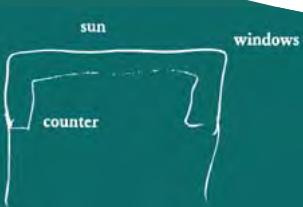


199

Sunny Counter



Dark gloomy kitchens are depressing. The kitchen needs the sun more than the other rooms, not less. Place the main part of the kitchen counter on the south and southeast side of the kitchen, with big windows around it, so that sun can flood in and fill the kitchen with yellow light both morning and afternoon.



related:

Open Shelves



Cupboards that are too deep waste valuable space, and it always seems that what you want is behind something else. Therefore: Cover the walls with narrow shelves of varying depth but always shallow enough so that things can be placed on them one deep - nothing hiding behind anything else.



200

Waist-High Shelf



In every house and every workplace there is a daily "traffic" of the objects which are handled most. Unless such things are immediately at hand, the flow of life is awkward, full of mistakes; things are forgotten, misplaced. Build waist-high shelves around at least a part of the main rooms where people live and work.



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Built-In Seats



Built-in seats are great. Everybody loves them. They make a building feel comfortable and luxurious. But most often they do not actually work. They are placed wrong, or too narrow, or the back does not slope, or the view is wrong, or the seat is too hard. This pattern tells you what to do to make a built-in seat that really works.



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Child Caves



Children love to be in tiny, cave-like places. Therefore: Wherever children play, around the house, in the neighborhood, in schools, make small "caves" for them. Tuck these caves away in natural left over spaces, under stairs, under kitchen counters. Keep the ceiling heights low - 2 feet 6 inches to 4 feet - and the entrance tiny.



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Secret Place



Where can the need for concealment be expressed; the need to hide; the need for something precious to be lost, and then revealed? Make a place in the house, perhaps only a few feet square, which is kept locked and secret; a place which is virtually impossible to discover - until you have been shown where it is; a place where the archives of the house, or other more potent secrets, might be kept.



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Structure Follows Social Spaces



No building ever feels right to the people in it unless the physical spaces (defined by columns, walls, and ceilings) are congruent with the social spaces (defined by activities and human groups). A first principle of construction: on no account allow the engineering to dictate the building's form. Place the load bearing elements - the columns and the walls and floors - according to the social spaces of the building.



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Efficient Structure



Some buildings have column and beam structures; others have load-bearing walls with slab floors; others are vaulted structures, or domes, or tents. But which of these, or what mixture of them, is actually the most efficient? What is the best way to distribute materials throughout a building, so as to enclose the space, strongly and well, with the least amount of material? Conceive the building as a building made from one continuous body of compressive material.



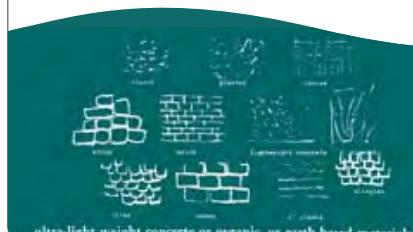
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Good Materials



There is a fundamental conflict in the nature of materials for building in industrial society. Use only biodegradable, low energy consuming materials, which are easy to cut and modify on site. For bulk materials we suggest ultra-lightweight 40-60 lbs. concrete and earth-based materials like tamped earth, brick, and tile.



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Gradual Stiffening



The fundamental philosophy behind the use of pattern languages is that buildings should be uniquely adapted to individual needs and sites; and that the plans of buildings should be rather loose and fluid, in order to accommodate these subtleties. Recognize that you are not assembling a building from components like an erector set, but that you are instead weaving a structure which starts out globally complete, but flimsy.



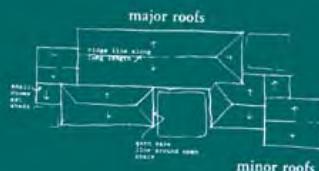
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Roof Layout



What kind of roof plan is organically related to the nature of your building? Arrange the roofs so that each distinct roof corresponds to an identifiable social entity in the building or building complex. Place the largest roofs - those which are highest and have the largest span - over the largest and most important and most communal spaces; build the lesser roofs off these largest and highest roofs.



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Floor And Ceiling Layout



Again, the basic problem is to maintain the integrity of the social spaces in the plan. Draw a vault plan, for every floor. Use two-way vaults most often; and one-way barrel vaults for any spaces which are more than twice as long as they are wide. Draw sections through the building as you plan the vaults, and bear the following facts in mind.

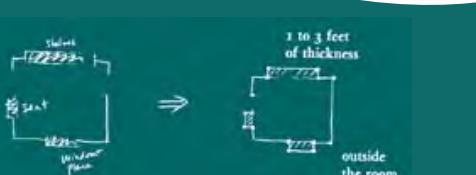
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Thickening The Outer Walls



We have established in Thick Walls (197), how important it is for the walls of a building to have "depth" and "volume," so that character accumulates, in them, with time. But when it comes to laying out a building and constructing it, this turns out to be quite hard to do. Mark all those places in the plan where seats and closets are to be.

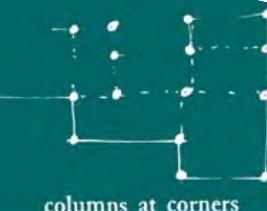


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Columns At The Corners



We have already established the idea that the structural components of a building should be congruent with its social spaces. On your rough building plan, draw a dot to represent a column at the corner of every room and in the corners formed by lesser spaces like thick walls and alcoves. Then transfer these dots onto the ground out on the site with stakes.

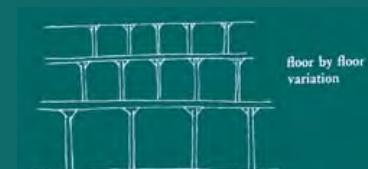


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Final Column Distribution



How should the spacing of the secondary columns which stiffen the walls, vary with ceiling height, number of stories and the size of rooms? Make column stiffeners furthest apart on the ground floor and closer and closer together as you go higher in the building. The exact column spacings for a particular building will depend on heights and loads and wall thicknesses.



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Root Foundations



The best foundations of all are the kinds of foundations which a tree has - where the entire structure of the tree simply continues below ground level, and creates a system entirely integral with the ground, in tension and compression. Try to find a way of making foundations in which the columns themselves go right into the earth, and spread out there - so that the footing is continuous with the material of the column, and the column, with its footing, like a tree root, can resist tension and horizontal shear as well as compression.



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Ground Floor Slab



It is a simple slab, which forms the ground floor of the building... The slab is the easiest, cheapest, and most natural way to lay a ground floor. Build a ground floor slab, raised slightly - six or nine inches above the ground - by first building a low perimeter wall around the building, tied into the column foundations, and then filling it with rubble, gravel, and concrete.



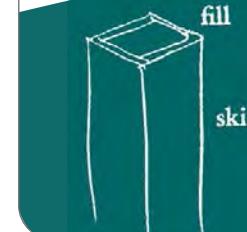
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Box Columns



In all the world's traditional and historic buildings, the columns are expressive, beautiful, and treasured elements. Only in modern buildings have they become ugly and meaningless. Make the columns in the form of filled hollow tubes, with a stiff tubular outer skin, and a solid core that is strong in compression. Give the skin of the column some tensile strength - preferably in the skin itself, but perhaps with reinforcing wires in the fill.



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Perimeter Beams



If you conceive and build a room by first placing columns at the corners, and then gradually weaving the walls and ceiling round them, the room needs a perimeter beam around its upper edge. Build a continuous perimeter beam around the room, strong enough to resist the horizontal thrust of the vault above, to spread the loads from upper stories onto columns, to tie the columns together.



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Wall Membranes



In organic construction the walls must take their share of the loads. They must work continuously with the structure on all four of their sides; and act to resist shear and bending, and take loads in compression. Build the wall as a membrane which connects the columns and door frames and windows frames and is, at least in part, continuous with them.



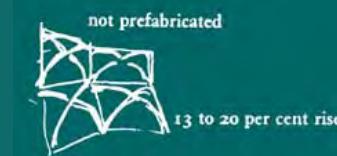
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Floor-Ceiling Vaults



We seek a ceiling vault shape which will support a live load on the floor above, form the ceiling of the room below, and generate as little bending and tension as possible so that compressive materials can be relied on. Therefore: Build floors and ceilings in the form of elliptical vaults which rise between 13 and 20 per cent of the shorter span.



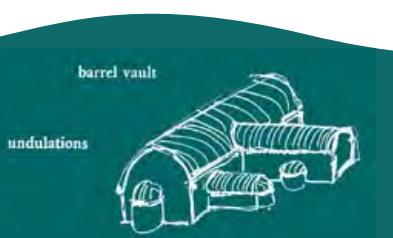
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Roof Vaults



What is the best shape for a roof? Therefore: Build the roof vault either as a cylindrical barrel vault, or like a pitched roof with a slight convex curve in each of the two sloping sides. Put in undulations along the vault, to make the shell more effective. The curvature of the main shell, and of the undulations, can vary with the span.



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Natural Doors And Windows



Finding the right position for a window or a door is a subtle matter. But there are very few ways of building which take this into consideration. On no account use standard doors or windows. Make each window a different size, according to its place. Do not fix the exact position or size of the door and window frames until the rough framing of the room has actually been built.

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Low Sill



One of a window's most important functions is to put you in touch with the outdoors. If the sill is too high, it cuts you off. When determining exact location of windows also decide which windows should have low sills. On the first floor, make the sills of windows, which you plan to sit by between 12 and 14 inches high.

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Deep Reveals



Windows with a sharp edge where the frame meets the wall create harsh, blinding glare, and make the rooms they serve uncomfortable. Make the window frame a deep, splayed edge: about a foot wide and splayed at about 50 to 60 degrees to the plane of the window, so that the gentle gradient of daylight gives a smooth transition...



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Low Doorway



High doorways are simple and convenient. But a lower door is often more profound. Instead of taking it for granted that your doors are simply 6' 8" rectangular openings to pass through, make at least some of your doorways low enough so that the act of going through the door is a deliberate, thoughtful passage from one place to another.



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Frames As Thickened Edges



Any homogeneous membrane, which has holes in it will tend to rupture at the holes, unless the edges of the holes are reinforced by thickening. Do not consider door and window frames as separate rigid structures which are inserted into holes in walls. Think of them instead as thickenings of the very fabric of the wall itself, made to protect the wall against the concentrations of stress which develop around openings.



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Column Place



Thin columns, spindly columns, columns which take their shape from structural arguments alone, will never make a comfortable environment. When a column is free standing, make it as thick as a man - at least 12 inches, preferably 16 inches; and form places around it where people can sit and lean comfortably: a step, a small seat built up against the column, or a space formed by a pair of columns.



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Column Connection



The strength of a structure depends on the strength of its connections; and these connections are most critical of all at corners, especially at the corners where the columns meet the beams. Build connections where the columns meet the beams. Any distribution of material which fills the corner up will do: fillets, gussets, column capitals, mushroom column, and most general of all, the arch.



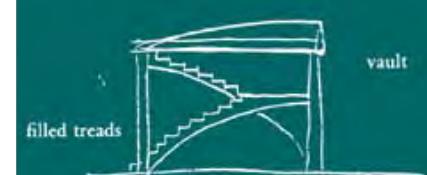
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Stair. Vault



Within a building technology which uses compressive materials as much as possible, and excludes the use of wood, it is natural to build stairs over a vaulted void, simply to save weight and materials. Therefore: Build a curved diagonal vault in the same way that you build your Floor-Ceiling Vaults (219). Once the vault hardens, cover it with steps of lightweight concrete, trowel-formed into position.



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Duct Space



You never know where pipes and conduits are; they are buried somewhere in the walls; but where exactly are they? Make ducts to carry hot air conduit, plumbing, gas, and other services in the triangular space, within the vault, around the upper edge of every room. Connect the ducts for different rooms by vertical ducts, in special chases, in the corners of rooms.

wall-ceiling triangle

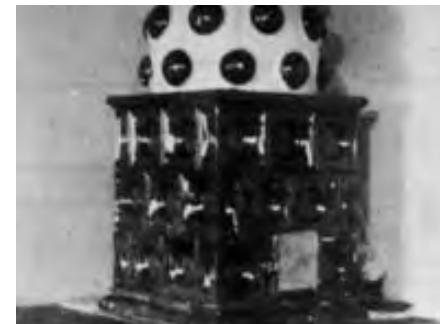


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Radiant Heat



This pattern is a biologically precise formulation of the intuition that sunlight and a hot blazing fire are the best kinds of heat. Choose a way of heating your space—especially those rooms where people are going to gather when it is cold that is essentially a radiative process, where the heat comes more from radiation than convection.

related:



We know from our discussion of Sheltering Roof (117) that the top story of the building should be right inside the roof, surrounded by it. Therefore: Wherever you have windows in the roof, make dormer windows which are high enough to stand in, and frame them like any other alcoves in the building.

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Dormer Windows



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Roof Caps



There are few cases in traditional architecture where builders have not used some roof detail to cap the building with an ornament. Choose a natural way to cap the roof - some way which is in keeping with the kind of construction, and the meaning of the building. The caps may be structural; but their main function is decorative - they mark the place where the roof penetrates the sky.



related:

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Floor Surface



We want the floor to be comfortable, warm to the touch, inviting. But we also want it to be hard enough to resist wear, and easy to clean. Zone the house, or building, into two kinds of zones: public zones, and private or more intimate zones. Use hard materials like waxed, red polished concrete, tiles, or hardwood in the public zones.



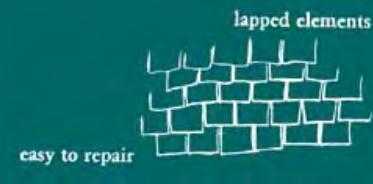
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Lapped Outside Walls



The main function of a building's outside wall is to keep weather out. It can only do this if the materials are joined in such a way that they cooperate to make impervious joints. Build up the exterior wall surface with materials that are lapped against the weather: either "internally lapped," like exterior plaster, or more literally lapped, like shingles and boards and tiles.



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Soft Inside Walls



If it is possible to use a soft material for the inner sheet of the wall membrane, then the wall will have the right character built in from the beginning. A wall which is too hard or too cold or too solid is unpleasant to touch; it makes decoration impossible, and creates hollow echoes.

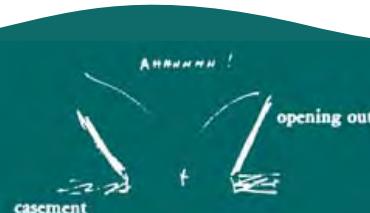


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Windows Which Open Wide



Many buildings nowadays have no opening windows at all; and many of the opening windows that people do build, don't do the job that opening windows ought to do.

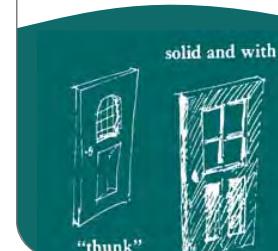


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Solid Doors With Glass



... even if the windows are beautifully placed, glare can still be a problem. Light filtered through leaves, or tracery, is wonderful. But why? Where the edge of a window or the overhanging eave of a roof is silhouetted against the sky, make a rich, detailed tapestry of light and dark, to break up the light and soften it.



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Filtered Light



Light filtered through leaves, or tracery, is wonderful. But why? Where the edge of a window or the overhanging eave of a roof is silhouetted against the sky, make a rich, detailed tapestry of light and dark, to break up the light and soften it.



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Small Panes



In most cases, the glazing can be built as a continuation of the Frames As Thickened Edges (225). When plate glass windows became possible, people thought that they would put us more directly in touch with nature. In fact, they do the opposite.

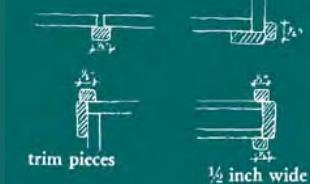


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Half-Inch Trim



Totalitarian, machine buildings do not require trim because they are precise enough to do without. But they buy their precision at a dreadful price: by killing the possibility of freedom in the building plan. Wherever two materials meet, place a piece of trim over the edge of the connection. Choose the pieces of trim so that the smallest piece, in each component, is always of the order of 1/2 inch wide. The trim can be wood, plaster, terracotta....



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Seat Spots



Where outdoor seats are set down without regard for view and climate, they will almost certainly be useless. Choosing good spots for outdoor seats is far more important than building fancy benches. Indeed, if the spot is right, the most simple kind of seat is perfect. In cool climates, choose them to face the sun, and to be protected from the wind.



related:

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Front Door Bench



People like to watch the street. Build a special bench outside the front door where people from inside can sit comfortably for hours on end and watch the world go by. Place the bench to define a half-private domain in front of the house. A low wall, planting, a tree, can help to create the same domain.



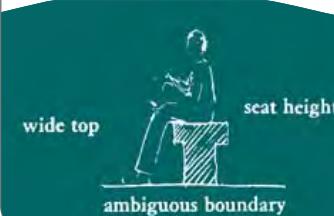
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Sitting Wall



In many places walls and fences between outdoor spaces are too high; but no boundary at all does injustice to the subtlety of the divisions between the spaces. Surround any natural outdoor area, and make minor boundaries between outdoor areas with low walls, about 16 inches high, and wide enough to sit on, at least 12 inches wide.



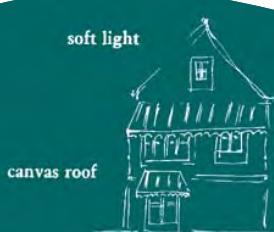
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Canvas Roofs



There is a very special beauty about tents and canvas awnings. The canvas has a softness, a suppleness, which is in harmony with wind and light and sun. A house or any building built with some canvas will touch all the elements more nearly than it can when it is made only with hard conventional materials.



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Raised Flowers



Flowers are beautiful along the edges of paths, buildings, outdoor rooms - but it is just in these places that they need the most protection from traffic. Without some protection they cannot easily survive. Soften the edges of buildings, paths, and outdoor areas with flowers. Raise the flower beds so that people can touch the flowers, bend to smell them, and sit by them. And build the flower beds with solid edges, so that people can sit on them, among the flowers too.



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Climbing Plants



A building finally becomes a part of its surroundings when the plants grow over parts of it as freely as they grow along the ground. On sunny walls, train climbing plants to grow up round the openings in the wall-the windows, doors, porches, arcades, and trellises.



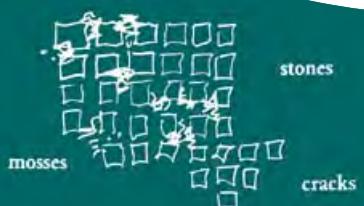
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Paving With Cracks Between The Stones



Asphalt and concrete surfaces outdoors are easy to wash down, but they do nothing for us, nothing for the paths, and nothing for the rainwater and plants. On paths and terraces, lay paving stones with a 1 inch crack between the stones, so that grass and mosses and small flowers can grow between the stones. Lay the stones directly into earth, not into mortar, and, of course, use no cement or mortar in between the stones.



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Soft Tile And Brick



How can a person feel the earth, or time, or any connection with his surroundings, when he is walking on the hard mechanical wash-easy surfaces of concrete, asphalt, hard-fired architectural paving bricks, or artificially concocted mixes like terrazzo. Use bricks and tiles which are soft baked, low fired - so that they will wear with time, and show the marks of use.



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Ornament



All people have the instinct to decorate their surroundings. Therefore: Search around the building, and find those edges and transitions which need emphasis or extra binding energy. Corners, places where materials meet, door frames, windows, main entrances, the place where one wall meets another, the garden gate, a fence - all these are natural places which call out for ornament.



related:

Warm Colors



The greens and greys of hospitals and office corridors are depressing and cold. Natural wood, sunlight, bright colors are warm. In some way, the warmth of the colors in a room makes a great deal of difference between comfort and discomfort. Choose surface colors which, together with the color of the natural light, reflected light, and artificial lights, create a warm light in the rooms.



related:
Half-Inch Trim (240),
Ornament (249), Pools Of
Light (257), Canvas Roofs
(244) Soft Tile And Brick (248)



Different Chairs



People are different sizes; they sit in different ways. And yet there is a tendency in modern times to make all chairs alike. Never furnish any place with chairs that are identically the same. Choose a variety of different chairs, some big, some small, some softer than others, some rockers, some very old, some new...

related:
Sequence Of Sitting Spaces
(142), Sitting Circle (185),
Built-In Seats (202)

Pools Of Light



Uniform illumination - the sweetheart of the lighting engineers - serves no useful purpose whatsoever. In fact, it destroys the social nature of space, and makes people feel disoriented and unbound-ed. Place the lights low, and apart, to form individual pools of light which encompass chairs and tables like bubbles to reinforce the social charac-ter of the spaces which they form.



related:
Alcoves (179) Workspace
Enclosure (183), Common Areas
At The Heart (129), Entrance
Room (130), Flexible Office Space
(146), Eating Atmosphere (182),
Sitting Circle (185), Different
Chairs (251) Warm Colors (250).

250

251

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Things From Your Life



... lastly, when you have taken care of everything, and you start living in the places you have made, you may wonder what kinds of things to pin up on the walls. It is most beautiful when it comes straight from your life - the things you care for, the things that tell your story.



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