

Aesthetic Sustainability Elements for Buildings

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The following takes the mystery out of identifying beauty and aesthetics in buildings by defining sustainable building design elements that look and feel good. *Note, only sustainable building elements that fit universal notions of aesthetics are included, thus elements like solar panels, wind turbines and earth sheltering are not included as they don't fit pervasive norms of beauty appreciation.*

This information is drawn from *Aesthetic Sustainability; The Fourth Bottom Line Orienting Sustainable Building and Development* by Norman Lowe; Master's thesis for NAU Masters in Sustainable Communities program 2009

Fundamental Structural Features which show aesthetic life:

See p. 61 of *Aesthetic Sustainability* by Norman Lowe

According to architect Chris Alexander "centeredness" is the most clearly defining mark of order and sense of life (essential to beauty) in buildings:

- **Strong centers** – fireplace, dining table, reception area, or other places that pull attention
- **Levels of scale** – a beautiful range of sizes of elements with their own centers
- **Boundaries** – large border-defining features separating centers
- **Alternating repetition** – centers intensify each other by repeating in alternating pattern
- **Positive space** – every space swells outward to meet all other centered spaces
- **Good shape** – good geometric shape(s) that are good centered shapes
- **Local symmetries** – binding together of many local symmetries of smaller centers within
 - the whole
- **Deep interlock and ambiguity** – centers are hooked within their surroundings
- **Contrast** – differentiations between opposites give birth to something greater; yin-yang
- **Gradients** – qualities vary slowly, subtly, gradually across the extent of each thing
- **Roughness** – relaxed irregularities in a creation to give organic feel
- **Echoes** – a deep underlying similarity of elements in a whole; commonality of angles
- **The void** – simple calm empty space that draws the center's energy to itself
- **Simplicity and inner calm** – geometrical simplicity and purity
- **Not-separateness** – deep connections between center and other surrounding centers

Patterns found in Chris Alexander's Pattern Language book:

See p. 62-65 of *Aesthetic Sustainability* by Norman Lowe

- **House for a small family:** Small house footprint with places for parents, children and a common area
- **Site Repair:** The most beautiful part of property is not built on but left open
- **Connection to Earth:** A series of paths, terraces and steps around building edges
- **Building edge:** Zones with volume that are inviting places to stop, sit, lean or walk
- **Tree places:** Plant trees, according to their growth nature, with the building to

enhance their common space – helping bldg fit to land with greenery & shade

- **Garden Growing Wild:** Grow grasses, bushes, flowers & trees intermingled as found in nature.
- **Entrance Room:** A light-filled room at the building entrance with porch covering on the outside and hall or sitting room on the inside.
- **Intimacy Gradient:** Spaces in building laid out so they create a sequence from the entrance to most public parts of building, then leads into slightly more private areas, and finally into the most private domains.
- **Short Passages:** Passages kept short, as much like rooms as possible, with plenty of light
- **Flow Through Rooms:** Avoid use of corridors and passages, common rooms used as rooms for movement and gathering
- **Sleeping to the East:** Parts of the house where people sleep have an eastern orientation so they wake with the sun and light, and have a healthy, active, energetic day.
- **Farmhouse Kitchen:** Kitchen bigger than usual to include “family room” space, placed near the center of the commons; with a table and chairs; counter, stove and sink around the edge; and make it bright and comfortable.
- **Bulk Storage:** Include a volume for bulk storage in the building area, of size not less than 15% of the whole building area.
- **South Facing Outdoors:** Building is placed to the north of outdoor spaces.
- **Sunny Place:** A south-facing court, garden or yard as a sunny place and outdoor room to work, play or relax in the sun.
- **Outdoor Room:** A place outdoors which has so much enclosure (light walls, trellises, awnings) around it, that it takes on the feeling of a room, even though open to the sky.
- **Garden Seat:** A quiet place in the garden – a private enclosure with a comfortable seat, thick planting, and sun; a place that will give you the most intense solitude.
- **Six-foot Balcony:** Porches, balconies, and terraces at least six feet wide and recessed partly into the building.
- **Indoor Sunlight:** The most important rooms placed along the south edge of the building, with the building spread out along east-west axis. Common area has a south exposure, bedrooms south-east exposure, and porches south-west exposure.
- **Tapestry of Light:** Alternating areas of light and dark throughout the building in such a way that people naturally walk toward the light when going to important places; seats, entrances, stairs, passages and places of special beauty.
- **Light on Two Sides of Every Room:** Each room located so it has outdoor walls on at least two sides, and windows placed so natural light falls from more than one direction. The windows themselves must have good design and look out to vital foci.
- **Window Place:** In rooms where any length of time is spent, at least one window is a “window place” (bay window, window seat, low sill window).
- **The Fire:** A fireplace in a common space – such as the kitchen or family room, place to knit together the social spaces and rooms around it, giving each a glimpse of the fire, and a window or some other focus to sustain the place with the fire is out.

5-SENSES AESTHETICS Associated with Green Building Checklist

See p. 67-74 of Aesthetic Sustainability by Norman Lowe

SITING and LANDSCAPING

- Clustering of neighboring homes to share common attractive viewsheds and activity areas
- Use runoff to grow plants, via terracing and infiltration swales and basins

ENERGY CONSERVATION

- **Passive solar design** with southern orientation with sun-admitting window design and good insulation, to provide most of the heating and cooling needs of the building, that looks and feels good to the senses. South glass of under 20% of floor area, to avoid overheating in summer
- **Plentiful mass inside** the building, where it is exposed to sunlight during the day, to retain and re-radiate radiant heat and cool that feels good for thermal comfort
- **Under-floor insulation** (in addition to good wall and ceiling insulation) to assure constant thermal flywheel effect and good whole-body feel no matter the season
- **Room placement** with lower temperature rooms, like bedrooms and storage, are to the north so warmer open space living and working areas are to the south receiving feel-good solar gain
- **Wide porch placement** on the east and/or west for enjoyable outdoor time while moderating over-intense sun (vs. on the south where porches block solar gain to the inside)
- **Garage is to the north** where it buffers winter cold and does not block south solar gain or block east and west aesthetic morning and evening sun
- **Wide eaves** designed to let the proper amount of sun into the building in summer and winter, and also to protect all walls from rain and sun wear (wider eaves are more aesthetic looking).
- **Daylighting**, which feels better than artificial lighting, achieved for most all daytime lighting needs. Windows on more than one wall as possible for 3D feel. Energy efficient skylights used.

MATERIALS

- **Local and durable materials** are used which reflect aesthetic aspects of the region
- **Wall systems** used show pleasing texture and shape while sustaining inside-outside visual connection for occupants

WATER

- **Hot water** is immediate at use site while being heated in low-energy fashion and supplied via low-water fixtures
- **Storm water** is kept onsite by being diverted to growing aesthetically pleasing vegetation
- **Water is harvested and/or recycled** to grow food and pleasing flowers and plants

HEALTH/INDOOR ENVIRONMENTAL QUALITY

- **Natural world aliveness connection** is readily experienced by inside-outside views, outdoor living porches and spaces
- **Good natural ventilation** options (including open-able windows and stack effect) that in net save energy, while providing good feeling and healthful airflow
- **Heat recovery ventilation system** installed to assure year-round healthful fresh air
- **Building materials, finishes and furnishings** have low or no volatile organic compounds
- **Visual comfort** provided by quality views out of most windows, with good daylighting
- **Acoustical comfort** provided with work and seating areas away from traffic and with very low sound appliances. Key window and outdoor living areas with bird and nature sounds

CLEVER SAYINGS found in Aesthetic Sustainability by Norman Lowe

- Beauty is pleasure objectified. Beauty is truth, it is the divine expression of the ideal, and is the sensible manifestation of the good. – George Santayana
- Examine each question in terms of what is ethically and aesthetically right, as well as what is economically expedient. A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise. - Aldo Leopold
- If I were asked to say what is at once the most important production of art and the thing most longed for, I should answer, a beautiful house. – William Morris
- Our deepest human sensitivities emerge from our region, or place, our specific habitat, for the earth does not give itself to us in a global sameness. – Thomas Berry
- Reconnecting people and real landscapes at the local level and having a better understanding of the built and natural surroundings in which we live will result in better, more enjoyable, healthier, and more fulfilling lives. – Timothy Beatley
- If I were asked to say what is at once the most important production of art and the thing most to be longed for, I should answer, a beautiful house. – William Morris
- The built environment in which we operate does influence our attitudes, perceptions, activities, social and political health, emotional and even spiritual well-being. – City of Flagstaff
- In the absence of aesthetic nourishment, the emotional part of the human being is left to seek fulfillment by indulgences and desires. – Christopher Day
- Study nature, love nature, stay close to nature. It will never fail you. - Frank Lloyd Wright
- Sustainability will result from our becoming better ecological accountants at the community level. If we must as a future necessity recycle essentially all materials and run on sunlight, then our future will depend on accounting as the most important and interesting discipline. - Wes Jackson
- Shelter should be in the open and have low spreading roofs... with generously projecting eaves over the whole... with vistas without and vistas within. – Frank Lloyd Wright