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ORDER AND MYSTERY

Order is essential to our understanding of the world; without it we could not process information, formulate plans, make decisions or compare possibilities. The existence of a natural order — of a predictable cycle of day and night, seasonal changes and life cycles — provides a structure within which we can experience growth. The certainty of a set of predictable events creates the freedom to make choices and experience their impact, knowing that life on the grand scale will continue unimpeded. Our basic understanding of the larger order of the universe and our place within it allows us to accept the apparent randomness of the daily flow of events.

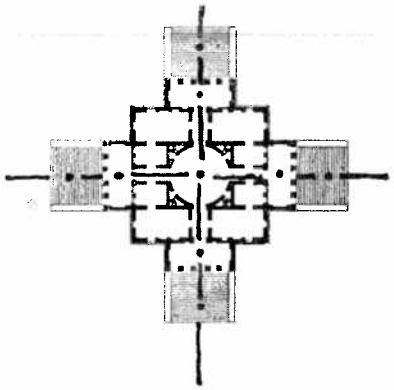
The truly memorable happenings in our lives are often those that are major departures from the familiar order: births, marriages and deaths; hurricanes, earthquakes and eclipses. Because they are not part of the usual pattern, these events take on a larger-than-life quality, leading us to examine, question and appreciate our daily experiences.

Creating Order and Mystery

In our houses, as in our lives, we seek a basic underlying order. There must be structural order for a building to withstand the forces of gravity, weather and movement. Functional order allows the building to respond to the needs and schedules of its occupants. And formal order organizes the spaces geometrically, making the building intelligible to its users. It is only within the framework of order in a house that occupants can pleasurably experience the unexpected, the mysterious. And yet it is the unpredictable places that have the greatest potential to command attention and excite curiosity.

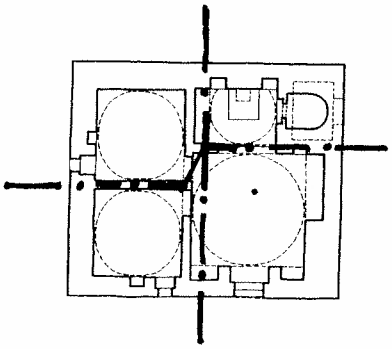
Geometrical Order/Mystery

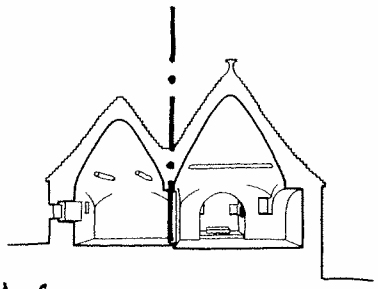
There are several kinds of geometrical descriptions encountered in architecture—symmetry, progression, packings and fractal geometry. Geometrical symmetries (radial, bilateral and multilateral) all serve to reduce the complexity of the system and to introduce order, a sense of control. But these symmetries can become deadening unless balanced and contrasted with asymmetries. Symmetry says that everything is the same on both sides of the axes; asymmetry says that things are different. Asymmetries can arise from a response to the specifics of a site, the path of the sun or wind (like the directional wind flap on the otherwise radially symmetrical tepee), from functional needs or simply from the aesthetic desire to create them (as in Japanese gardening, where symmetry is considered unnatural).



Palladio's Villa Rotunda, Vicenza, Italy.

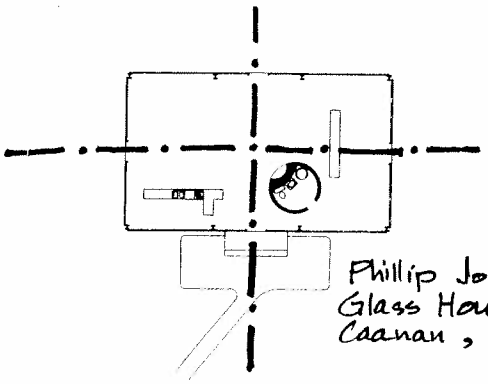
Perfect cross-axial symmetry...



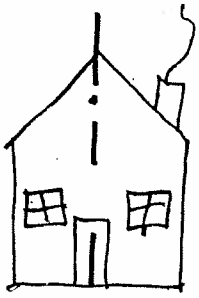


A farmhouse in Southern Italy

Relaxed cross-axial symmetry...



Phillip Johnson's Glass House, New Canaan, Conn.



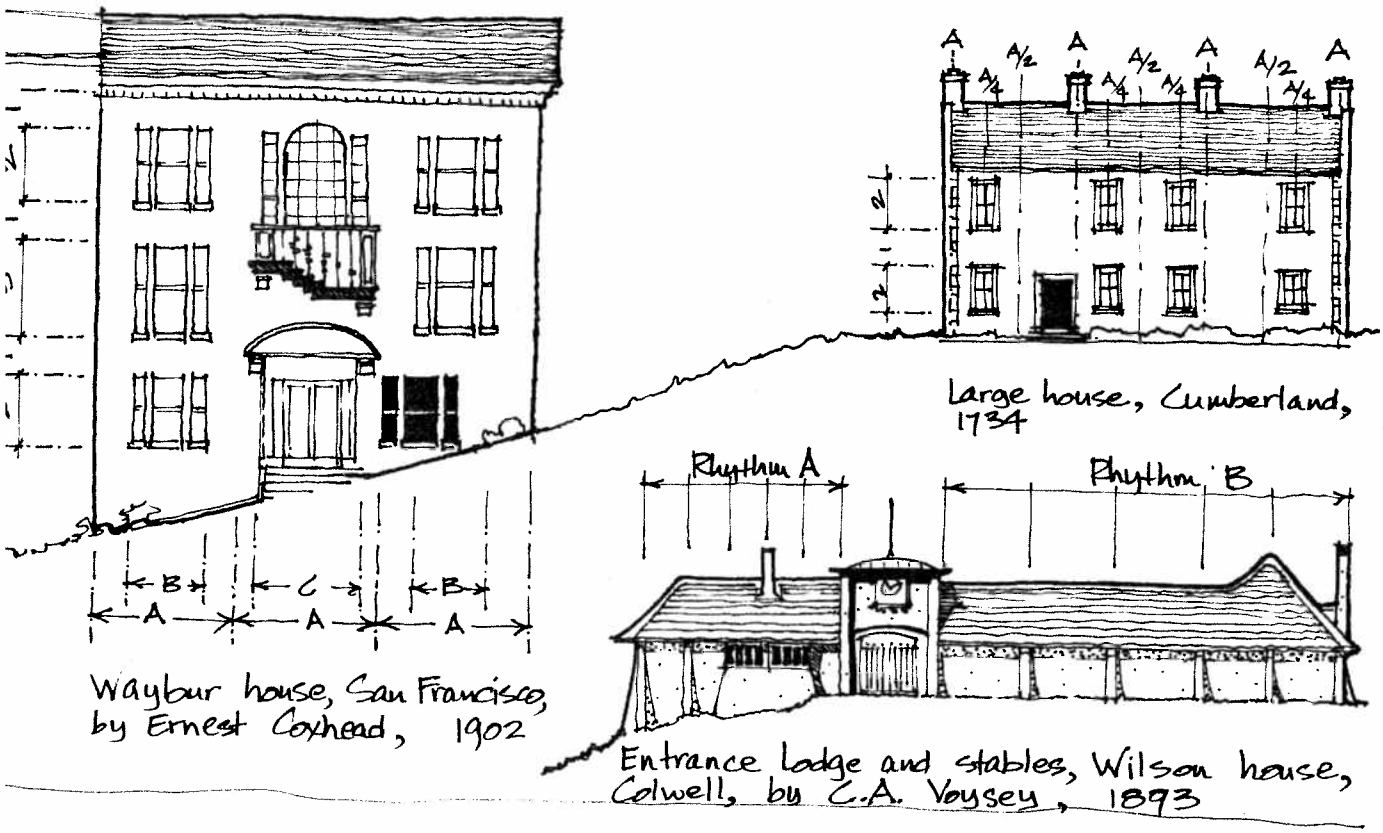
House by a 3-year old.

Asymmetries within a symmetrical whole.

Symmetry creates strong, formal order. When symmetries are broken but still recognizable, they suggest mysterious, unpredictable forces with the power to alter the rules of order.

The order created by geometric rogressions can be strengthened contrast when there is sudden, seemingly random, interference in he progression.

Simple rhythms of equally spaced windows, columns or decorations are examples of geometrical progressions. More complex are those typified by spiral forms, like the arrangement of seeds in a pine cone. Le Corbusier's Modulor system of proportioning is based in part upon the progression 1,2,3,5,8,13,21..., in which each number is the sum of the two previous ones. Le Corbusier proposed his Modulor as an ordering system based upon the proportions of the human body and on mathematics. He used the system in many projects, most notably in his housing project at Marseilles, where the shape of all of the plans, sections and elevations is derived from it.



Waybur house, San Francisco, by Ernest Coxhead, 1902

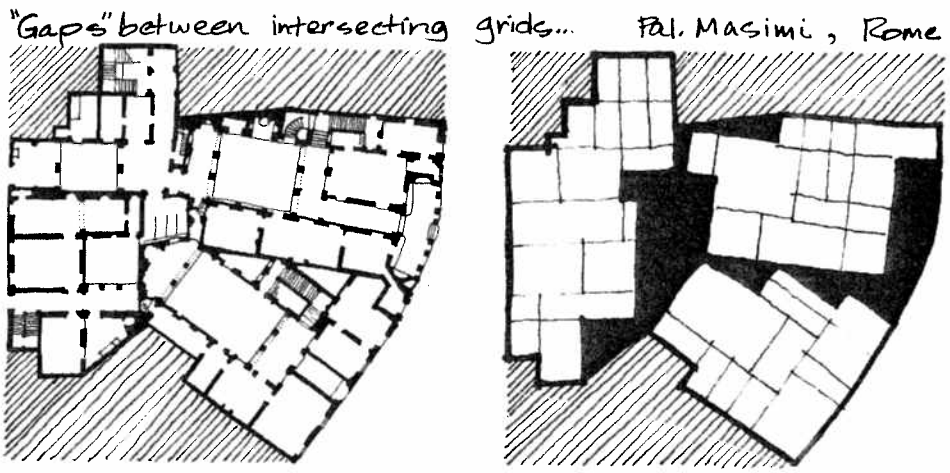
Large house, Cumberland, 1734

Entrance Lodge and stables, Wilson house, Colwell, by C.A. Voysey, 1893

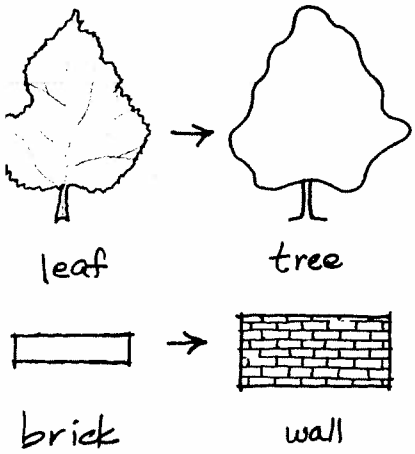
Such orderly progressions can be contrasted with disorderly arhythmic occurrences. When both are incorporated into a building, our attention will be drawn to where they interact with each other. Knowing this, architects will often introduce an arhythmic element into an otherwise rhythmic composition simply to emphasize the importance of that part of the building.

Geometrical packings are created when a volume or plane is completely filled, or packed, with one or more regular shapes. Geometrical packings are encountered in two-dimensional patterns as well as in three-dimensional organizations of volumes. Such geometries are beautiful in their inevitability and rationality, but in architectural forms they need to be balanced by the disorder of gaps in the packing or they can be harsh and oppressive. Packing disorder is created by not fitting the pieces as tightly together as possible, by creating usable spaces between. Sometimes packing disorder is created unwittingly, as when two unrelated grids collide (like street systems), or when the open space between buildings gets squeezed down through many years of expansion and rebuilding. We need both — the order of well-packed spaces for spatial efficiency, and the disorder of interstitial spaces that occurs in response to local forces, thereby offering variety and opportunity.

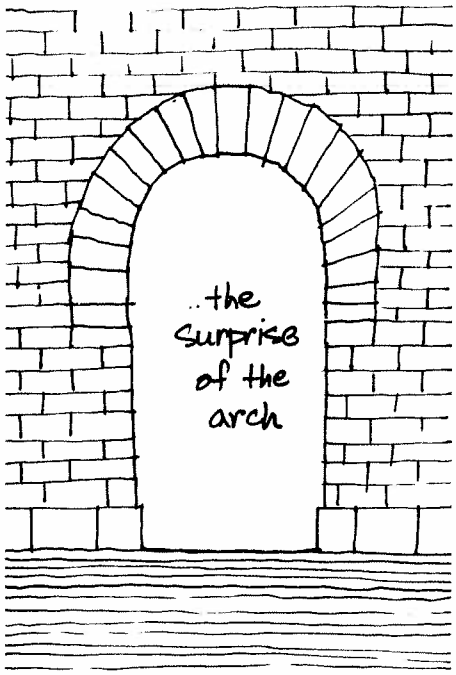
The simple order of this Shaker sewing desk, based on a vertical bilateral symmetry and a horizontal three-two progression, is mysteriously interrupted by the apparent functional need to create a bank of side drawers.



The order of strict geometric packing can be enlivened by irregular shapes or gaps in the packing.



In fractal geometry, order is generated by a rough equivalence in form between parts and whole. The urprise occurs when the part is 'bent' to create areas of novelty within the overall order.



Fractal geometry refers to the geometric equivalency between the parts and the whole that occurs naturally in minerals and organisms. It is an old idea — Goethe noted that the shape of a whole tree was the same as one of its leaves. In building, one could imply that a structure of bricks should have the overall shape of a brick, as it roughly does in a brick wall. But such order needs to be countered with an occasional willingness to "bend" the materials, to show that they can do what might, at first, be surprising. In the middle of the regularity of a brick wall, for example, the bricks can leap up and become an arch.

Functional Order/Ambiguity

Buildings can make clear functional distinctions, such as public/private, service/serviced or wet/dry. But they can also create fuzzy zones of disorder where clear distinctions break down. This occurs, for example, when we recognize that the kitchen is also a social space — it may be the place where kids do homework and adults keep their files and pay bills; and when we recognize that a bedroom may also be the best place to lounge with friends or grow plants.

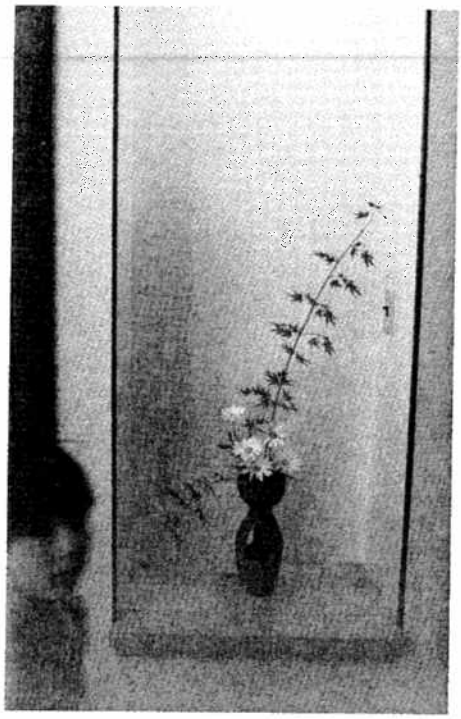
Display cooking in a restaurant, for example, allows the dining space to be linked to the cooking space with wonderful smells, sights and sounds. Counter dining or an open kitchen area offers neither total functional separation nor total functional integration and can nicely connect the pleasures of cooking with eating.

In the design of a house, first organize clear and distinct functional areas, then soften and enrich the order with ambiguity. Reconnect the areas with interior windows and openings to hallways. Or put the areas at different ends of the same room, or allow them to share an interior courtyard.

Permanence/Change

The successful house responds to the dual needs for permanence and change. Some parts of the building will be unchanging — the foundation and basic structure (we hope), the overall scheme of parking, entry and stairs and the arrangement of the most formal rooms. Other parts will be in relative flux, like the seasonal garden, the kitchen, the multipurpose room, a display niche or canvas awnings and waving curtains. You can create more awareness of the permanent elements by exposing them, making them thicker, heavier and more geometrically regular and predictable. Similarly, provoke awareness of the temporal elements by exposing them, making them thinner and lighter, and more geometrically irregular.

Now try to link the contrasts: Make a special, permanent niche to contain a changing display of flowers or other natural objects. In this way, a knot garden is a regular geometric arrangement of seasonal plants. Those elements of the house that have relatively short lives can be temporarily attached to the larger structure so clearly and visibly that occupants are encouraged to replace them (tatami mats, awnings attached with grommets or vulnerable trim attached with screws instead of nails). Create places that



A permanent display niche is incomplete without a changing display. This one is in the Kuperman house, designed by the authors.

invite their users to freshen and renew them periodically. The random renewal of such places, within a relatively unchanging framework of permanence, can be a lovely embodiment of this dimension of contrast — the mystery is the surprising power of a change in detail when set off against an overall order.

Hand Work/Machine Work

The workmanship required for the construction of a house involves a balance between machine work and hand work, between control and freedom. Factory-produced components (such as panels of plywood and corrugated metal, or modular cabinetry) require very controlled workmanship; site-built assemblies (such as stucco and plaster walls) allow less rigid control and the possibility of freer workmanship.

The workmanship of houses today tends to overemphasize the control of the machine and underemphasize the freedom of the hand, mainly because of the standardized dimensions of the components. We sometimes react to this dominance of the machine by deliberately rusticating materials (sandblasting, distressing or antiquing wood, blowtorching stone, buying fake used bricks), but this is not often satisfactory.

A better approach is to contrast differing levels of machine work and hand work, each of honest, direct and natural workmanship. For example, you might contrast hand-textured stucco work with machine-planed wood. The stucco shows the hand and trowel of the plasterer; the wood shows the machine precision of the planer. Handmade tiles set rhythmically into a field of factory-made tiles create a similar effect. In general, it is a mistake to try to make handwork look like machine work, and vice versa.

ıe Penn house, lesigned by the authors (see pp. 114-122), ıtures a hand-rafted stair of wood and tile that contrasts ›oldly with the ıchine-crafted walls of ıluminum and glass that surround it.