



“URBAN GARDEN”: (20th cent.)

(1) urban site of cultivation, as, windowbox, rooftop, community garden, fire escape, terrarium, atrium, park. (2) *myth*. Hanging Gardens of Babylon (3) buildings that are cultivated, ex. “green architecture” (4) *meta*. the cultivation of a community or sense of place

URBAN *Garden*

explorations (counter-clockwise from upper left)
image, tempo, line, object, meaning

What is a garden?

A place of work,
where one is focused in doing, which can
become a meditative doing;
the act, a moment of nothing,
a space for one’s self.
It is one of these places
that gives back to you;
it thrives under your nourishment. It is
time manifest, energy manifest; an
embodiment of yourself.
A garden is vulnerable,
and depends on its keeper,
but is very forgiving
with respect to its needs.
It is a calm quiet place
which is exciting,
full of rewards
and small challenges.
It is most important,
a place to pay attention.
A place to focus on,
because it is still.

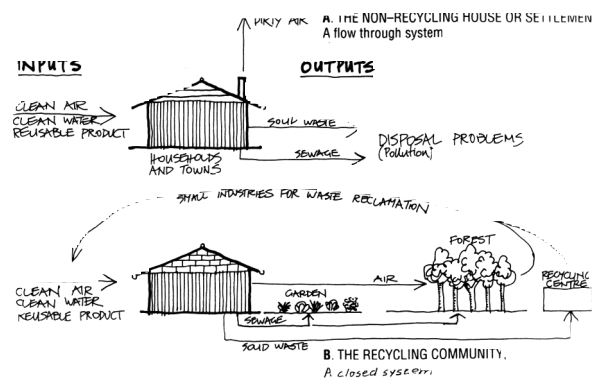
What is urban?

An intensity,
thriving and pulsing.
Moving and swirling
with intoxicating energy
and excitement.
It is a network of favors and
interaction; a place of people.
Clocks and time,
no time, always late.
Lots to see and do.
Money.
Arts and culture.
Diversity and tolerance.
And lack of tolerance.
Texture. Grit and filth.
Rhythmic.
Polluted.
Stench smelly streets
between points of olfactory bliss...
food and coffee.
Busy.cold.selfish.
it takes and sometimes gives back.
Littered with trash, debris.
Noisy. Hard-edged,
crowded and jagged, not fluid.
Hard surface, hard people.
Fleshy people, softness.
Accessible and secret, private.
Stress and pleasure.
Schedules and numbers.
Imports stuff,
exports trash and paper.
Energy dependent, guzzler.

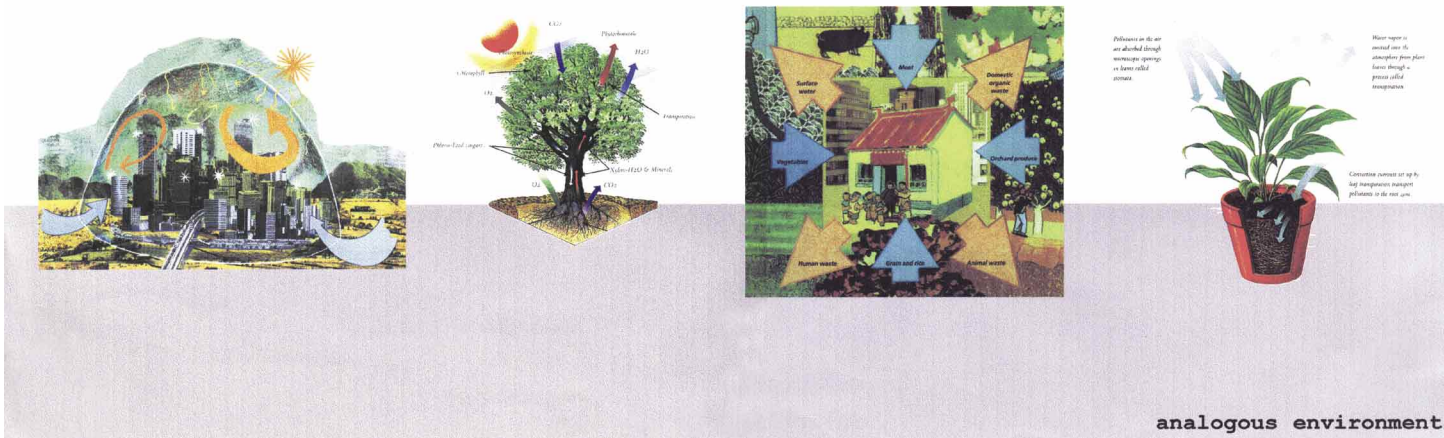


urban ecology

The frame of reference for this analysis is the urban environment. The city is an enormous importer of raw materials and exporter of pollutants; rarely does the city take responsibility for its impact on the rural setting that "supports" it and is simultaneously destroyed by it. Today, the parasitic city continues to grow due to population increase and urban migration. This work aims **to alter urban dependence by establishing a product philosophy, which encourages cyclic rather than linear design.** The study focuses on **the relationship of the built environment to the natural environment.** Having studied the work of urban designers and architects who share concern for this relationship, this work attempts **to capitalize on mass market distribution to support a stance of change by the choice and empowerment of the individual, in this case, the consumer.** By providing an opportunity for the consumer, through responsible product design, change can occur at the source across a broad band of influence rather than through regulation or specific sites.

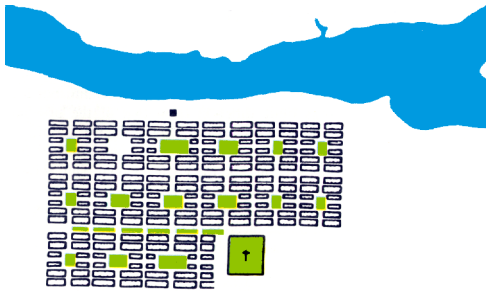
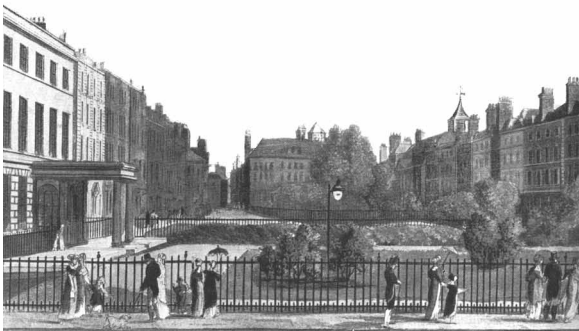


Thinking of the city as a garden seems to be an appropriate filter for arriving at opportunities to develop new products for urban ecology. The two seem incongruous at first sight, but people have long been working to resolve the desire for the natural within the context of the manmade. Ecologists have shifted their focus from natural ecological systems to manmade ones, urban planners have always looked for ways to include natural oases in cities, and architects have recently begun to conceptualize their buildings as living entities. Horticulture therapists have long recognized the necessity of a healthy relationship between man and the environment.



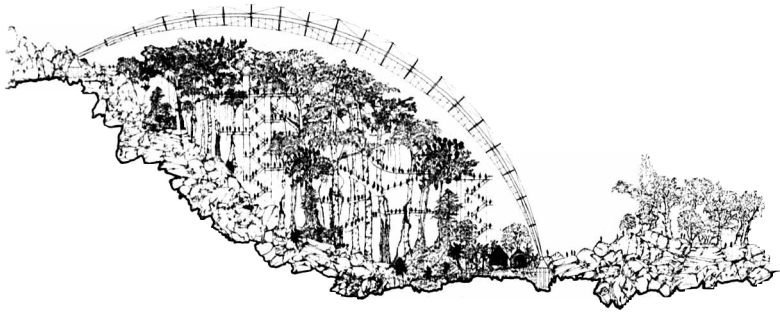
(birth)

Household Wastestream Comparison. Mollison, p. 172.
Urban Ecosystem. Herbert Girardet, *Gaia Atlas of Cities: New Directions for Sustainable Urban Living* (London: GAIA Books, 1996), p. 29.
Tree Ecosystem. Dr. B. C. Wolverton, *How to Grow Fresh Air: 50 Plants that Purify your Home or Office* (New York: Penguin, 1996), p. 17.
Household Ecosystem. Girardet, p. 162.
Plant Ecosystem. Wolverton, p. 27.



Urban designers have explored the relationship of the natural in the built environment. Ancient cultures planned their cities geomorphically, within and around the natural landscape⁸. Their cities were not entirely dictated by natural form, as cardinal axes and astrological alignments worked into the plans are rational constructions not natural phenomenon. The size of these communities was initially limited by their ability to sustain themselves. In Europe and China, some of these communities still exist in balance due to the physical limitations of natural landscape or built structures, such as river, mountains, and walls.

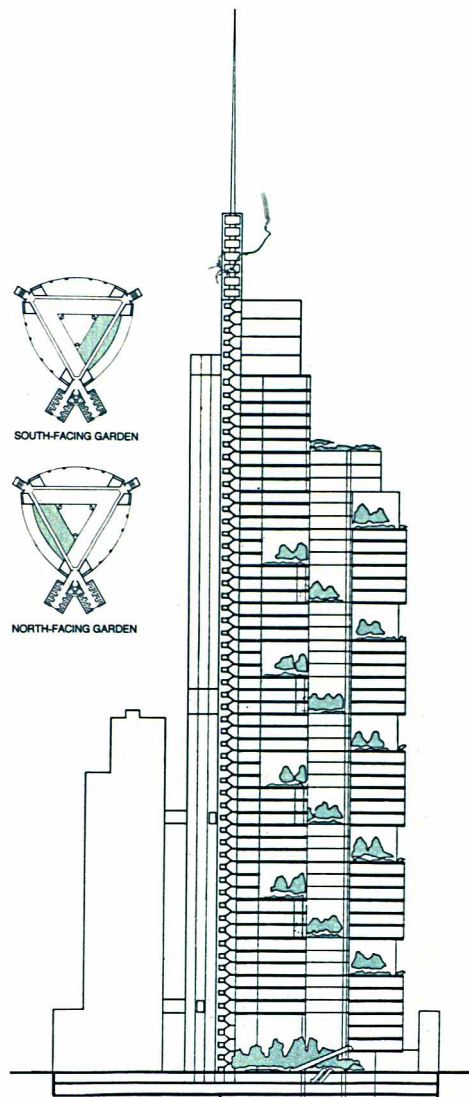
As populations grow and settlements became more dense, planners tend to formalize the inclusion of natural spaces in the urban environment. In the 1800's, the city of London was expanding into the natural countryside and filling in the vast estates of the upper class. In Bloomsbury district, builders began leaving open "squares" surrounded by houses. These commons, similar to Italian piazzas, were initially open to the public but due to litter and squatters they eventually became gated isles of pristine green. Such parks were established at a neighborhood scale rather than the scale of the urban whole and therefore seem irrational examined as a whole. It is also interesting to note, that the definition of "the square" in 1887 in a Dictionary of Architecture, "is a piece of land in which is an enclosed garden, surrounded by a public roadway, giving access to the houses on each side of it."⁹ There is no mention of a specific shape for a square. Whereas in later times, more literal translations of the idea of a square are based on rational geometries, such as in Oglethorpe's plan for Savannah, Georgia.



In most developed cities, provision of the natural has become the responsibility of the architect. Architects approach this issue from a broad range of perspectives; some concentrate on building "intelligent" buildings, which operate efficiently, others work toward "green" architecture, ranging in scope from sustainable material use to the inclusion of indoor natural landscapes.

Norman Foster's Commerzbank in Germany, a purportedly green and intelligent building, designed and built under the political arm of the Green Party, is actually a technological greenhouse with limited moves towards reuse and recycle in the building. Each garden terrace is home to varieties representing three ecosystems from around the world. Similarly, Nicholas Grimshaw's proposed project "Eden", a museum of worldwide "biomes", is a sealed environment (to protect the "jungle" biome from South England's natural climate). "Eden" openly addresses itself as an artificial re-enactment of "nature," an eco-zoo of sorts. It's form, circulation, and operation begin to address and respond to an integration with the organic model, not unlike Buckminster Fuller's geodesic domes.

Renzo Piano's work combines his values of urban place making, energy conservation and connecting with nature. By counter-pointing technological solutions with natural materials, Piano creates proactive and era-appropriate solutions for sustainability. At the Building Workshop outside of Genoa, Italy, investigations of materials provide constant development of new strategies. The workshop building itself epitomizes Piano's innovative synthesis of the manmade and the natural, combining vernacular form with an experimental cladding system.

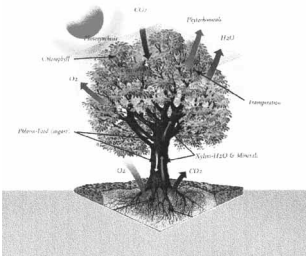




There are a number of contemporary designer's (Emilio Ambasz, John Outram, Bill McDonough and Zion+Breem) whose work seems to address, or aspire to, an integration of organic life adapting and growing on its own terms; an intermingling of the fabric of the natural and built worlds. The movement of the relationship from inside toward the outside and outside toward the inside between nature and building gives a living quality to the mass of the building. Paley Park in New York City offers a small space of natural materials woven into the fabric of the city. The sound of water mingles with the sounds of the street, making music of what was before noise. Trees grow up between pavers and ivy covers the walls. John Outram's work is similarly intriguing in the way the building is simultaneously in a state of growth and decay, with organic life waxing between giving way to the worked stone and taking over the abandoned ruin. It's as if the project resides in the dynamic parts of the cycle of life, or is nonconcordantly cycling through at various phases throughout the life of the project.



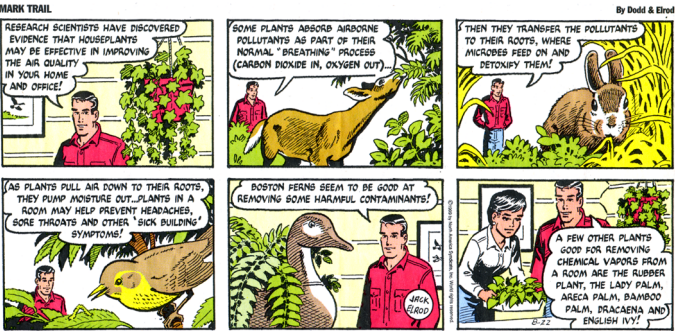
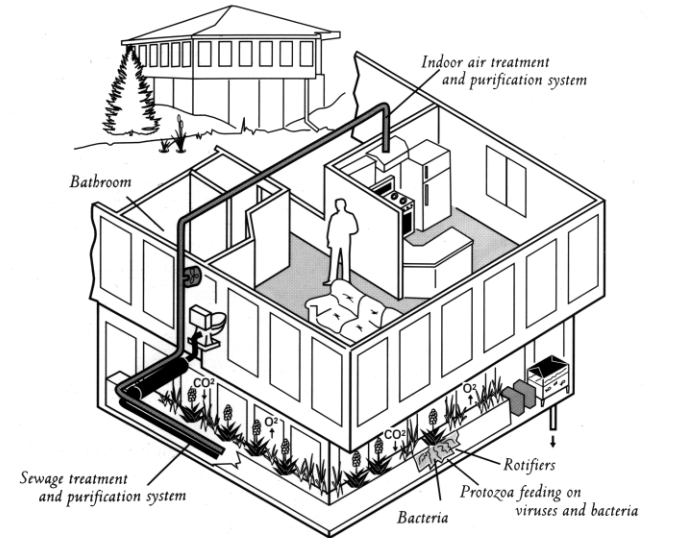
Eden Project Section. "The Genesis of Eden." *Architectural Review* (March 1996), p. 67.
 Commerzbank Interior. Mary Pepchinski, "Commerzbank." *Architectural Record* (January 1998), p. 75.
 Commerzbank Section. Tracy Metz, "Commerzbank Headquarters" *Architectural Record* (June 1992), p. 83.
 Renzo Piano Workshop, Genoa, Italy. Catherine Slessor, *Eco-Tech: Sustainable Architecture and High Technology* (London: Thames and Hudson, 1997), p. 83.
 Focchi Shopping Center. Toshio Nakamura, editor, *Emilio Ambasz 1986-1992* (Tokyo: a+u, 1993), p. 63.
 John Outram Ideal City. The British Council, *British Architecture Today 6 protago* (Milan: Electa, 1991), p. 119.



At the 1990 national symposium “The Role of Horticulture in Human Well-Being and Social Development” many scientists presented studies of the importance of providing natural environments in the urban context. Such studies proved that mere visual exposure to greenery improved psychological well-being and reduced stress and feelings of hostility.¹¹ This conference, a meeting of horticultural therapists and researchers, brought forward proof that visual exposure to plants was a positive physical and mental health benefit. Further, their work also supports that direct interaction with plants can further contribute to human well-being.

In addition to the benefits of visual contact with plants, there are other physical health benefits of plants in the immediate environment of humans. Dr. B. Wolverton, in work for NASA, has proven the efficacy of plant life used as a natural filter for both indoor air and wastewater.¹² Wolverton’s studies focus primarily on common indoor houseplants and measure the filtration of toxins associated with Sick Building Syndrome (SBS), specifically from the off-gassing of building materials and natural human bioeffluents. The leaves of many plants absorb airborne toxins and deliver them to their roots. Microbes in the root environment transform toxins into nutrients. The plant roots then absorb waste (as nutrient) contributing to the growth of the plant as well as its ability to convert carbon dioxide into oxygen.

Wolverton’s work scientifically proves that natural methods, using soil and plants, are actually cleaner and more efficient than our current methods for cleaning water and air. The use of natural filters instead of synthetic filters results in less energy use and the conversion of toxins rather than the concentration of toxins (in synthetic, “disposable” filters, a solid waste product). All natural filtration systems utilize the waste being absorbed,as in the example of microbes and airborne toxins above or with reeds in a swamp. Synthetic systems concentrate the toxins, such as in filters or air scrubbers, which then must be discarded. These concentrated toxins are actually more unhealthy than the same toxins dispersed over a larger field.



Living Filtration System. Wolverton, p. 28.
Cartoon. Jack Elrod and Dodd, "Mark Trail." *Washington Post* August 22, 1999. Comics, Sec.1, p.6.

¹¹ Diane Relf. The Role of Horticulture in Human Well-Being and Social Development: A National Symposium. Portland: Timber, 1992.
¹² Dr. B. C. Wolverton. How to Grow Fresh Air: 50 Plants that Purify your Home or Office. New York: Penguin, 1996.