overlaid on this already fantastically complex order are the structured changes in pace and volume, “the fortes and pianissimos, the crescendos, decrescendos, tempos, accelerandos, ritardandos, fermatas, that transform mere rhythmic, melodic, and harmonic patterns into something with the power to move us.”21 Music, then, is complexly ordered sound. The definition seems inappropriately austere for such a rich human creation; still, under that definition music has been a part of all cultures the earth has ever seen. Tastes differ; your complexly ordered sound may not be mine; but all Homo sapiens seem determined to experience complexly ordered sound in one form or another. Dance too can be sparcely defined as complexly ordered human movement, and that too all Homo sapiens like and have liked.

Because of their generality and ubiquity these characteristics alone help in analyzing
Tract housing, somewhere in the United States.

Order and complexity are not just comfortable allies; they are necessary allies. Order without complexity is monotony, and is felt to be that in the deadly repetition of much speculative American housing of the late 1940s (figure 90). Color would help this desperate scene and, for reasons that belong in the preceding chapter, plantings would too. Nevertheless the image as seen here tells us something: we need just such enriching conditions and grope for whatever enrichment we can draw from the few curves of the street layout. Ordinary people voting with their mortgages have made roughly the same point, with the consequence that in ensuing years and to the present such developments have increasingly offered varying facade treatments, choices of floor plan, occasionally some options in finish materials. Apparently the market demands and rewards the provision of some complexity as relief from too-simple order. Professional response has often attacked the banality of such “complexities” in these projects, and with some justice. Horizons richer than such approaches even begin to suggest may help to explain the renewed popularity of older neighborhoods and perhaps the movement to preserve them for their accretions and variety, which give the mind more to discover. Either case, however, supports our need for more than order alone—as do conversations among occupants of similar dwelling units in residential developments and condominiums, which typically focus and expand on the obvious likenesses, and the often quite minute differences, among similar units.25

Complexity without order, however, is no more satisfying than order without complexity: “Scenes that [are] difficult to organize and interpret were not only rated low in preference;
Exeter illustrates these characteristics unusually well, but a similar discussion could be built around any of the buildings of which it is such a good representative: Beverley Minster (figure 92), or Reims (figure 87), or Orvieto (figure 3), or innumerable contemporaneous smaller parish churches across Europe. One could also cite examples from quite different historical periods: the lateral facades of Michelangelo’s Campidoglio of the 1560s (figure 93) or the interior of the Zimmerman brothers’ Wieskirche in Bavaria of the 1750s or Antonio Gaudí’s Casa Batlló in Barcelona of 1905—all would illustrate the point.

Or would illustrate it in the solid material of architecture. Architectural space, however, can be complexly ordered too. Consider an example already discussed in another context: Wright’s Cheney house of 1904 (figure 94; see also figure 20). Its living room is bounded by—the fireplace recess on the one side and the range of French doors to the terrace opposite, and by piers and some built-in bookcases on either flank. North of this living space is the dining space, created by two exterior walls, one interior one, and the piers and book-
One could also argue that the bait in the enticement experience is complexly ordered material partly hidden from view. The vista from the narrow city street toward the facade of Orvieto cathedral (figure 58), for example, tells us that interesting discoveries await by presenting to the eye abundant and unmistakable evidence that a body of very complexly ordered architectural material lies just ahead. The appeal of such a promise in a city street leads us to the matter of the townscape.
openings. Above that is an orgy of pinnacles, porches, arcades, and statues. The fourteenth-century Ducal Palace (figure 96) immediately to the south has a base similar to that of the chapel—a deeply shadowed arcade made up of arches of two sizes; but these arches, unlike those of the chapel, are in two stories, stacked not nested, in a precise width relationship of 1:2. Above is an expanse of planar surface punctuated by windows. Since these have to provide working interior light for the palace, they are necessarily larger than the small openings in the planar portion of the chapel, but they have unusually modest frames that hardly interrupt the planarity of this zone. At the center, as at the chapel, is a more emphatic feature, an ornamented panel. Along the rooftop is the elaborate crown of the strange fish-spine cornice. The characteristics shared by these two earliest buildings—a deeply shadowed arcade, large and small arches, a much simpler planar surface above, and an elaborate skyline—state the theme observed in various permutations by all the ensuing buildings.

The Procuratie Vecchie of about 1465 accounts for most of the north side of the piazza (figure 97). Because it is usually considered one of the weaker buildings of the group, it is of special interest here, for it perpetuates and plays variations on a theme that seems to have been understood even by one of the less talented Venetian architects. The ground story is a deeply shadowed arcade. In the story above, the arcade bay is halved, emulating the stacked 1:2 relationship of the palace and the nested equivalent of the chapel. The next story is identical; the building program must have demanded a third story with significant daylighting, so the designer cloned the second story—an uninspired but serviceable decision. Above, a
He put the two bay widths, in the now-canonical 1:2 relationship, side by side, and above these designed the heaviest imaginable attic story. The vista from the juncture of piazza and piazzetta, with the library beyond, offers a convincing example of complex order within each design but also in the relationship between them (figure 101). In spite of this success Sansovino changed the motif for the south facade. Instead of the attic story, he built an odd arch with a blind oculus at center, and even stranger half-oculi at the spring points (figure 100), all of this above a repetition of the window motif he had invented for the second floor of the library. Why the change? Seen from the lagoon this seaward facade of the Loggetta is companion to the seaward facade of the Ducal Chapel, whose strange blind oculi and arches of varied widths it echoes (figure 102).

Early in this chapter I quoted Nicholas Humphrey's observation that young Homo sapiens, familiar with a certain visual pattern, "take pleasure in seeing new patterns which are
minor transformations of the original... [but are not] attracted to stimuli which are wholly unrelated to what they have already seen.” The Piazza San Marco is a sophisticated instance of several such transformations, each new image presenting novel elements and relationships that also develop from and relate to what we have already seen. In this sense such settings have a commonality with poetry and music that goes beyond aphorism and romanticism. A similar approach can be applied to vernacular environments. Peter Smith has pointed out that the cityscape of Amsterdam is ordered by repetitive rhythms of chimneys, gables and roof slopes, and ranks of similarly proportioned windows at similar intervals, to which one might add the repeated use of a narrow range of building materials. Any street in an Italian hilltown or Cotswold village could illustrate similar repetitive characteristics. Arlington Row in Bibury, Gloucestershire (figure 103), presents to the eye seemingly repeated elements and seemingly repeated intervals—doors, windows, dormers, gables, chimneys—whose multitudinous minor variations make each iteration as different from any other, and as alike, as individuals of the same species.
tops of more detailed shape, horizontals with striated detailed ornamentation—with the occasional sloping line. But art historians have repeatedly pointed out that the order is complemented by complexity, and the eye immediately perceives this too. The irregular forms of the rock are juxtaposed with the structural regularity of buildings that themselves have become irregular over time. The constituent elements of the buildings vary in size, and the eye soon registers the differing details and differing proportions of these differently sized elements. The dominant building, the Parthenon, is unique in its intrinsic complexity (figure 107). It alone among Greek Doric temples includes all the “refinements” of the art history books. The facades incline slightly inward on all sides; the base (stylobate) and the entablature (the horizontal band above the columns) arch upward very slightly. The diameters of the corner columns are slightly greater than those of their neighbors. All columns are carved with an extraordinarily gentle bulge (entasis) in the subtle taper of the shaft; and the corner columns, and those immediately next to them as well, are slightly more closely spaced than the intervening columns along sides and end facades, a rare characteristic called double contraction. Many of these subtle variations in both element and interval occur in other temples; the presence of the whole array is unique to the Parthenon. Some have maintained that these “refinements” are there to counter optical illusions, yet the eye sees them readily enough, and perhaps intuitively sees them for what they are, enlivening complexities within an ordered totality.39 The individual characteristics of the buildings, and the relation-
so by extension, perhaps, the appeal of ruins. But in any case enough must be apparent to the eye to make possible a reasonably accurate completion of the figure. Sites that present only foundation patterns in the grass may be of archaeological value, but they lack clues that can draw the eye and mind into the image-completing game. The immediate sensory rewards belong to sites such as Fountains Abbey or the Basilica of Constantine—or the Athenian Acropolis—where visual evidence adequately supports the pleasurable exercise.10

**Complex Order as a Function of Movement**

The Acropolis or the Piazza San Marco can be understood, by and large, from a single position. One must turn around, of course, or move a few steps, wander a bit, but one stays more or less within the same viewing space, from which all permutations can be seen. There are other cases in which apprehension of complex order requires a significant change of spatial position; not everything can be seen from one viewpoint. One must move through a sequence of spaces, and such movement necessarily takes place over time. Filippo Brunelleschi’s Pazzi Chapel in Florence of 1439 is one of the better-known and more important buildings of the early Renaissance. To understand its complex order, one must move from one defined space to another. But as one moves, the original postulation of the order is lost to view and must be held in the memory as the viewer moves through a sequence of variations on the theme.

The chapel’s porch facade consists of six Corinthian columns framing five bays (figure 108). The pairs of bays to each side of the center are surmounted by an entablature, the hor-
flanking bays. When we turn around, we find on the opposite wall the third permutation (figure 110). The wall just described is repeated, including the larger central arch, but panels replace windows in lateral bays, and the middle bay is again an open arch — no entablature — as in the original porch facade. Each of the four planes perpendicular to the path of movement — columnar facade, porch wall, interior entry wall, and apse wall — is a unique version of the original theme encountered on approach, and only two such versions at most are visible from any given point along the path of movement. Yet in one version or another the compositional theme is available to the eye at every point.

The side walls of the interior represent the fourth and most radical permutation. They repeat only the central three bays, minus the doors, of the entry wall (figure 111). They are equally close cousins to the middle three bays of the apse wall, with wall and entablature replacing the central void. These side walls thus culminate in an arch whose span is that of the middle three bays of the transverse walls. Within this large arch is the smaller one, which, through simple processes of geometry, is identical to the central arch of the originating porch facade.

Furthermore, as we move through and among these planes, we move under a sequence of three domes. The diameter of the first, above the center of the porch, and of the last, above
based the motif for the interior lateral walls on the facade, which, like that of the Pazzi Chapel, is lost to view when one moves to the interior, so again the relationship between interior and exterior depends on associations in memory.

Brunelleschi's late Church of Santo Spirito illustrates a different issue, the apprehension, over time and through movement, of complexity rather than order. At his earlier Church of San Lorenzo in Florence he seems to have been trying to design the side aisle bay to approximate a perfect central plan, which, continued as the perimeter of the church, would establish its basic and repetitive spatial module. One side of each side aisle bay is of course the nave arcade that is the seam between aisle and nave. Brunelleschi repeated the elements of that nave arcade as two other sides of the spatial unit, the arched portals that mark the seam between bays (figure 113). The fourth side of the spatial unit is the outside wall of the building, opposite the arcade. And this presents a difficulty, because it is a wall—a solid surface, not a void. Brunelleschi tried to echo the elements of the other three sides. He placed pilasters against the wall to echo the nave arcade columns, and above them an arch, all this in dark stonework, *pietra serena*. But how to echo above these pilasters the nave arcade impost blocks—the pieces that there surmount the columns? He seems to have decided that a continuous entablature above the pilasters would be the most appropriate transposition of the idea. But the decision brought its problems: on this side of the spatial unit only, the entablature sharply divides the arch above from a rectangular zone below it. So seemingly because of formal necessity, the fourth side of each side aisle bay at San Lorenzo is radically unlike the other three.
of course not really simulated by a still photo such as figure 115.) The beauty of Santo Spirito, at least for me, lies in the tension between these crisp static individual units of space and the fluid, infinitely changing relationships between them that are a consequence of human movement.

Complex Order as a Function of Memory

The Finnish architect Alvar Aalto in the early 1930s designed a library for the town of Viipuri: one of its public spaces is a small auditorium with an exquisitely undulating wood ceiling. The exterior wall of the auditorium consists of generous sheets of full-height glazing through which the ceiling can be seen from the exterior. And of course when, after entry and after traversing other rooms and corridors, one enters the auditorium, the ceiling is again visible, just as it was announced from the exterior. But this is not another version of the experience of the Pazzi Chapel. The Viipuri library does not reiterate a motif in one or several permutations; the auditorium ceiling is simply seen from two vantage points, one exterior and one interior.
continuously, interrupting it with spaces whose order in each case differs from that of the immediately preceding space. The sequence of ordered relationships, therefore, is not evident in movement from one space to its immediate neighbor, and it cannot be understood by studying either the plan or the elevations in isolation. The same analysis would apply to Lutyens's Hesthencote of 1906 near Ilkley in Yorkshire: one enters at the center of a symmetrical facade to find oneself in an almost symmetrical vestibule whose centerline of symmetry differs utterly from that of the external facade. Ednaston Manor of 1912–13, in Derbyshire, offers a similar instance, as do many of Lutyens's other houses.

Apparently we have a considerable ability to memorize such discontinuous orders. For all the complex discontinuities of Lutyens's work I expect just about everyone who moves through the spaces of Little Thakeham perceives, consciously or subconsciously, that its eastern and western rooms are symmetrical about a common axis, and that the semicircular bay of the living room, seen from the back garden, is on axis with the entry facade. I expect too
it? Our perception of straight lines, circles, even squares, is amazingly accurate: with experience we rapidly perceive irregularities of very small magnitude. Apparently such accuracy is possible because of the rapid scanning of the eye. At something like a hundred oscillations per second it moves along a line like a machine tool whose accuracy depends on the geometry, not of its edge, but of its movement. So we perceive that the arches are slightly curved, not exactly flat—but so slightly curved that the eye keeps returning, attempting to assign them to one of two categories, each time reaching a conclusion so tenuous as to need continual rechecking.)
Library, Phillips Exeter Academy. The stair (© The Kahn Collection, The Architectural Archives of the University of Pennsylvania).


A house in Sun Valley. The interior: complex order, prospect and refuge, and enticement (© Arne Bystrom).

of the tree at left, ticingly.
So cc differenting and mental solids thins, an through and realistic sh: time, it memori essarily tecture human.
Wh an optencces i a point includ compl not be they o the du may leplexiti cathe each Perlu comni man
The Problem of Accessibility

Both the order and the complexity must be made known; the audience must somehow get both parts of the message. In the examples I have cited, getting both parts of the message is ensured by making both openly accessible to the eye. This may seem so obvious as to need no saying. Yet there are cases in which order and complexity, though they exist, are in some respects not visible and depend instead, at least in part, on a cognitive knowledge of their presence. The thirteenth-century west towers of Laon cathedral (figure 126) are such a case. Their order is evident to the most casual eye: attenuated cylinders and prisms of masonry repeat in similar dimensions; proportions of openings in the masonry are roughly repetitive; the masonry itself is monocromatic. There is to an equally casual eye some considerable sense of complexity as well: the plan of each ascending story is plainly not that of the story below; the balustrade at the top repeats established themes at radically different size; and there are

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Laon cathedral.
The north tower of the west facade.
Yet in the case of the towers of Laon I admit that I am not entirely sure, and do not know whether it is possible to be sure, that these relationships can be understood only by cognitive study of abstract representations—words or diagrams—or whether they may, in whole or in part, be intuitively apprehended. This is one instance among many of a gray area between intuitive and cognitive apprehension; hence my evasive "may" in the preceding paragraph. Nevertheless the towers of Laon introduce the point.

The mid twentieth century offers a less ambiguous illustration. Every architect trained in the United States and many other countries as well in the 1950s and 1960s was made aware of the corner detail of Mies van der Rohe's benchmark of Modernism, the Seagram Building of 1950 in New York. In a relationship visible only in a famous drawing (figure 128), the outer visible materials and shapes are seen to represent and express the inner steel frame that, necessarily hidden by fireproofing, nevertheless is the building's essential structure. Those who have studied this and other drawings understand the building to possess, behind its outer and evident order, this hidden complexity of relationships. So understood, the building can satisfy the aesthetic requisite of conjoined order and complexity. But while the order has been evident to all who look at the building, the complexity that has made it an icon to the initiated is apparent nowhere except in the drawing. It is not visible in the finished building, nor for that matter was it visible, as drawings represented it, even during the building's construction. Therefore full aesthetic enjoyment has depended on cognitive knowledge of an abstract diagram of the building's features rather than on features directly apprehended in the building itself. Those familiar with the building have always admired it, seeing it as an elegant il-
Having It Both Ways

No good purpose is served by discarding exciting and fruitful growth that derives from speculation at a considerable level of cognitive abstraction; this book is in its way just such a speculation. But architecture is also a public art, and its qualities, or at least some of them, ought to be accessible to lay apprehension as well. Can we have it both ways?

I return to a comment by Nicholas Humphrey quoted early in this chapter: "Human babies who have been made familiar with a particular abstract visual pattern take pleasure in seeing new patterns which are minor transformations of the original. . . . [but are not] attracted to stimuli which are wholly unrelated to what they have already seen." He then cites Pavlov's observations of a similar behavior common to the adult world: "If we consider collecting in all its variations, it is impossible not to be struck with the fact that on account of this passion there are accumulated often completely trivial and worthless things, which represent absolutely no value from any point of view other than the gratification of the propensity to collect."

It is possible to extend the analogy to say that in the case of the Piazza San Marco, for example, we engage ourselves in "collecting" buildings with deeply shadowed arcades, wide and narrow arches, heavy superstructure, and elaborate skyline. And as we add to our collection different examples of this "thing," each a little different from the last, we experience pleasure. So too with the nave of Exeter: in each bay we build a collection of bundles of lines, each of about the same size but bearing a slightly different relationship to its neighbor, and of slightly different detail and coloration; then as we move from bay to bay we add to the collection by observing component elements that continually differ. By extending this argument a little we gain an insight into the value of creativity. For as we move through life, we find satisfaction in discovering new and different material for our collections, things related to earlier experiences but also in some way novel; conversely we are disappointed when we encounter an entirely familiar example—already, in a sense, in the collection. Thus we find stimulation in Michelangelo's David, which adds something—a great deal—to our mental file entitled "Human Figure." Although subsequently we may be disappointed by endless replicas of David, our interest is renewed by Rodin's Burghers of Calais; it belongs in the mental collection that already contains David, but it adds variations that seize our attention. So does a representation of the human figure by Edvard Munch or Paul Klee. Having heard a