Our Plumbing, Ourselves: A Public Bath House

by
Honor Merceret
Bachelor of Design in Architecture
University of Florida
1990

Submitted to the Department of Architecture in partial fulfillment of the requirements for the Degree of Master of Architecture at the Massachusetts Institute of Technology June 1993

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Honor Merceret
Department of Architecture
May 7, 1993

Rosemary Grimshaw
Assistant Professor of Architecture

Roy Strickland
Chairman, Departmental Committee on Graduate Students
You know your culture from your trash.
Abstract

Cleansing for being well/ Cleansing for well being

This thesis will consider:

- how developments in plumbing and sewage and their related fixtures, kitchens and baths, parallel cultural changes throughout history. Though these relationships are not necessarily causal, they may indicate what (critical) roles rituals in contemporary baths can take within the framework of today’s socio-economic systems;

- notions of bathing for hygiene and bathing for rejuvenation. The first might be considered a 'process of elimination' while the latter a 'process of preservation'. The two are not necessarily exclusive, but there are differences between them. One involves the removal of things such as dirt, germs, and wastes while the other involves the revitalization of the spirit and body; and

- issues involving the decline of public space, security, control, and gentrification, particularly in relation to the items mentioned above. These topics are currently the highlight of many discussions and writings in architecture with today’s impending conditions of homelessness, urban strife, changing domestic structure, and domestic violence

through written background and discussion as well as the design of a public bath house.
THANKS

to

my thesis committee:

Rosemary Grimshaw
Duke Reiter
Ernest Pascucci

Maggie Orth, my
Partner in Crime at
MIT, who managed
support for all my
crises of making in
architecture while
having her own crises
of making in--well, in
whatever it is she
makes.

my Grandmother,
Georgeanna
Bartholow, for her
weekly supportive
notes and updates.
While i never seemed
to write her back, really
i meant to.
Really.
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* Numbered photographs refer to photo credits. All others are those of the author.

1 Opening photos: Hieronymus Bosch, The Garden of Earthly Delights, 1510-15, triptych, closed and opened positions

2 a 1926 hurricane in South Florida ends the land boom

- Adolf Loos.
"It would be easy to imagine our century without carpenters, we would simply use iron furniture. We could just as well do without the stonemason; the cement worker would take over his work. But there would be no nineteenth century without the plumber. He has left his mark and become indispensable to us."

- Adolf Loos, 1898

This past Summer my parents lost most of their house in Miami, Florida to Hurricane Andrew. So did the neighborhood, and most of the community. Since the roofs were the first to be destroyed, the rain soaked through to the rest of the houses causing every finish and furnishing to be destroyed also. There was no electricity and no phone, yet people stayed in their homes. The plumbing still worked. When it came time to clear the rubble out, almost everything was thrown out except the toilets and the kitchen sinks.

With all our human-made structures designed to civilize the natural world, we often forget about their power and our dependence upon them. The use of these structures has become a normalized routine. Our daily rituals of cleanliness are second nature to us, so much so that it is hard to imagine that standards of cleanliness might have been or could ever be otherwise. The reasons for these practically unquestionable habits of pollution and purification must be very fundamental to our current way of being. Consequently, we no longer take notice of the expression of ourselves that kitchens and baths generate, or the possibilities for ourselves that they could provide.

Civilized culture required the development of water and sewer resources. The movement of water away from its source was crucial to the formation of cities. With few exceptions, water is no longer taken directly from its source. This distancing and mediating of our
Photo taken after hurricane Andrew in South Florida, 1992


Wright. p x.
natural environment is intimately interwoven with our culture.

"The monk of 1350 enjoyed more orderly plumbing, and had sweeter habits than the Londoner of 1850. The Polynesian 'savage' was cleaner than either." The role of bathing throughout time has not been one of simple linear evolution. Bathing, in many forms, has come and gone while the technology behind it has remained relatively unchanged for thousands of years.

Consuming food, producing waste, and bathing are activities that are necessarily shared by everyone. The first two activities are primarily involuntary. Bathing on the other hand has become a cultural rather than physical necessity. (Even its association with health, though it might be argued to be a physical necessity, might also be considered a cultural association.) In this way these events are both private and public. As such the bath house is a tool to understand and critique aspects of our society by developing these relationships through our dependence on water.

"It seemed that more was to be learned about past peoples from their bathrooms than from their battle fields."
THE BRIEF BATH
BIBLE
top, Victorian tub; *bottom,* tub from the Queen's bathroom at Knossos

foot bath at the Inn at Knossos

Information for this section was primarily compiled from Lawrence Wright, *Clean and Decent* as well as Sigfried Gideon, *Mechanization Takes Command,* and Roger Kilroy, *The Compleat Loo.*

Wright. p 3.
The Early Bath

The earliest known tub is that of King Minos at Knossos from about 1700 BC. Minoan skill in plumbing surpassed that of many cultures to come. When compared to a Victorian bath made thousands of years later, the two decorative tubs look very much alike. They had tapered terra cotta pipes from 2000 BC and the palace was served by a man-sized sewer flushed with rainwater. When this tub for the queen's apartment was made, the potters' technology necessary for its fabrication had already long been familiar. Her's was a private bath only. Water was carried to it from a cistern and the tub emptied by hand to a drain, both nearby. The Minoan latrines were similar to modern 'wash-out' toilets in that they had a reservoir for flushing out with water. The public inn had a foot-bath served by a complex hidden piping system and surrounded by benches for communal use as well as tubs for more private bathing in another room with running water and a waste channel.

Before this level of civilization had been attained, early peoples lived by the river with direct access to water. Basic sanitation would consist of locating the drinking water up-stream. Bathing was not popular for those civilizations who, in locating further from the source in increasing groups, had to carry water from its source. In those cultures where most might have a limited knowledge about the care and necessity of water, "priests who developed this idea [that elements such as water represented greater powers than people themselves] were wise enough to understand something of the effects of pollution, and to make magic or religion the basis for sound sanitary taboos." Resources were then effectively regulated through deeply ingrained mystical beliefs in the necessary rights and rituals.
5 Egyptian toilette, sketch from a bas-relief in a Thebes' tomb

6 compare the size of the Roman baths at Caracalla to London's St. Paul's Cathedral at the same scale
The Egyptian Bath

The Egyptians had shallow baths of stone where attendants would pour water over the bather’s head from a vase. The Pharaoh was said to bathe daily in the Nile (Exodus 7:15). Cosmetics and perfumes were popular with the Egyptians and other peoples of the fertile crescent, but only the rich and important bathed. Even then, complete washings were usually reserved for festival occasions. Swimming in either the Red Sea or the Nile was also popular among the upper-class.

The Greek Bath

The Greek public bath was an integral part of their gymnasium, the education center. The bath was situated between the pentathlon in the palestra, for physical training, and the semi-circular exedra, for philosophical discussion. Baths and showers were meant to be cold and brief. The private bath was shaped such that the bather could not recline. Heated water was carried to the metal tub and mixed to the right temperature. A housemaid or slave would then wash and oil the bather. Overindulgence was not considered appropriate. Later the Greeks used warmer baths, and for more decadent circles games replaced athletic exercises. Unlike the Romans, they took the cold bath before the warm.

The Roman Bath

The baths gained utmost importance with the Romans though there was still a palestra for sports and wrestling while the exedra moved to the outer zone of the thermae. Wherever they settled, the Romans built public baths. Their bath was the focus of social life and even considered a social duty. They were often large, even the dominant structure of a city, and elaborate
7 Stirgil for scraping dirt, oil bottle, and drinking cup used in the Roman bath

8 Caracalla baths, sketch

9 Diocleian baths, sketch

10 Diocleian baths, model

∧ Wright. p 14.
mural and tile mosaics decorated the thermae. The baths of Caracalla covered a site of 1100 feet square and could accommodate 1600 bathers at once. The baths of Diocletian were said to serve 3000 bathers. Rome was supplied by 13 aqueducts, the longest of which ran 14 miles. In 52 AD the total length of the eight main aqueducts was 220 miles of which only 30 were above ground. In the fourth century Rome had 144 water-flushed toilets, public and private. At its peak, 300 gallons of water per person per day were supplied.

During the bathing ritual, the bather did nothing for himself, but was served by attendants. First the bather would sweat in the well lit tepidarium or warm room, the social focus of the baths. Then the bather would move to the caldarium, or hot room, to sweat profusely. He might then use the laconicum, a room with very hot dry air (up to 210°F) located directly over the hypocaustum. The patron would then have water poured over him from warm to tepid to cold before being cleaned. The attendant would oil the bather (sand could be added if he were particularly dirty) and then scrape the bather's body with a stirgil after which he would be sponged and re-oiled. A dip in the frigidarium, the cold bath would conclude the ritual. The Roman work day began at dawn and lasted till 1:00 or 2:00 when the thermae would open. The Roman bath was less particular about its patrons than the Greek. Therefore they were more crowded and bustling. There was a small charge compared to the cost of upkeep, and the facility was served by many slaves.

The rooms were heated by hypocausts, areas where low brick pillars held up floor slabs under which heat from the fire flowed. Earthenware pipes called tubulae carried heat through hollow walls. Water pipes were usually made of earthenware or lead sheeting and less often of wood. Bronze fittings modeled after animals, particularly the dolphin, were also popular. Graffiti was even found on the walls of latrines in Pompeii and Herculaneum.
11 Roman Lavatory at Leptis Magna, Libya

12 Roman Latrine on Hadrian's Wall flushed with rain water

13 Brussa, Eski-Kaplıdscha, bathing room

14 Brussa, Eski-Kaplıdscha, section

\[\text{Wright. p 22.}\]
With the Romans, bodily regeneration became the center of social life except for the slaves. However with the coming of the Saxons, Danes, Jutes and others at the end of Roman occupation, the art of brick making and also of plumbing was lost. The Saxons did not appear to appreciate large towns and were supposed to have left London deserted. Possibly with the dispersion of cities and therefore civilization, there was little need to focus on development or preservation of water facilities. They were no longer vital as civilization was becoming discivilization. "As Lord Grey might have said, the taps were being turned off all over Europe; they would not be turned on again for nearly a thousand years."

The Islamic (Turkish) Bath

The dimly lit hot air and massage room, called the biel-al-harara, was more important in the Islamic bath than the tepidarium which had been relegated to the hallway. Islamic baths are sometimes referred to as hammans, which is the area of the steam bath where a deep pool was located in the center. They also had a cooling wing called the maslak where most of the social focus and relaxing occurred. The hamman was originally complimentary to the mosque. They were placed nearby for purifying ablutions. As such the bath was a purification from sin or other pollutants. Therefore building one was an act of piety, and they were open to the poor. Many classes bathed together socially. Payment was at the bather's discretion. They would pay according to their social standing. Since this payment was also associated with piety, those who could pay, did. Attendants were tax exempt citizens. The communal nature of the bath allowed the only chance for women to socialize outside the home. There were many in each city as they were small, discrete, and intimate. There were no athletic facilities and the baths were built to the scale of neighborhoods. These
15 Cupola with 'glass eyes' on an Angora Hamam

16 Cupola with 'glass eyes', sketch

17 Isnik, Ismael-Bej-Hamam, section

18 plan

19 section

20 photo of stalactites in Room III
21 Russian vapor bath, 1812 rendering

22 gondola baths of Arita, Japan where one can get a hot-spring bath high above the water
baths were popular with everyone until the end of the
teneth century when mass production of bath
fixtures allowed the upper classes to choose private
bathing, abandoning the baths to the poor, and leaving
the facilities without their reputed ornament and

The Russian and Finnish Baths
The Russian vapor bath was built and used simply.
They were not attended by slaves and one bather
washed another. They were log huts with an open
hearth, a pile of hot stones, and a tub of water
surrounded by benches of successive height. The bath
was one room shared by men, women, and families.
Bathers were scrubbed with twigs, and they would
refresh themselves by rolling in the snow in winter or
swimming in a lake or river in the summer since the
house had direct access to the outside. Bathing was
performed at least twice a week. The Finish sauna is
very similar to the Russian steam bath in its simplicity
and use. The Finish bath is of dry air. However, water
could be added to the coals to dampen it. Bathers
cleansed not through immersion in water, but through
perspiration. Both have remained much the same
throughout their existence.

The Japanese Bath
Early Japanese mythology included many tales of
creation and re-creation involving rituals of bathing in
rivers, in the sea or in natural springs not for hygiene
concern but because of its association with purification
and virtue. In Japanese Buddhist temple complexes,
there is evidence of large copper tubs as early as the
first century. In the sixteenth and seventeenth centuries,
visiting European travelers remarked on the cleanliness
of the Japanese, themselves not so concerned with it.
23 drawing of Edo public baths by Katsushika Hokusai

24 Tokyo Onsen, one of the largest bathhouses in downtown Tokyo
They traditionally bathe themselves first by using water taken from a large bath or a faucet with a bucket and, seated on a sort stool, scrub and rinse themselves, never sitting in the water they scrub with. Then they might soak in an extremely hot pool usually sunken below floor level. Families often bathed together and the public baths were centers for social interaction. Bathers serve themselves. Numbers grew until the 1850's when more people could afford bathrooms of their own. They still remain places to exchange news, gossip, and ideas particularly for those who cannot afford their own bath.

The Medieval Bath

“The monasteries were the guardians of culture—and of sanitation.” After the Roman occupation ended, the only plumbing systems constructed were those of the church. The Christchurch Monastery at Canterbury by 1167 had complete water service laid out with five settling tanks in between the monastery and the source for purification and a waste system that used water to flush out the latrines. The fact that the monastery was spared from the Black Death in 1349 is attributed to the efficiency of the sanitation system. The pipes were still lead or earthenware. Movable tubs were usually of wood. Washing was part of a rigorous routine and not meant to be enjoyed. Baths would take place from once a week to four times a year. Abstaining from bathing might have been a gesture of self-denial. In castles and manor houses as well as the church, hands were washed before and after meals. Forks would not be used popularly until the seventeenth century and slabs of bread were used as plates. This laver was a polite formal ritual performed for one another at the table from a pitcher and basin (hence ‘one hand washes the other’).

Elongated tubs were not meant for reclining in, but for communal bathing, saving labor in heating water, filing
25 Medieval tubs

26 Cristchurch Monastery at Canterbury water supply and drainage system completed c. 1167

\textcopyright Wright. p 15.

\textcopyright Wright. p 50.
the tub, and then carrying it away. Also security was found in groups. The family and guests would bathe together without modesty. They would sleep in the same room together, and night clothes were not worn until the sixteen century. Royal baths might be built in with tile floors and possibly hot and cold running water. The toilet or 'garderobe' (like asking for the closet) would usually be located in the thickness of the castle wall or sticking out just beyond it and having a vertical shaft or hole under a stone or wooden seat. They were sometimes grouped in vertical shafts or with a projecting turret and might even become the principle tower. The holes under these toilets "caused problems other than draughts, for it was a break in the castle defense system, and several castles were captured by people climbing up the garderobe shaft, including the Chateau Gaillard, which was designed by Richard I."

In London there were public toilets often draining into the water ways or into cesspits and open sewers. The London Bridge had many houses and some public toilets which dumped refuse directly into the Thames. It was said that the bridge was built 'for wise men to go over and fools to go under.' All three waterways serving London became offensive. In the mid 1300's the Black Death claimed one third of England's population calling attention to the pollution. Eventually no more toilets were constructed over the Fleet River and each owner was to pay 2s a year toward its cleaning.

The Russian steam bath or 'sweat-house' gained popularity from the early twelfth century. They would be visited by families once every two weeks. For a short time Turkish steam baths were revived by the returning Crusaders who praised the communal baths. These 'stews' eventually died out because heating wood was pushed further away as cities grew, the spread of the plague and other diseases scared customers away, and the Church objected to immoral actions associated with the baths. They were demolished in France in 1538 by Francis I. "The decay of the communal bath was so
27 Albrecht Durer, *The Women's Bath*, 1496


29 Gardy Loo! Medieval night street scene.

30 Old London Bridge
31 castle garderobes: right, castle of King Rene, Tarascon, 14th c.; left, White Tower, Tower of London garderobe chute

32 15th c. latrine
33 Jacque-Louis David, *The Death of Marat*, 1793

34 *Death of Marat* in his slipper bath

35 Sandro Botticelli, *The birth of Venus*, 1480

\^Wright, p. 56.
complete that we shall find it reintroduced into England in the seventeenth century as a new foreign luxury, and not fully revived until the late 18th century, by which time few cared to be clean, and bathing was a curative rather than a cleansing process.” Like the Roman bath its beginning was more modest and restrained, but as it became a more social place to gather, it also became known for erotic behavior leading in part to the medieval baths’ undoing similar to the evolution of the Roman bath, but at a smaller scale. As the Middle Ages faded, so did the bath as a social institution in Western society.

The Renaissance and Enlightenment

In London, the rivers that had been a reason for its location became undrinkable and in 1237, the first piped water supply was brought in in lead and elm pipes. Water was usually supplied at the cost of the town citizens or given as run-off water from palaces and monasteries. In 1613, 600 men built the New River, a 38 mile canal, in five years to bring water to London from Chatwell. At night, waste was thrown from pails to the street below with the warning shout, “Gardy-loo!” (Gardez l’eau). Except on Sundays, the streets and cesspits would be cleared by well paid ‘night men’ who dumped the waste into the rivers or delivered it to larger pits elsewhere. When cities had been smaller it was given to farmers for fertilizer.

During the 16th century movable ‘close stools’ began replacing the built-in medieval garderobe. The lid could be locked to guard against another’s use. Some were as decorative in their carving and velvet covers as thrones, and the King might have even held court on one. This notion of the stool as an honored position was later lost and the chamber pot was reduced to a hiding place or disguised as something else. As an exception, Sir John Harrington in 1596 designed a valve water closet after which one was built in Queen Elizabeth’s Richmond Palace. However, this technology
36 16th c. wash stands
went unnoticed and was not reinvented for another 200 years. The Queen also had bathing rooms attached to her apartment in which she bathed once a month 'whether she need it or not.' Still, she was the exception and with the dissolution of the monasteries came the loss of the cleanliness regime example. The Reformation popularized the notion that nakedness was a sin and therefore bathing was also associated with sin. Hence, this time period is sometimes thought of as the 'dirty days'. Despite the fact that regular bathing was not at all popular, royal baths continued to come and go. In the late 1600's and 1700's there were at least 100 bathrooms at Versailles, but they were later dismantled.

In the 18th century, improvements in sanitation had begun with the coming of the Enlightenment. Water in London was provided intermittently to buildings. During the second half of the eighteenth century, movable bath elements became furniture in a stylish home. Decorative wash basins, pitchers, and stands were placed in the bedroom and dining room. Metal replaced marble as it was lighter and cheaper. Still bathing would not become popular, let alone a social requirement until the end of the next century.

The Nineteenth Century Bath

In London, the Fleet ditch was recognized as a sewer and covered in with an iron tunnel in 1841. Crowded housing, poor ventilation in working class slums (partially due to a window tax), few facilities, open sewers, and poor street cleaning had run its toll. In 1832 cholera reached London. The English has previously thought that cholera was an 'Asian' disease that they were immune from. In the hot Summer of 1858, the stench of the Thames prompted members of Parliament to discuss moving the building from the river front, its windows already closed for some time on the river side. These conditions started movements to improve sanitary conditions. In 1846 the first of London's Public
37 two 'night men’, London, 1840’s
38 a 'night men' trade card
39 1855 steam bath
Baths and Washhouse Acts was passed, the same year that glazed stoneware pipes (for sound drains) were produced. In the 1850's new sewers replacing cesspits were underway as well as the cleaning of old sewers. A Public Health Act was created in 1852. Many of the public baths were erected cheaply like sheds or cabins. Others were more elaborate with steam baths and swimming pools. Laborers were charged less than higher classes. Finally London's death rate fell in the 1870's.

As early as the 1700's bathing was suggested as a curative in the form of hydrotherapy. Eventually the fear of water (and with more time, the fear of seeing oneself naked) was overcome by the idea of water as a prescribed curative. Baths were specific routines allotted to the 'patients' in a wide variety of procedures. They were not communal events meant to enhance the spirit, but to cure maladies and diseases. (Sea bathing, although considered a curative, was also fast becoming a way for the working class to spend leisure time they were just beginning to have. Therefore in the form of public beaches and cheap resort towns, sea bathing became a particularly social form of bathing by the turn of the century.) There were as many different kinds of baths as there were illnesses: the sponge bath, full or lounge bath, sitz bath, hip bath, fountain bath, slipper bath, shower bath, steam bath, sea bath, and even travel baths. The soap bath was also considered a different sort of bath, particularly since these baths were curative rather than cleansing. Bathing for purposes other than medicinal was still considered unwise. In the 1860's Louis Pasteur advanced the notion of germs as the source of disease. By the 1880's the bacteria causing typhus, tuberculosis, and cholera were identified. Even though the knowledge of the spread of disease through germs was evolving, ideas that water carried disease, as it had before water and sewer systems were improved, were still popular. Also bathing practices minimized the amount of nakedness.
40 mosaic floors of mythological figures in the WC compartments of the Orient Express

41 public urinals from a Glasgow iron works catalogue, 1881.
Enclosed individual bathing units were provided and garments were often worn when in the water.

Queen Victoria had the first railway lavatory compartment installed in 1840. In the 1860's, some private salon compartments had them. In 1874, the first British pull coaches had valve water closets, and by 1881 Midland Railway's third class passengers had use of them.

Tubs were usually metal painted Brown outside and faux marble on the inside. By the late 1800's, the use of cast iron allowed twice the decoration at half the cost. Individual pieces of highly decorative bath furniture were purchased to express individual (competing) tastes. Porcelain remained expensive as it was fragile and very heavy. The first fixed baths appeared in a recess in the bedroom, then as converted bedrooms that were large and retained the accouterments, curtains, rugs, and furniture, of any other room. By 1880 some houses were designed with bathrooms, but these were considered a luxury and continued to be quite large.

Back to nature trends resulting as an offshoot of the Romanticism of the 18th and early 19th century helped to promote the idea of hydrotherapeutic cures administered in spas outside the city. In conjunction with this, there was a lesser movement toward a therapy of sunlight and fresh air, also prescribed in dosages, as well as a revival of the solarium of antiquity. Later, sunbathing as a partner to sea bathing became part of weekend trips from the city in the early 1900's. As the modern social structure changed such that the new and rapidly expanding middle class had time for leisure activities, seaside resorts geared toward weekend tours for this working class marked the beginning of a tourism participated in en masse. During the weekend large groups of workers and even their families would migrate to the beach—a ritual not for any deeply felt spiritual meaning or purification, but for clearly secular amusement and recreation to revive the body after a week's work. These resorts geared toward
42 decorative Victorian fixtures, with flowers and a dolphin, 1890's

43 Victorian bath with carpets, cushions, draperies, and cabineted, furniture-like tubs and sinks, 1882
many different income groups included pools, gyms, mineral spas, and beaches. The idea that bathing and physical recreation were linked along with leaving the urban environment for the weekend collapsed bathing and tourism into one entity. In the late 1800's, Western Europe saw some return of the Turkish bath for use by the rich coinciding with the popular fascination with Orientalism (in style, art, and architecture), but still as an amusement or intrigue with the exotic and as something that could be owned by western domination rather than a ritual that was adopted as an influence into western custom.

While leisure’s emphasis was often on physical regeneration for the working class, problems with rapid urban growth caused pressure for regeneration of the city. Public toilets used for a fee were installed, and popular, in the Crystal Palace Exposition. At the 1883 Berlin Hygiene Exhibition, a ‘People’s Bath’ of corrugated iron with five shower stalls for each sex was installed. Both became models for larger public toilet and shower facilities installed in industrial cities.
THE TWENTIETH CENTURY BATH
Information for this section was primarily compiled from Marilyn Williams, "The Great Unwashed".
Public Bathing in the American Progressive Era

At the time of its presentation, John Wesley's "Cleanliness is, indeed, next to godliness" sermon referred to neatness in clothing and appearance rather than bathing the body. The little bodily cleaning that might be done was in the form of simple rinses from a basin, one part at a time rather than bodily immersion. His other references to bathing were in terms of improving circulation and the like with no mention of soap. American religion emphasized cleanliness, but this did not immediately imply bodily cleanliness. Earlier, certain American colonies banned or limited bathing (such as Pennsylvania and Virginia) since it promoted nudity and therefore promiscuity. In 1851 a bath was installed in the White House under intense opposition. By the nineteenth century, cleanliness of the body and purity of moral character became more directly associated. But with this association, bathing was routine, controlled, limited, and not meant to be enjoyed. Support for bathing from community churches was therefore restrained. Many books on manners, customs, and proper behavior and appearance aimed at the middle-class audience were published helping the growing demand for products and higher standards of identification. Over time the middle-class became regular bathers.

By the turn of the century, the notion of water as a scientific therapy gave way to larger popularity with the acceptance of the more generally applicable notion that cleanliness and hygiene were necessarily associated, not just for the individual but for entire cities. Unprecedented urban growth and congested slums prompted demands for urban reform first in the 1840's and rising during the Progressive Era. These early demands resulted from the waves of Irish immigrants
45 Paul Cezanne, *Bathers*, 1874-75


*O* Williams. quoting the *Brooklyn Daily Eagle,* 1897. p 1.
who moved to American cities following the potato famine. Immigrants from Southern and Eastern European countries followed. The demand for public baths was one part of the call for social reform in general that included topics of slums, morality, and corruption in governments. Movements to develop the city into a "positive environment" included programs in creating parks, playgrounds, kindergartens, tenement house regulation, public school reform, effective garbage collection and street cleaning, and public baths. All these programs were items previously associated with women's domestic work at home but applied at the scale of the (industrial) city. With these programs women were more able to become involved in the design, politics, and management of their city. They were more able to move not just themselves, but their work from the home.

The bath would not just help the health of the poor but the health of the city. Cholera proved to strike one of any income level. Therefore programs for sanitation and bathing were seen not just as a benevolent gift, but one that would ensure the safety of everyone. In this sense public baths were recognized as not "any more a 'gratuity' than the right to walk in the public streets." During this time the public bath referred to one built specifically to serve the poor, either free or for a small fee, by a municipality, a charity, or an individual philanthropist. Private baths, found since the 19th century were commercial ventures and were more than the poor could afford. For the progressive American city bathing was fast becoming not only a necessity for health but for social acceptability and for membership into the 'civic community' since it was not only significant for public health but for morality as well.

"The bourgeois preoccupation with personal hygiene was not simply to protect the individual from disease. Just as important was the need to establish social difference from those whose lack of personal hygiene connoted not merely physical, but moral degeneracy—which was in itself perceived as contagious. The 'great
46 Edouard Manet, *La Toilette*, 1876-9


Williams. p 135.
unwashed', then, presented as great a threat to the health of the bourgeois social body as to its physical body. The maintenance of distinction—in its several senses—demanded the cultivation of signs of difference: cleanliness required dirt to give meaning to difference. Avoidance of physical or social contact with 'inferiors' was an essential prerequisite of superiority. Despite crowding in Central Paris, Personal physical distance could more readily be maintained in Hausemann's squares and parks, on the new broad boulevards and elegant balconies. These sites made the urban poor more 'visible', and also provided the bourgeoisie with the ideal public space for displaying the visual signs of their distinction. Space served to separate bodies, light to render them visible. As a movement bathing helped establish an order, a categorization, and identity to the middle-class. Thereby it also established with them a power—over the unclean, the poor. Cleanliness was a middle-class fashion statement. Value judgments through fashion were one way to retain that order and also gave meaning to being in the middle-class. A dirty person was judged for their social position and their moral integrity. Thereby different economic classes were judged with different moralities. Poor: barbaric as middle-class: benevolent. Yet because of the direct relationship between dirt and morality the middle-class felt less fear of the lower classes if they could bathe them since that would automatically change them. One reason the Progressive era more easily embraced the poor is because, through a simple method of purifying, they could change them from the feared, unknown 'other'.

Cleanliness during this period gained a direct association with moral betterment and self-respect. Since cleanliness and morality now walked hand in hand, the showers and the ritual through them showed no promise of pleasure or sensuality. "They wanted the poor to be clean but seemingly did not want them to enjoy it too much." Many thought the institution of public baths would make the poor moral and better
47  Georges Seurat, *The Bathers*,
1883-84

\[\text{Williams. p 2.}\]
citizens. "In fact as personal cleanliness became a hallmark of American middle-class status and respectability, it made the separation between the classes wider. Public baths would help bridge this gap, bath reformers maintained, and thus achieve one small measure of social justice." Those who were dirty were clearly marked visually as degenerate both physically and morally. Some went so far as to assert that since morality was related to cleanliness, baths would reduce the number of crimes committed. Cleanliness was associated with civilized behavior. Therefore it was a civic duty to bathe. The baths were then one way to civilize the barbarism of the poor. However reformers also saw the bath as a chance to 'Americanize' the influx of immigrants. Teaching them to shower was one way to change their cultural lifestyles. Men's and women's shower cubicles were separated and order was stressed. Patrons were allowed 20 minutes usually, but apparently would have liked to stay longer. Public toilets were not usually included or they were provided elsewhere. The formation of public baths was not among the issues concerning slum tenements and workers. Reform was offered from 'above'. (It would have seemed absurd to suggest equity of class appearance by erecting 'dirt-houses' where people would go to become similarly un-clean.) Middle-class standards of behavior were imposed, not by physical coercion, but through example and social exclusion. There was little or no call for the installation of tubs in tenement buildings by slum lords but only for bathhouses where the municipality could watch over the poor and see that they were cleaning properly. The barbaric poor were not to be trusted to use them as they saw fit.

Reformers offered facilities to wash the public. However, standards of cleanliness were not an absolute but a cultural norm accepted by the middle-class that were in turn imposed on society at large. Although it might have been true that cleanliness affected public health and was therefore more than a fashionable social
48 Edgar Degas, *The Tub*, 1884

\*Callen, p. 164.
statement, standards of cleanliness were used to form an identity for the middle class, and these standards grew more encompassing and prompted greater expectations. Any breach of these standards could constitute a threat to this social identity. “The gaze was thereby conflated with touch. The gaze of the lower classes, like their touch, was experienced as an act of aggression. The paradigmatic bourgeois gaze, on the other hand, was the gaze of surveillance deployed to master the aggressive gaze of the lower classes.”

The gaze of surveillance placed the middle-class at a critical distance as well as in a knowing position of authority, allowing and encouraging social control. So while reformers were addressing inequities, these inequities had been proposed from the middle-class in the first place. Social justice and security was, and still remains, intimately related to social control.

American reform movements trailed behind the European. The European public baths were cited as examples of success in ‘washing the great unwashed’. However, in an effort to bring about America as the crowning achievement of proper progressivism, U.S. cities quickly moved to surpass the European programs, transforming their designs to suit the American Way more specifically.

Urban reform began in England in the 1820’s and reached its peak in the 1840’s. In response to Irish immigration as well as the fear of cholera, in 1846 ‘An Act to Encourage the Establishment of Public Baths and Washhouses’ was passed. “This enabling legislation, which was voluntary rather than compulsory, provided that any local government could build and maintain public baths and washhouses at public expense to be administered by a board of commissioners. The baths could furnish both first- and second-class accommodations (later amended to include third-class) in swimming pools, warm and cold tubs, vapor baths, warm and cold shower baths, and public laundries. The legislation called for a minimum of twice as many baths for laboring classes (second or third class) as for the
49 bath cubicle, People's Baths, New York, 1903?

\[ Williams, p. 8. \]
upper classes (first or second class). The baths were not to be free and a minimum fee of one pence (later two pence) was established for a second class cold bath. These English baths were patronized by the middle class since many of them had no bathing facilities at home. The facilities were often large, extensive, and imposing as well as expensive to construct. In France public laundries were more important than the baths, but most cities did have a bath house. In Austria and Germany, elaborate baths for the middle-class were a source of civic pride. Later, more cheaply made shower buildings were erected for the lower classes. Furthermore in European countries, patrons were usually charged a fee, though it might have been lower for a lower income group.

America, not to be outdone by the Europeans and also desiring better cleanliness for physical and moral health set out to bathe itself. However, middle-class Americans built facilities into their homes. Public houses to cleanse the middle-class were not necessary. The only bathing centers were spas and mineral water facilities constructed out of the popular notion that they were curative and regenerative that survived despite protests that they were hot beds of luxury and vice. However, the suburb of Brookline, Massachusetts opened in 1897 probably the only municipal bath for the middle class. It included a large swimming pool (26' x 80'). Between the 1840's and 60's, hydrotherapy popularized the foundation of many water cure facilities directed originally at women as their chief clientele. As the middle-class attended these spas in growing populations, they became one more factor in solidifying an identity for themselves. As such they became places for the middle-class to spend their money and leisure time. Eventually recreational notions replaced the medicinal purposes of the private mineral waters.

The first public baths were floating baths, open air swimming pools, surrounded by a deck and changing rooms, open only during the summer and eventually closed because of river pollution. The most influential
Mary Cassat, *The Bath*, 1891
prototype for American public baths were the Peoples' Baths in New York City opened in August 1891. The two-story facility built by private contributions cost $27,025 and contained 23 showers and 3 bathtubs. The bathing compartments included a dressing and shower stall, each 3.5' by 4'. The five cent fee included towel and soap and nearly covered the operating expenses of the heavily visited baths. Some companies even began to provide showers for their workers.

As the movement mounted in America, different cities debated over certain aspects the facilities could take on: Should the facilities be expensive civic monuments or should they be simple, cheap, and efficient; should they contain other facilities besides showers such as pools, laundries, and gymnasiums; and finally should they be free so that no one could be denied access or charged a small fee so that patrons might retain their self-respect without the stigma of charity. In the end municipal baths were usually free and private charitable associations charged a fee of 5 cents. Chicago baths were simple showers. Baltimore and Philadelphia included public laundries and New York City and Boston included swimming pools and gymnasiums.

More and more the poor were able to get tubs in their homes through legislation requiring toilets and the falling price of tubs. By W.W.II almost all homes had tubs while shifts in neighborhood demographics changed the need for bathhouses in the areas they were built. Soon cleanliness became big business. Once the demand became sizable enough, consumerism, not a campaign in the name of morality as in the Progressive Era, took over to promote bigger and better cleanliness. Consumerism became the new morality.
References to bathing as the 'process of elimination' and associations with that process were prompted by Lupton and Miller’s *Aesthetics of Waste*.

Wright. p 258.

Wright. p 263.
Eventually white porcelain enamel (which is neither porcelain or enamel, but a silica powder fused to a hot metal tub) and tiles replaced woodwork, curtains, and carpets in the bathroom. Bath elements that had previously been portable containers (fragmented throughout the house) found their way to a fixed part of the home. From furniture (Fr: meubles, moveables) came fixtures, and these were made by trades associated with building construction rather than cabinet making or detailed metal work. The shower gained popularity over the bath. It used less water, space, and time; needed fewer repairs; and was thought to be more hygienic. The notion of saving space in the bathroom was popularized through American hotels like the Statler Hotel in Buffalo, 1908, and the Mount Vernon Hotel at Cap May, New Jersey, 1853. With standard fixtures and plumbing installation practices came standard bathroom layouts. A growing demand for baths allowed for the standardized production of the five foot tub lowering the price and setting a standard for the five foot bay in bathrooms. Bathroom fixtures were not effectively part of the commodity consumption culture that had been developing during 1890-1940. In the two years starting in 1921 after the World War in the United States, the number of 'enameled sanitary fixtures' doubled from 2,400,000 to 4,800,000. Even with the growing consumer demand for baths, the TV reigned superior: *The 1958 edition of Television Factbook reveals that in the U.S.A., 42,400,000 or 84% of the nation's houses have one or more television sets, whereas nearly a million fewer have bathtubs.*

The 'bath room' was located near the bedroom if only one. However, it was still separate from even these private rooms, more markedly than ever before. Also they were as compact as possible. Cleanliness and
1820 Open fire, pump
1860 Open fire, stove, running water, tub
1900 Furnace, improved stove, icebox, tub, lavatory, gas
1938 Air conditioning, refrigerator, electric power, light, prefabricated kitchen and bathroom equipment, electric accessories

52 1938 diagram showing expansion of the kitchen and bathroom, the mechanical core of the domestic building

Economy are musts within the bare white walls of the house. Only in the allotted room is dirt allowed. The wealthy or noble have always been able to break the taboos and standards of bathing by having baths when others did not or by having large, elaborate baths that are, to some extent, meant to be seen rather than to promote privacy.

Highly decorative Victorian fixtures often with wood or fabric coverings were replaced by non-porous, carved, flush surfaces. Eventually freestanding elements merged to each other and the building into built-in, often continuous forms. Industrial age mechanical devices gave up the visibility of their nuts and bolts for continuous, fluid, often body-like shells hiding all interior construction and operating elements. The modern bathroom and kitchen became the ‘newly equipped spaces of administering bodily care’, and ‘a laboratory for the management of biological waste.’ The kitchen door became the main entry and exit for new and used products thereby becoming the site ‘for directing household consumption at large.’ The ‘process of elimination’ described by the MIT List Visual Arts Center exhibit *The Bathroom, the Kitchen, and the Aesthetics of Waste* referred to the removal of bodily wastes as well as the streamlining and design evolution of consumer products for the bath and kitchen.

The continuous kitchen allowed for production methods suggested by that of a modern factory. In the early 20th century designers suggested layouts that would presumably save space and reduce the number of actions of the user in the bath and kitchen. Time and motion photography studies like those done in factories were performed in kitchens in order to research efficiency. Women like Christine Frederick and Lillian Gilbreth designed plans for the house based on their own efficiency studies beginning in the 1910’s. However, the homemaker was not analagous to the domestic factory worker in the sense that housework was still left to the individual (female) worker of many tasks rather than the repetitive tasks of many factory
53 Raymond Loewy, the 'process of elimination' in streamlining the phone while the technology within remains mush the same, 1934

54 Catherine Frederick's Inefficient Kitchen, left, and Efficient Kitchen, right
workers. Even so, since the removal of wastes is not predictable or repeatable, tasks of the kitchen and bath were not reducible. One reason dirt is considered dirt is because it does not order readily into accepted categories. The work of the factory involved repetitive production within one facility while domestic work involved chaotic consumption, cooking and cleaning, in each and every home. (Meanwhile factories would each be different from one another while homes were spatially and socially very much alike.)

"In this process of elimination, the body itself is remade." The elimination of dirt and germs or products at one scale is intimately interwoven with the preservation of the body or economy at the larger scale. For the efficiency that was gained in consumption, the housewife gained more time—that is, more time to consume more products. Increasing standards of cleanliness would keep the production-consumption cycle moving, and keep the housewife chained to the house. "The policy of 'planned obsolescence' pictured the economy itself as a 'body', whose health depends on a continual cycle of production and waste, ingestion, and excretion." This planned obsolescence happened most rapidly in terms of packaging (style/image) rather than technology (material). Often the technology remained very much the same throughout a product's lifetime while the packaging revolved around it. Ivory Soap for example has been very much the same throughout its existence (99.44% pure) but the packaging has changed continually. Advertising was then the "lubricant" to keep the economy regular. As the places of consumption, the importance and expense of the bathroom and kitchen have gained dominance in the modern household to the point that their design influences the rest of the house in terms of building construction and the form and materials of the furnishings of the entire building. "The bathroom's imagined freedom from the baggage of history led designers to envision it as the laboratory from which the modernization of the rest of the home would eventually
Lupton. p 25.

Le Corbusier. 
Towards a New Architecture. 
Dover; New York, (1931) 

Loos. p 46.

55 the human digestive system

56 residential plumbing drawing, Connecticut from Adolf Loos' Plumbers, 1900
follow.” Quoting designer Egmont Arens, “Consider electric refrigerators and skyscrapers and bathroom equipment. This is where to look for the development of a genuine modernism.” Many of the moderns were considerably fascinated with meticulous cleanliness. Besides calling for clear white walls and as few decorative elements as possible (and those carefully chosen, ordered, and contained), in Le Corbusier’s "Manual of Dwelling", he preached: "Demand... an adjoining room to be a dressing-room in which you can dress and undress. Never undress in your bedroom. It is not a clean thing to do and makes the room horribly untidy." Adolf ‘More Than One Loo?’ Loos might have similarly agreed in praise of the bathroom and in the removal of ornament and streamlining in modern artifacts.

“In the thirties, one of the members of ‘Young Germany’... made a great statement: Germany needs a good bath. But let’s consider this seriously. We really do not need art at all. We do not even have a culture yet. Here is where the state might come to the rescue. Instead of putting the cart before the horse, instead of spending their money on the production of art, they should first try to produce a culture. Next to the academies we should build baths, and along with professors we should appoint bath attendants. A higher standard of culture will have better art as its consequence, an art that, when it comes to the fore, will do so without the help of the state.” In this way, Loos associated washing with making a higher culture, or really a culture at all. Without it, all would be pollutants which by the modern period is not considered as a part of culture. Loos moralized the bath. One must be thoroughly clean to have a respectable culture. Therefore culture was something to Loos that could be (consciously) produced rather than something that just was. Where Loos tied culture to being dependent on bathing he also spoke of art as though it were autonomous from society, the state, and politics. He clearly had faith in this position but is vague as to how...
Ask Your Doctor what he thinks about STANDARDS OF CLEANLINESS

Something needs to be done about STANDARDS OF CLEANLINESS

√Loos. p 49.
YOUR CHILD'S TENDER SKIN REQUIRES
THE GREATER SOFTNESS AND DAILY PROTECTION
OF
LUXURY TEXTURE

HOW MANY mothers foolishly "allow the book" our child feeding and care-
yet are completely unaware of the distur-
ban their need in exposing a child's tender
skin to ordinary, harsh toilet tissue.

Don't be this sort of mother! Give your
child the comfort, security and essential
health protection of LUXURY TEXTILE
Tissue. Linen soft, absorbent, free from
irritants, instantly and without irrita-
tion to the most sensitive skin. Yet Luxury
Texture is strong, second, absorbent,
and it keeps us all a lot longer, because
fewer sheets are necessary.

Always keep Luxury Tissue in your bath-
rooms. Your child needs its greater comfort
and protection and your whole family will
welcome it, too, Scott Expec Company,
Chester, Pennsylvania, also makers of
Wadlett and Scott-Expec for home use.

EXCEPT FOR
ONE THING
HER
BATHROOM
PAPER IS
TERRIBLE

RUTH IS A
VERY
INTELLIGENT
MOTHER.
ISN'T SHE?

The bath somehow preluded culture and therefore
art. It was to purify the culture of all heretical thoughts:
dirt, religion, and ornament. The bath was not
autonomous from culture for Loos. It defined it, and it
was the key to making the culture that bathe a power
above others. "An increase in the use of water is one of
our most critical cultural tasks... For only that people
which approaches the English in water use can keep
step with them economically; only that people which
surpasses the English in water use water is destined to
wrest from them the sovereignty of the world."* Clearly
Loos felt that the removal of dirt or more specifically,
any manner of disorder, was the key to control. By
extension, the greater production and waste of
commodities might create a better, happier, and more
powerful culture.

Loos' notions of cleaning also extended to ornament
on any modern construct including machines, clothing,
and buildings. His famous Ornament and Crime article
of 1908 directly (to the point of absurdity) equated
ornamental markings with degenerate behavior. "Every
art is erotic. The first ornamental mark ever made, the
cross, was erotic in origin... But for the man of our time
who on intimate impulse dirties the walls with erotic
symbols is either a criminal or a degenerate." Loos also
moralized the process of elimination.

The notion that bathing had some material rationale
was so ingrained in Loos, so absolute, that he could
hardly imagine any one of any time would not mind
being dirty, stating that the reason Germanic cultures of
the 'dirty days' after the Medieval period lost the need
for plumbers was because they (the wealthy and noble,
of course) no longer got dirty. He does not consider that
they may not have cared if they were 'dirty' and even

art would become self-sustaining. Loos located the
place of the new baths near academies, no longer
churches as they had often been near in earlier
societies. The lords of the new religion of science were
fast becoming the educated elite. Locating the baths
there only would, of course, reinforce that.

An increase in the use of water is one of
our most critical cultural tasks... For only that people
which approaches the English in water use can keep
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they may not have cared if they were 'dirty' and even
Richard Neutra, Von Sternberg house, Northridge, California with polished metal, glass, and mirrors reflecting each other

Loos. p 45.

may not have noticed at all. Loos could not imagine another standard of material cleanliness than his own.

Loos, like many of the moderns, denounced mystical religion, but their set of apparently rational values also rested on one encompassing faith: the belief that through increasing material knowledge, there would be no need for spiritual beliefs. The fascination of the moderns with cleanliness was not just a material concern for health (of people, culture, or art), but a religiously supported duty necessary for redemption: "Behold, the time is nearing, and fulfillment awaits us. So the streets of the cities will shine like white walls! Like Zion, the holy city, the capital of heaven."

Loos calls the Plumber 'the quartermaster of culture, that is, of today's prevailing culture.' The preoccupation with order and cleanliness washed away the possibility of all markings by the designer as well as markings by the unpredictable users of human artifacts in the name of reason. This would later escalate into criticisms, nostalgic and otherwise, of information causing a lack of experience as well as a feeling of apathy and inability to act by members of our society. The supremacy of information (in the form of educational institutions, computer access systems, and the media) over expression and experience is also an amazing form of authoritarian control usually used in the name of security. "Gone is the fear of getting dirty, our solemn awe of water." With our knowledge of how hygiene, sanitation, and plumbing systems work, dirt can be controlled. With daily bathing, dirt can be eradicated. And with this understanding, water is no longer awed or respected for it has be rationalized down to its atomic structure.

"Against this 'genuine Modernism' was judged the frivolity of the stylistic moderne that also influenced American design. While moderne and art deco styles 'expressed' modernity, the aesthetic of the bathroom embodied it." However, these things were designed for the function of hygiene, for the cleaning of things and the removal of dirt, not for comfort at the scale of
62 Raymond Loewy, design for a streamlined pencil sharpener

63 diagram of shapes moving through a liquid
the body. In our reducing the action of bathing into knowable concepts, we no longer view it as a spiritual experience. "To consume an object is to destroy it in the process of implementing it." A

"The modern obsession with dirt affirms filth even as it seeks to eradicate it: the attention to dust, sweat, bad breath, cooking odors, and the innumerable germs hiding in the cracks and crevices of the home was a process of objectification as well as elimination, making visible what had once been invisible, bringing to the surface impurities that once had passed unnoticed." O In the making of the bath and kitchen, waste is not just eliminated but objectified. Mirrors, chrome, glass, polished stainless steel, and other absolutely smooth non-porous surfaces allow no marks, only reflections of the dirt and of one's self. Sight replaces the ability and desire for the sense of touch. Managing as little direct contact with the dirt, or surfaces that come in contact with this dirt becomes part of the ritual. They are viewed, the dirt is viewed, and we view ourselves. Direct contact is not prompted by the quality of the materials. Through visibility without the fear of contact, we are not forced to directly confront pollution. Thereby visibility renders us apathetic and passive in relation to our purification rituals.

This continual stylistic renewal hides the mechanical structure, the actual technology in hard, smooth, anthropomorphic forms as if these machines were extensions of the body, thereby 'humanizing' them. This extension is by image only though. We do not associate tactilly with the appliances. Aesthetics of Waste cites as an example the streamlined pencil sharpener designed as though it can move more easily at high speeds through the air, yet having screw holes in the base to bolt it down to a table so it can be held firm while in use. Immobile objects are given aerodynamic styling. In the 'Industrial Skin Game' products objectify bodily forms which may have no association with their function.
64 Pablo Picasso, *Three Bathers*,
oil, 1920

\*Lupton, p 34.\*
There was a move to decorate the bath again in the 30's, since the project of the sterile bath (white, smooth, and seamless) was complete—to make the bath less like the 'hospital of the home' and to express the housewife's style. Now the bathroom was not just a place for wastes, but where, like a beauty parlor, it became an extension of her toilette, of the (re)creation of the signs of herself. The addition of color and decoration however was not widely accepted until the 50's. Streamlining to make a product sell better meant adding visual elements as well when it had fully reduced the packaging. Also in the late 30's through the 40's and 50's emphasis shifted from multiple points of entry in one bath to many baths per household. With one way in and out, this spatial layout suggested that only one person of the family should use it at a time encouraging greater internalization of dirt and disorder as well as greater control over bathroom rituals.

"The small size of the standard bathroom reflects the ambivalence which has attended bodily functions and maintenance in American culture. The bathroom is at once the most and least important room in the house: it accounts for a large percentage of building cost and is used by all of a home's occupants, yet it is granted one of the smallest spaces. It is a private room yet is made very public by its shared status. It is physically clean yet culturally dirty."

83
POLLUTION AND PURIFICATION
Information for part of this section was primarily compiled from Mary Douglas, *Purity and Danger*. 

Wright, p 56.
Dirt, like death and disease, can be viewed as a form of disorder and cleaning as a way to order our environment. Through this ordering, necessarily including both rituals of purity and impurity, meaning is given to the variety of experiences we have had and value is thereby assigned. Changing concepts of dirt, what it is and how to handle it, reflect notions of religion and society. The rituals involved with dirt and purity reveal what kind of orders are stressed and therefore what meanings are important and what sort of control is enforced within a culture. The idea that something is marked as dirt implies a system of ordering such and noise vs. music and culture vs. trash. Pollution occurs by breaking things from their understood classifications and placements. When dirt is discarded with other refuse, particularly into water, it loses its identity (with its original object), its past nullified, and it becomes undifferentiated from other elements in a primordial soup of re-generation. Also dirt is not absolute, but is controlled by our cultural values. Food is not dirty in itself for us, but we generally consider crumbs around the house dirty.

Some say magic rites were a primitive form of hygiene, others that they were a way to prevent harm and provide benefits. However, I fail to see the difference in that hygiene is a system of principles for the preservation of health and prevention of disease rather than just the science of health and its maintenance. The preservation of health can be extended to include procuring benefits as a means toward better health.

Furthermore, cleansing was not simply a means to remove pollutants for merely material ends. "The aim of ablution is to remove, not dirt, but the invisible stains contracted by touching the dead, by contact with childbirth, murder, persons of inferior caste, madness or disease." The act of washing does not necessarily eradicate pollutants separating them from the body, but also separates them from each other, categorizing them...
Mary Douglas. 
Purity and 
Danger: An 
Analysis of 
Concepts of 
Pollution and 
Taboo. New 
York: Frederick 
A. Praeger, Inc., 
1966. p 32-34.
and ordering them. Such rules might control the proximity of things like sex and food, sex and the ill, women from wealth or money, and even the sexes from each other. Purification rituals are used to separate these elements.

Havik Brahmin pollution codes recognize three levels of religious purity: "The highest is necessary for performing an act of worship; a middle degree is the expected normal condition, and finally there is a state of impurity. Contact with a person in the middle state will cause a person on the highest state to become impure, and contact with anyone in an impure state will make either higher categories impure. The highest state is only gained by a rite of bathing." Cooked food is likely to be polluted while uncooked food is not. Saliva, including one's own, is also polluting. Therefore if rituals controlling the manner in which a Brahmin eats are inadvertently broken, like touching one's fingers to one's lips, the Brahmin should bathe. Cooks must not taste the food they are preparing, and if some one of another caste is eating also, he should be seated separately since pollution can transfer to those who sit in the same row at a meal. Food may be eaten by the right hand only while washing, with water, after defecating is always done by the left hand. Simultaneously touching the same object as a lower caste member may cause defilement. Contact with leather is also polluting. Furthermore there are rituals of purification and pollution regarding menstruation, childbirth, death, and any bodily emissions.

Societies concerned with purification and pollution rituals often allowed for marginal or transitional periods between ritual dying and ritual rebirth, the dirty and clean, in both physical and symbolic senses. The transitional state, neither one state or the next, was thereby undefinable and therefore dangerous not just for the person in transition but for that society at large. Therefore young men or novices in transition were often temporarily outcast from the boundaries of that society. For that period of time they fit no place in society and
67 The English Automatic Public Convenience (or super-loo) cleans itself between uses. A fee is charged for use.
might even constitute a danger for society. Dirt, obscenity, and lawlessness were often symbolic parts of the seclusion rites. The outcasts were not blamed for their behavior as it was an accepted, though feared, part of the transition. These marginal figures were given a certain empowerment. They were not just placed in a dangerous situation, though exiled or secluded from their society, but were allowed to become dangerous to others themselves.

Pollution is dangerous in this sense that it is neither/both voluntary and involuntary. It is not distinctly part of each state. Therefore pollution rites are important as an attempt to control what is uncontrollable. This also gives pollutants power, though they might be outcast or considered marginal. We might like to do away with dirt or disorder but we can not help but create it. However, we also have choices on what to do with it and when to do it.

Pollution and purification rituals, though sacred in nature usually guarded secular activities and were a bridge between the two. Both dirt and impurity are empowered in what was defined as 'primitive' cultures. "According to this view the main difference between primitive taboo and primitive rules of holiness is the difference between friendly and unfriendly deities. The separation of sanitary and consecrated things and persons from profane ones, which is a normal part of religious cults, is basically the same as the separations which are inspired by fear of malevolent spirits. Separation is the essential idea in both contexts. Only the motive is different--and not so very different either, since friendly gods are also to be feared on occasion..."

In this way a criterion was produced for classing religions as advanced or as primitive. If primitive, then rules of holiness and rules of uncleanness were indistinguishable; if advanced then rules of uncleanness disappeared from religion. In other words the separation between knowing what is clean and dirty has remained, but for 'advanced' cultures an inequity has developed. While becoming more aware of differences,
Stills from the violent shower stabbing death of Marion Crane by Norman Bates in Alfred Hitchcock's Psycho, 16 stills follow

the ability of one to control the other has increased, so much so that the idea that we must exist alongside dirt as well as purity has been controlled away rendering an apparent difference un-noticeable. In the process of gentrifying away the dirt by the pure, it has been marginalized to the kitchen and bath within the home since the body cannot eliminate it entirely. But when society can gentrify away those that support changes to fundamental tenants of our way of life, the homeless, and others outside the body of the person, what happens within the body of society?

Growing faith in science, the project of making religion secular, began to greatly effect notions of purity and pollution. "This was the crisis of faith which assailed those thinkers who could not reconcile the development of science with traditional Christian revelation. Faith and reason seemed hopelessly at odds unless some new formula for religion could be found. A group of philosophers who could no longer accept revealed religion, and who could not either accept to live without some guiding transcendental beliefs, set about providing that formula. Hence began that still-continuing process of whittling away the revealed elements of Christian doctrine, and the elevating in its place of ethical principles as the central core of true religion." The modern agenda combined reason and religion (secular and sacred) so completely that reason became the religion, the basis for ethical principles. God is represented in the form of science, or technological development including the media) and the relationship between secular common sense and sacred beliefs becomes collapsed. The heretic became the spiritualist or seer and the seer became the heretic. To some extent the poor and homeless fall into the spiritualist/seer category as heretics of science, technology, and its product of commodity society for they usually receive a limited education background and cannot afford to purchase many products. The bath reappears as a ritual not for magical effects but for highly rational ones. Yet it is still conducted very much
like a ritual. Hygiene, survival or betterment, is still the goal, avoiding danger through purification. The ritual is quick and machine-like, daily, by the individual, and within its separate room. We are taught that cleaning, through scientific methods, is equated with health and happiness.

Science is based on what we believe we know not on the concept of absolute knowing. In other words, even rational actions can be reduced down to a set of believed values, and over the history of scientific development 'truths' have often be overturned and will continue to be re-thought. Hygiene, though it is not conveyed as such, is as spiritual and symbolic as it is material. One cleans in the name of hygiene both for health and aesthetics. So the late multi-national capitalistic religion is one of science and consumerism together, of material and image informing one another. Conceptions of hygiene must be re-established to include the understanding that it is spiritual as well as rational. When this is done, the making and participating in hygiene rituals can be used to critique (and even possibly subvert) beliefs in science, commodity-culture, and patriarchy.

Rules now are related to etiquette of the kitchen and bath and sanitation rather than religion, but if we allow ourselves to see science and commodity as the new religion (as a set of values), then these rituals still reinforce beliefs as well as material concerns, the differences now being the authority over dirt and disorder and the secularization of pollution rituals. American cities no longer have public baths, but individuals have at least one per home and often one per person. The numerous bathrooms in separate homes are necessary for consumer society to continue. Therefore the individual, rather than social, act is necessary to sustain the commodity society, not simply one of its effects. "Religion did not exist for the saving of souls but for the preservation and welfare of society." Before Christian notions of nudity and sin placed fear in the hearts of Western Europeans, bathing
Phillip Johnson's Glass House. All enclosing surfaces are glass except for the closed brick circle of the bathroom inside.
had most often been a social affair, a way for citizens to feel secure amongst others as well as their god, reinforcing societal bonds and responsibilities. Then bathing stopped altogether. Also Christianity brought clear notions of heaven and hell, of worshipping to save oneself from their own sin rather than to protect and provide for society from benevolent or malevolent spirits. Today we promote personal hygiene for personal health.

Today's ritual is secular more than sacred in that it is placed in the home, rather than the church, or rather baths are churches for each individual home religiously kept antiseptic. Baptisms, ablutions, and holy-waters originally had a building or place of their own, as a church, used by a community. This has now been replaced by a pure, nonpollutive, tile room, usually separate from other places of the home. Even in the open plan, as in Phillip Johnson's glass house, it is the only completely enclosable room both physically and visually. The church of pollution and purification has been fragmented to each house. Therefore it is no longer communal. Rites of profanity are relegated to individuals. Houses for prostitution or other outcast groups and behaviors are usually not allowed to exist or come under exceptional scrutiny. Any 'dirty' behavior or experience must fall within the interior privacy of the home. In Loos' house designs, the exteriors follow rather closely his writings on clean, white, undored surfaces. The interiors however, are decorated with rich marbles and ornate oriental carpets. The homeless then have no place to express any deviant behavior or opinions. Moreover, the act of not possessing a home ('act'--as though it were a conscious choice) is the ultimate defilement of our socio-economic system. Therefore the very existence of the homeless is a pollutant, and gentrification becomes the method for eradicating it.

The homeless state is considered a transition state rather than a stable or a definable one. They are non-socals, not of the social structure. In comparison, the
phrase 'counter-culture' given to behavior that deviates or rebels against mainstream cultural modes implies still a social structure, an 'other' culture whereas the word 'homeless' implies no-culture. While some are directly physically threatening others are not, yet they are all generally associated with trash in appearance as well as sociability. Even where our society recognizes the 'other' as a culture in relation to its own, it still does not recognize the homeless this way.

Though the homeless are considered 'transient' with relation to economic status as well as spatial location, their transition phase, in the name of fear and security, is left without the power allotted to transition phases discussed earlier. This is only possible because one segment of society has gained some authority over another. To order means no longer just to arrange and organize, but to command. The ability to control is a direct result of the ability to know, sort, and understand. The homeless are, by definition, always visible. Through the gaze, they can be scrutinized, but they cannot return the surveilling gaze to those that have the refuge of the private home. This stigma leaves the homeless unempowered. However, since ethics, science, and consumption have become increasingly specialized (to individual spaces like the house or office via the telephone, the TV, and computer networking as well as increasing consumption of products) and therefore fragmented, the system is very hard to subvert by anyone.

Most everyone has a bath in their home. Most everyone has a television in their home. If everyone watches TV and bathes, does that make these rituals public events? Not exactly. When people watch TV individually, they receive the same information. However, they can only react to the TV (and in a limited sense knowing that it will not immediately react back if at all), but do not react to others as well. The focus of action is not directed toward people, but to objects. The same is true of the private bath. The concern for bathing
ever-so-privately limits the interaction with others while increasing our interaction with objects.

Mary Douglas states: "Yet it is impossible to make any headway with a study of ritual pollution if we cannot face the question of why primitive culture is pollution-prone and ours is not. With us pollution is a matter of aesthetics, hygiene, or etiquette, which only becomes grave in so far as it may create social embarrassment. The sanctions are social sanctions, contempt, ostracism, gossip, perhaps even police action. But in another large group of human societies the effects of pollution are much more wide ranging. A grave pollution is a religious offence." Mary Douglas does not recognize science/consumerism as the new basis for ethics and therefore the new religion. To her it is something else. Also recognize that the social sanctions she lists are, I would argue, as equally powerful as religious consequences, in terms of our mind set. Fears of these actions propel one to success, homelessness, or even suicide, and they are very similar to the social sanctions of societies who believe in pollution rites. Today however, they appear more material than spiritual. But grooming and hygiene, since they include aesthetics, are manipulated by different classes, races, and ideological groups to identify themselves through image (symbolic) as well. She also does not see our society as pollution-prone. Perhaps she does not recognize it because it has been relegated to the individual rather than society and so ingrained in our daily life that, in general, people do not take notice of it. Perhaps some of the societies she discusses even thought the same.

"Uncleanliness or dirt is that which must not be included if a pattern is to be maintained." In this manner differences would be increasingly eliminated as knowledge and ordering increased. Eventually gentrification must break down because this process would remove all resources, people and products, in time. Growing fear of the 'other' is the ultimate antiseptic. There is no parallel understanding of its

Douglas. p 163.
necessity in preventing stagnation in a person or society. In the examples quoted of this kind of pollution, the basic problem is a case of wanting to have your cake and eat it. The Enga want to fight their enemy clans but yet marry with their clanswomen. The Lele want to use women as the pawns of men, and yet will take sides with individual women against other men. The Bemba women want to be free and independent and to behave in ways which threaten to wreck their marriage, and yet they want their husbands to stay with them. In each case the dangerous situation which has to be handled with washings and avoidances has in common with the others that the norms of behavior are contradictory. The left hand is fighting the right hand.

Today it seems that the right hand has beaten down the left hand and now refuses to acknowledge the existence of the left hand. Pollution has its place in changing the patterns that are accepted and in upsetting control. If it is empowered it has the ability to transform authoritarian patterns. However, with the trash element attached to the individual rather than society, it is less able to act effectively helping consumer society and patriarchal notions of socio-economic and political relations to survive.

"Whenever a strict pattern of purity is imposed on our lives it is either highly uncomfortable or it leads to contradiction if closely followed, or it leads to hypocrisy. In certain ritual areas and usually by specific individuals. The bathroom is allowed but only in ritualistic, antiseptic areas. Madonna also can break taboos, but only when specific orders have been given. Madonna is allowed to break taboos, but not in ritualistic areas. Madonna can only break taboos with the permission of specifically designated individuals. The bathroom is allowed but only in ritualistic, antiseptic areas.

Since the home became the place of final epiphany in the commodity process, revolutions in domestic territory have been very important to our socio-economic structure. Revolutions involving the role of women in economic and political life have been particularly important. The women have been the key figures in these revolutions. The women have been the key figures in these revolutions.
Delores Hayden. 
*The Grand Domestic Revolution.* 
p 12. 
Refer to for a full account. Hayden also notes in her book that many of these cooperatives and equality campaigns ignored the problems of class that were often part of the domestic struggle.

Ol' Hayden, quoting Zona Gale. p 17.
society have always posed a threat to the system by changing the demographics or even the existence of the consumer—that person who performs the purification and pollution rituals of society through purchasing, reordering, and disposing of products and wastes. In the past women have been the executors of domestic order. In the re-making of their roles in both the domestic and male-dominated urban environment, women have also experienced certain social repercussions, many of which were unexpected, unaccepted, or never designed for.

Early feminist efforts included the fight for suffrage, for transferring domestic chores into the urban realm, and for transforming the spatial manifestation of the living and working spaces of women. "As Olmstead had noted when describing the evolution of the American city, infrastructure such as water pipes, telegraph lines, and fuel lines contributed to make households more physically dependent upon municipal and commercial services. Material feminists concluded that women, rather than men, must control these new services and use them as their bases of economic power. In an effort to allay many of the endless hours of housework required of women, as well as to establish respect for their work, many began cooperatives and living societies in order to consolidate their chores, possibly even selling their domestic services within the male-dominated economic market, and challenge the prevailing social structure. Many supported child-care facilities and cooked food and cleaning services as central cores of neighborhoods whose houses would not require kitchens. Domestic evolution would parallel urban evolution. "The private kitchen must go the way of the spinning wheel, of which it is the contemporary." Feminism took as many forms as it had proponents. Women who began to organize and operate cooperatives to factorize and consolidate women's work were discouraged. They were told of their likely failure and foolishness and ridiculed as 'unwomanly' and 'unnatural'. However, their husbands and families did
Llano de Rio, California, a community designed by Alice Constance Austin, with kitchenless houses designed for economy of labor, materials, and space. Central kitchens would deliver food and retrieve dirty dishes. Underground rail cars would service the houses and cleaning services. Community plan, photo, and house plan.

Hayden. p 157.
Cooperatives were formed both on socialist and capitalist bases. Some promoted equality of the value of women's work while reinforcing the difference between men's and women's work. Others wished to bring domestic work into the urban market just as men's production had been.

Those like Mary Livermore who were committed to suffrage and the elevation, consolidation, and alleviation of women's work were often more successful because of their campaigns for Christianity, morality, and temperance. Support of certain patriarchal elements allowed the possible relinquishing of others. Women like Marie Howland, who supported 'free love' along with women's cooperatives, often found their work toward women's rights harder.

During the Progressive era the notion of 'cleaning the city' was promoted by women's advocates. Thereby domestic issues became public issues. In this way women could move their domestic skills outside as professional, public skills. Women would physically and morally clean and keep the city just as they kept dirt and corruption out of the home. Ellen Swallow Richards was the first woman to graduate from MIT with a Bachelor of Science and also the first woman on MIT faculty. In 1890 MIT established a program in sanitary engineering where she taught the analysis of water, air, and sewage. This field was later called 'home economics' (the economics of consumption) and was a professional science. Jane Addams wrote in favor of woman suffrage in 1907, developing this metaphor: 'May we not say that city housekeeping has failed partly because women, the traditional housekeepers, have not been consulted as to its multiform activities? This argument for suffrage, based on women's ability to make municipal government and urban life 'clean' again, proved to be extremely successful in gaining both male and female support for women's right to vote. In the same way, advocacy of women's 'public work for the home' helped make careers for women in social
71 Catherine and Harriet Beecher, *The American Woman's Home*, plans of basement and first floor, 1869

△ Hayden.

p 175-176.
work and home economics acceptable. But in both cases, those suffragist and specialists who chose to argue on the basis of expediency rather than on the basis of justice found that the domestic stereotypes they used to support votes or careers for women remained to erode many of the gains they made. During this period efforts by women turned away from creating greater freedom and control for women, toward promoting the customs, morals, and scientific standards of health of a democratic and commodity society.

Catherine Beecher (Born 1800) advocated achieving women's dominance over the home, the children and servants. Women, she felt, earned this role through their un-ending self-sacrifice. She did not advocate suffrage or interference within the men's urban realm. Women would gain respect and status for themselves and their work by 'living for others more than for self'. Beecher advocated commodity consumption to keep people employed and therefore virtuous. Commodities were at the basis of the American Dream, work ethic and religious ethic. So the proper Christian (woman) must become a consumer to keep the community solvent and righteous. She developed design prototypes arranging the home around the domestic chores of the woman. They had streamlined kitchens, living areas with movable screens to make the rooms more flexible, and the latest in mechanization of labor saving devices.

Women in apartment hotels were not considered in a proper social position. They were told that they could only properly form themselves (and their children) by having their own house, kitchen, and child care—exactly opposite the goal others were attempting to achieve in cooperative housekeeping. Charlotte Perkins Gilman (Born 1860?) supported apartment hotels and women's liberation through the removal of superfluities and the single family homes designed to keep them. She advocated the empowerment of women through joining together in a situation not so dependent upon commodity society. But communal living, an attempt to
Raymond Urwin and Barry Parker, plans for housing with central kitchen, dining room, and laundry for Yorkshire workers, 1901.
consolidate the amount of time spent on consumption would be a threat to consumer economy as well as patriarchal control of the home.

Beginning in the 1920's appliances developed to do large scale work in hotels and restaurants were downscaled to be placed in individual homes. They replaced certain built-in appliances and could be repurchased easily and often. Meanwhile, advertisers associated consumption with women's economic liberation, in terms of labor saving devices as well as the many choices they could make in buying products. Women, however, had to be home in order to buy and use these products.

Women were the consumers, the sorters of trash. By consuming they cleaned up the product (in making it trash) and then cleaned up the trash. Therefore their status revolved around modern rituals of purity and contagion, which have been marginalized, while men's efforts in production were apparently separated from it. With husbands stating: 'My wife doesn't work' as a source of pride, women were separated from the economy since society failed to recognize that the wife's purchasing was significant. She became the powerless consumer. When feminists began to stand against this inequity, a greater threat opened up. If women became part of the 'work' force (producers) than who would be the consumers?

Socially, the struggle created the issue of how to keep the home in tact with the removal of cooking, cleaning, laundry, and individual child care. What would be left of the domestic way of life? (Heidegger's problem with dwelling) While some decried the loss of traditional family structure ('family values'), others embraced changes like child care sharing and cooperative living complexes. However, the restructuring of the socio-economic and spatial structure of women would also require the restructuring of that of men (and those women who felt some loyalty toward consumer and patriarchal systems). Women's efforts toward equality began to bring about a backlash.
73  worker's toilet in an
    abandoned brick factory
    chimney outside
    Grahamstown, South Africa

\textsuperscript{\textcopyright} Hayden. p 276.

\textsuperscript{\textregistered} Hayden. p 285.
After W.W.I with the escalation of the Red Scare, women's groups that suggested any alternatives to the icon of the traditional, supportive, apple-pie-baking housewife were placed on a spider web chart that listed even the YWCA, the Young Women's Christian Association. These groups were listed as un-American. Those calling for programs organizing women workers and child care facilities were labeled socialists. This not only reduced the power of groups on the list, but also effected other women's groups since they were generally associated with Red Scare socialism. Returning male soldiers were encouraged to take out mortgages to buy single-family homes. Businesses encouraged women to leave the jobs they took during the war and return to the sanctity of the male-owned household.

"President Hoover organized a national Conference on Home Building and Home Ownership in 1931 . . . [Ethel Puffer Howes] discussed the need for child care centers and cooked food services as part of housing complexes. Volumes were prepared to support the other side of the argument in aid of the conventional, isolated home and the purchase of appropriate appliances. The tone of the Hoover Report recalls that of the Muncie, Indiana, Chamber of Commerce, reported in the mid 1920's: 'The first responsibility of an American to his country is no longer that of a citizen, but of a consumer. Consumption is a necessity." Women's efforts toward consolidating, economically and spatially, domestic work were often distorted or overwhelmingly overshadowed by support for the consumption necessary to sustain the American Dream. Corporations hired home economists such as Lillian Gilbreth and Christine Frederick as consultants to promote their products under the guise that they were women's advocates promoting 'scientifically' supported merchandise for the home. "This was the final corruption of home economics, representing not women's interests, but business interests in manipulating women, their homes, and their families."
74 drainage risers: office buildings

\textsuperscript{\textcopyright} Hayden. p 26.

\textsuperscript{\textcopyright} Hayden. p 25.
*Time budget studies in the United States and other industrialized countries show that the housewife's hours of work increased rather than decreased after the 1920's, despite labor saving devices and commercial services.* Since the home was considered a retreat, the housewife was still not considered a worker and efforts to change women's roles had been subsumed by existing systems. For unhappy or rebellious wives, valium became 'mother's little helper', once again making women less effective, by changing their mood for what was ailing them rather than their environment.

*By the 1960's, the suburban rings of cities held a greater percentage of the national urban population than the old city centers. By the 1970's, there were fifty million small houses and over one hundred million cars. Seven out of ten households lived in single-family homes. Over three quarters of AFL-CIO members owned their homes on long mortgages. For women, national policies supporting suburban home ownership (and consumer credit) for men meant that women's access to housing had to be through their husbands.*

These suburban homes limited women's access to jobs as they were less likely to own cars. There were few child care services in the tract communities, and the individual homes kept each woman in a separate domain. The suburban home of the seventies remained very similar to the Victorian home. The streamlining and consolidating of products was not taking place at the home scale, only at the scale of disposable items. Despite the fact that living in suburbia was glorified as progress, it promoted traditional family structure. It used many more resources, allowed for less sociability and was not at all revolutionary in form. Nostalgia sold the Victorian homestead while in the man's urban realm, innovation guided factory production and commodity growth.

Meanwhile, the value of housework had not changed much. *[Housewives and low-paid women workers] were infuriated with government experts who classified the skill levels of thirty thousand jobs in the Dictionary of*
Occupational Titles and rated foster mothers as less skilled than stable groomers; nursery school teachers and child care attendants as equal to parking lot attendants; practical nurses as less skilled than poultry farmhands, and homemakers as less skilled than dog pound attendants." Feminists of the 60's and 70's supported either earning comparable wages for housework or men doing their share of it.

However, these feminists differed from those of the past in that they criticized the economic or social sexual division of labor rather than critiquing the spatial manifestation of the home and women's work. Both feminists and antifeminists accepted the spatial design of the isolated home, which required an inordinate amount of human time and energy to sustain, as an inevitable part of domestic life. Only a few activists who staffed refuges for battered women and their children had begun to question traditional housing design. It seems that both factors must be considered in revolutionizing the roles of women (and therefore men as well) if all possible effects are to be taken into account and the project is to be most successful.

Delores Hayden summarized the difficulty of overcoming both the spatial and economic confines of women: "The resistance they encountered illuminates the interrelatedness of patriarchy and capitalism by revealing that male-dominated private life and corporate-dominated public life are mutually reinforcing. Not only did corporations support male home ownership, believing that 'Good Homes Make Contented Workers', but they also need 'Mrs. consumer' to purchase and maintain mass-produced houses and consumer goods and to rear a new generation of male and female children for this same way of life."

The changes that occurred in the 60's and 70's, however, were not limited to higher salaries and a dish night for men. Yet the changes in home life were more complex. Some men began sharing domestic work. Others deserted their families or got divorced. Although the two-worker couple became the predominant family
Hayden. p 291.
type, the single-parent family became the fastest increasing family type, followed by the adult living alone. Reported incidents of violence against women, including wife-battering and rape, increased. Incest began to be discussed as a common family problem, along with male alcoholism and female dependence on tranquilizers and other drugs. If patriarchal control of home life was breaking down in the 1970's, it was not happening without terrible struggle.* 

In the past, the bath had been portrayed as under the control of women. Women could aggressively assert themselves within the home. Agamemnon was killed in the tub by his wife with an ax. Jean-Paul Marat's death in a slipper bath was immortalized in painting. He had a severe skin disease, soaked regularly in the tub for relief, and was stabbed there by Charlotte Corday in 1793. Today the backlash of domestic revolution has manifested itself in many ways in popular art as well. Women are often shown as the subject of violence in the bath and shower in contemporary film to the point of cliché. The pattern has been reversed such that women are often murdered in the shower by men. Alfred Hitchcock's Psycho popularized the horror of the shower death when Marion Crane was stabbed to death by Norman Bates. A violent tub scene as its ends Fatal Attraction. Women are represented by (male dominated) popular media as having lost control of their homes and are now victims within them.

This brings to mind Mary Douglas' quote: "Whenever a strict pattern of purity is imposed on our lives it is either highly uncomfortable or it leads into contradiction if closely followed, or it leads to hypocrisy." This pattern of purity, of the clear separation of the roles and responsibilities of men and women, led many women to rebel particularly since this separation relegated most of the control to the male side of the division. Consumption by women occurred privately in the home while production by men occurred collectively in the city. As roles changed and more women became producers they had less time to consume, less time to follow...
through with the pollution and purification rituals previously assigned to them. This meant that either the system would fail, or men would have to pick up the slack in domestic responsibility. Either way men would be forced to change their way of life, since both sides of the system are equally necessary for it to survive. Only when women refused their domestic duties, did the social structure recognize the power contained within them. This struggle is not one merely to have men change diapers or stop their cat-calls on the street, but is at the essence of undermining the overwhelming power of patriarchal control and consumer culture.

The manner in which we purchase and dispose of products (consumption) defines the pollution and purification rituals of our culture. Revolutions in these customs can critique or even change existing socio-economic systems. In this way the 'trash' of society has in its essence the power to undermine authoritarian control. Today many more men are beginning to work at home, accepting domestic responsibility as well while retaining partial control over the home. To offset this move back to the private home by both men and women, public facilities must be offered if we are to remain a society, but these public facilities might now include certain cleansing rituals previously contained within the home though performed by all. In this way, we can uncover the hidden mystery of bathing while using it as a medium toward sociability, that is interaction among (varying) people.
"In her reading of Marx's Capital, Elaine Scarry describes the relation of manufactured goods to the human body as a relation of reciprocity: every artifact recreates and extends the body. In a zero-degree state of production, human beings consume only enough fuel to regenerate their physical tissues. The body takes in food in order to build and maintain its own structure; the organism itself is the product, yielded through the process of consumption. Production at a more advanced state involves consuming a broader range of materials in order to further extend the body: chairs supplement the skeleton, tools append the hands, clothing augments the skin. Furniture and houses are neither more nor less interior to the human body than the food it absorbs, nor are they fundamentally different from such sophisticated prosthetics as artificial lungs, eyes, and kidneys. The consumption of manufactured things turns the body inside out, opening it up to and as the culture of objects."

These extensions of the body through adding and intensifying define our 'process of preservation,' extending health and life by extending our bodies. The 'process of elimination' orders our bodily wastes by reducing and separating, extending our health by removing objects that do not fit acceptable patterns. Both are necessary for our survival. Both must exist together, each exerting control over the other. The network of our (economic and iconic) extensions however seems to have become complex enough to retain its own consciousness through a complex of symbols that relate to one another (much like Douglas Hofstede in *Godel, Escher, and Bach* describes self-consciousness in the human mind through an intensification of symbols including one of 'self' that connect to one another through a complex network-like mapping), often leaving us feeling as though it is marking us, no longer are we marking it (that we are extensions or discards of it rather than it is an extension of us). We must turn our attentions then toward each other primarily and the objects secondarily.
Though we wish the 'freedom' to be secure, this comes in conflict with many, if not all, of our other freedoms. This is what is at the root of gentrification versus the construction of public space, that is space that can be freely accessed and used in any manner chosen by all. In the end, some balance must be achieved between the two. Total public space implies anarchy while total security implies something on the order of fascism. The agenda of our current society must become the recognition of the power, the importance, and the necessity of both security and independence. Despite and because of the contradictions we will encounter, we must come to some balance that allows both to exist, neither in total and neither in exclusion, through rational and emotional means. We must not let fear overtake our society.
THE PUBLIC BATHHOUSE
The bathhouse will include:

- barber: 90
- showers, 14+4 (18): 475
- toilets, 8: 250
- lockers, 100: 550
- laundry, 15 washers, 15 dryers for public and facility use: 550
- control point: an office with storage for towels and disposable bathing suits: 210
- beverage and snack area: 70
- storage: 100
- mechanical: 600
- large hot communal pool, 80 people maximum: 850
- lap pool, 8'x54': 430
- hot tubs with jets, 3-6'x6' approximately: 120
- steam (wet), 3: 2-4'x6', 1-10'x10': 150
- solarium: 200
- exiting changing area, 6 showers: 240
- access and deck space: 4500

TOTAL square feet: 8835

Masseurs will be allowed to rent table space on the deck surrounding the large pool, and may charge fees to individual customers for their services. The barber space would also be rented out.

The bathhouse would be open to all who wish to use it. Ernest Pascucci, one of my thesis readers suggested that it might be interesting to open it as an 'experimental utopia', allowing all to come but also watching for who would actually come. Therefore the large pool could separate into men and women or neighboring backyard.
Back Bay T-stop looking North on Clarendon
remain open as one for families and general sociability. There might also be specific nights that the communal bath would be divided into men and women or nights that reserve the entire facility for either gender. Among those who might use the facility could be travelers, tourists, South End residents including an affluent white population as well as lower-income minorities, families, South End's gay population, or the homeless.

With the laundry included, patrons have the option of relaxing in a hot bath while they do their laundry (bathing themselves and their belongings) in addition to the management's use for laundering towels. The machines would be coin operated.

The building would be open to the public, including the homeless. The showers could open at 6:00 am while the rest of the facility opens later, allowing for daily use of the showers by transients. Patrons (homeless or otherwise) might be removed from the facility for threatening physical danger to others, just as they might on the street. Since the facility is open to all, it must in the end be free. However, donations from those who can afford it, might be aggressively encouraged.
Union Park Square. Notice the 'Do Not Enter' signs flanking the street way to the park.
Site

587-589
Tremont Street
Boston Massachusetts
1993

Formally

The 40' x 73' site is located in the South End near the center of the block on Tremont Street sandwiched between brownstones like those that dominate the character of the area. Although the buildings of the area have many small-scale elements and quirks that identify each one as somehow different from the others, over all the texture is highly repetitive and soothing. The texture might be compared to that of a bas-relief at an architectural scale. It is not so flat that it appears lifeless, but not differentiated enough to confront passers-by.

Socially

The block chosen, across the street from the buildings on the West side of Union Square Park is in an area populated with a mix of intimate residences and busy commercial stores and cafes ideally suited to the program of the bathhouse. The area has an economically diverse population and the street population is racially diverse. Housing ranges from exclusive brownstones like those that surround Union Park Square famous for its locked gate and limited access in what appears like a public space, to the Pine Street Inn, a shelter for the homeless nearby. Also the Back Bay bus station and T-stop are only a few blocks away. The baths could therefore attract residents of the area for social enjoyment as well as transients like the homeless, travelers, and tourists, and reinforce the diversity of the area.

sign next to Union Square Park's gate

lock on Union Square Park's gate. Notice the park is empty.
(secure, but empty)
*top, bottom:* Tremont street looking West. The design replaces the fifth building from the right in the top photo.
top, bottom, Tremont street looking East. The design replaces the building just to the right of the tall center building in the top photo.

Information for this section was primarily compiled from Williams, "The Great Unwashed".
The question as to whether it was an essential part of public policy to establish and maintain baths at public expense has never been raised in Boston. It was a self-evident fact attested by every day experience and the laws of sanitary science that baths are the best possible offset to disease promoting the health of the community as a whole and incidentally aiding moral betterment."

- Jane A. Stewart, 1901

Boston, as any industrialized city elsewhere, was suffering from overcrowding, massive Irish immigration starting in the 1840’s, lack of sanitation, slum filth, economic depression and cholera epidemics. In response, summertime floating bath and beach baths were opened and operated under the board of health beginning in 1866. In 1874, Massachusetts passed legislation allowing towns to raise land and money to construct year-round bathhouses. Finally, in 1896 Mayor Josiah Quincy had enough support and encouragement to form the Mayor’s Advisory Committee on Public Baths. Robert A. Woods, an advocate for public baths and against urban poverty was appointed chairman. The rest of the committee consisted of 2 women, Mary Morton Kehew who had been active in school reform and trade unionism among women, and Laliah Pingree, a former member of the Boston School Committee; Dr. Edward Mussey Hartwell, director of physical training in Boston’s public schools; 2 labor representatives, Edward J. Ryan, president of Building Trades Council and Michael W. Meyers president of the Plumbers Union; and Edmund Billings, the superintendent and treasurer of the Wells Memorial Institute, a club for young working men.

After visiting NY’s peoples’ baths, the committee recommended the purchase of a 50’ x 100’ lot for the building which would house at least 40 showers clearly
75 public baths of Boston, map, 1916

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The Public Baths of Boston, 1916

1. Ward 3 Bath and Gymnasium, Corner of Bunker Hill and Lexington Streets, Charlestown
2. East Boston Bath and Gymnasium, 116 Paris Street, East Boston
3. North Bennet Street Bath and Gymnasium, North End
4. Ward 7 Bath and Gymnasium, 75 Tyler Street, central city
5. Dover Street Bath, 249 Dover Street, South End
6. Ward 9 Bath and Gymnasium, Harrison Ave. and Plympton St., South End
7. Cabot Street Bath and Gymnasium, 203 Cabot St., Roxbury
8. Ward 17 Bath and Gymnasium, Vine and Dudley Streets, Roxbury
9. Ward 16 Bath and Gymnasium, Columbia Road and Bird Street, Dorchester
10. D Street Bath and Gymnasium, South Boston
11. Ward 15 Bath and Gymnasium, Broadway between G and H Streets, South Boston
12. I Street Bath and Gymnasium, 1663 Columbia Road, South Boston

Land was purchased in the summer of 1896 at 249 Dover Street. Peabody and Stems were chosen as the architects. The city's first year round public bath opened October 14, 1898 to the final cost of $86,000. The 43' x 110', 3 story building had 50 showers, seventeen for women. There was a laundry in the basement, janitors and matrons' quarters on the third floor, and many granite and marble finishes. The baths, old pools, and floating baths were overseen by an unsalaried bath commission that included two women, Mrs. Lawrence Logan and Mrs. Jacob Hecht. A full-time secretary was the only paid official.

Baths built after the Dover Street Bath usually contained pools and gyms. The emphasis shifted from strictly cleanliness to fitness and recreation. The Boston baths erected in many different Wards served a wide range of ethnicities. Eventually the Public Grounds, Baths, and Music departments merged with the Board of Park Commissioners to form the Recreation Department in 1912. Clearly the emphasis and purse strings went to (athletic) recreation rather than cleanliness. Probably for the same reason, Boston's facilities retained a heavy patronage.

In 1959, Boston agreed to discontinue its municipal bath program under the face of increasing city debt, high expenses, and low attendance. By the early 1970's the baths, including the recreational baths, were phased out completely. Interestingly enough the closing of these baths closely coordinates with the excess production and spending of the early eighties, one of the causes and symptoms of gentrification and the rise
in homelessness, then and now. People did not stop going to gyms, but they chose to patronize ones that would express their social standing where they could feel secure that they would meet and watch, in mirrored rooms, others of a similar social standing.

Recently, a gay bathhouse has been proposed for the Fenway area in the basement of 1260 Boylston Street (reported in the Boston Globe, April 10, 1993, p. 7). The purpose of the bathhouse, which is unlikely to be permitted, is somewhat ambiguous. D. C. Allen and Mitchell G. Leon, the owners, claim that the club would be a place for 'safe sex' education and AIDS awareness and would help prevent anonymous sex hidden in the foliage of the Back Bay Fens. However, the bathhouse is also clearly a commercial venture. It is located between two gay bars and would charge a $15 membership fee for six months as well as $10-$15 per visit per person. Selling rooms for anonymous sex to patrons who are more likely to have been drinking does not promote safe-sex nor would it eradicate sex from the park. Those who pay for and retain their membership to the club would most likely be nearby residents or able to afford a hotel room as well if they wanted one. (Although the hotel would not have the voyeuristic possibilities of either the park or the bathhouse). To allay the argument of the possibility of irresponsible sex due to drinking, the Globe relates that, "In some cases, monitoring by bathhouse staff ensures that condoms are used during sexual activity." The (authoritarian, surveillant) gaze once again ensures proper behavior, this time for a fee. Besides charging a fee and requiring membership, its patronage is limited to the gay population. The bathhouse proposed, even with its social overtones, is clearly not--nor is it meant to be--public.
The bathhouse might be separated into three parts. These parts, though separated for description are linked to one another as well. The tripartite scheme is made up of: 1. The part of the building defining the 'process of elimination', 2. a transition, and 3. the part of the building defining the 'process of preservation.'

The most westerly part of the scheme, that of the 'process of elimination' includes the showers, laundry, and WC's. It is essentially a large, scaffolding with the programmatic elements placed regularly within it. This is the place where dirt and germs are removed from our bodies (and our clothing). All patrons must shower here before entering further into the facility. The emphasis is on sterility and the anti-septic. Here we shower for being well.

The middle piece of the scheme is something of a non-piece. This in-between is defined by the two parts on either side of it. This is also the place where both parts interact with one another the most, pushing against each other. The bathhouse is entered through this section, and the access continues through the site to the alley behind and finally to the next street. The transition space, the area you are in when you are in neither defined area of the building, is the only place within where the two other parts may be viewed simultaneously. These two parts may be seen from the street as well. The street itself is a large-scale transition space. The public pathway inside is very much like a continuation of the pedestrian sidewalk through the building. However, it is smaller scale and more intimate adding another size and quality of public space along the street. The control point of the building, where one might get a locker key, towel, disposable bathing suit, or give donations is along this access way at the street level.

The remaining element, on the other side of the transition, is the area of the 'process of preservation.' Building extensions act to extend ourselves by creating
following pages (146-149): bathhouse in context, model
aerial site plan in model
and intensifying the spaces we inhabit. This part houses the hot baths, saunas, steam room, lap pool, and snack bar. The elements are meant to comfort the body and rejuvenate the spirit. Here we bathe for well-being.

The bathhouse, unlike the adjacent brownstones, is public. Therefore access is at the street level rather than above. The building sets back from the street on the right side to allow for more gathering space along the sidewalk and near the entry. Intimate balconies overlook the space creating an outdoor lobby. The west half of the front elevation is relatively flat. Matte-finished steel panels in regular intervals hang from the structure behind. In places the steel panels are replaced with glass and perforated metal to allow for a view to the street. Where the entry walkway expands behind the panels at the street level, only perforated metal is used. The size of the panels matches the bays of the structure behind. The panels are oriented vertically and are installed to show the vertical height of the scaffolding. Since this is the part of the building dealing with expediency in waste removal, only showers and WC's are placed here. Water never rests here, it is always moving vertically--up to the fixtures or down the drains. Though the metal panels might be considered an unusual building material for the area, they are most suitable for the program and are designed to conform to the setbacks and regularity of the blocks' existing elevation. They enclose the building simply, revealing an understanding of the structure and program, but they do it as subtly as possible. In this way this part of the building remains within the existing fabric. It does not call attention to itself. Homeless who might use these showers daily would get a rare chance to remove themselves from the public eye.

The east half of the front elevation, on the other hand, has much more depth. It comes out in places to confront passers-by and recesses to invite them in and shelter them. In places, balconies open up the front elevation by extending out while panels placed further back in the elevation allow privacy inside. The masonry
1 barber  2 WC’s  3 control point, office  4 showers  5 large shallow hot pool  6 mini-sauna  7 solarium  8 steam room  9 large sauna
10 exiting changing area with showers  11 lockers  12 hot tub  13 lap pool  14 snack counter  15 laundry  16 storage  17 mechanical
surfaces at the street level are textured. Pieces of the structure attach to the front of the building next door. Copper panels on the front, like turned-down roof panels are allowed to weather. Wood benches, screens and flooring around the balconies will also age and weather, and it can be marked upon by its users. It can also be easily replaced if necessary. Materials here allow for things to occur to them and by them. A copper rain spout directs water onto the steel panels on the other side, which can be scrubbed clean, leaving a streak mark down the front. They are also 'warmer' and more comfortable because of that. They do not resist changes that might occur. They are not suggestive of purity, but of extension.

The middle part of the front elevation, just to the left of center, is the entry space. It is deep as it runs through the building. It is covered above, so it appears dark from the other side of the street. From the outside it is hard to distinguish what happens in the upper levels of the transition space. However, because it continues into the alley behind, the light at the end (of the proverbial tunnel) would draw the public through it. It is shadowed in darkness from the street, but within is the only place one can view all the parts of the building. The transition is a place where the people know nothing and know everything.

One must walk through the entry way almost to the end of the site before reaching the control point. In this way access does not appear to be blocked or limited at the street. A counter, the interface between this office and the walkway pushes out slightly into the path, enough to signal that it is there without hindering access.

The space is lit from above through a 'sky light' that is actually a structural glass recess in the large pool supported above. The light coming through is mediated by the depth of the water, so it has many reflected, moving lines caused by the rippling surface of the water. Bathers moving in the tub affect the way light is reflected downward into the transition space. The glass
light is covered with a metal grating at the bath floor level. This screen, the depth of the water, the direction of the light down from above, and the height of the bath, help veil the bather from direct viewing while still allowing their silhouettes to be seen from below as they move over it. In fact, much of the light for this space comes through the water (lit artificially at night), but there is never any contact with the water since this is the transitional phase. Patrons are still outcast from the facility proper. They may view the elements around them, but are not yet invited to touch them. One can look down on the right side of the path through a small reveal in the floor adjacent to the masonry wall into what appears to be a deep, dark abyss. The floor is suspended over the level below. Between the light from above mediated through the water and the shadow from below, there appears to be no concrete base or ceiling. In this way the transition space is not grounded in a solid, definable position. It is both under water and above ground.

The enclosure is made up of elements from the other parts of the design. On the shower side, toilets partitioned by stainless steel panels run the length of the access within the metal scaffolding. They are all similar. A barber is also at the level adjacent to the WC's closest to the street, but glass partitions enclose this space. On the bath side is a large, textured, masonry wall. At the dividing like between the two parts (in the center of the site just as the adjacent lots are divided into two 20' pairs) the scaffolding structure ties into the masonry wall, each helping to brace the other. Entries (to toilets, stairs, and the barber) on the left occur at equal intervals. Openings to the bath area are relegated to the control point while the masonry wall blocks the view of the baths' interior. There are only hints of what might be inside the baths from the main access. Through the control point window, one can see the base of a hot tub hovering above. As mentioned before, light from the large pool overhead hints of the pool's existence. Where the two structures meet above
sections cut through the center (20') of the site; showing the
differences between either side of the transitional space. left, looking West; right, looking East
shower element of the design with scaffolding structure and large hot pool at top

the space, one can see that the baths' structure extends into the scaffolding while the scaffolding tries to keep it at bay.

Opposite the control point are the stairs that lead to the showers on the next two levels. One can drop their laundry off at the desk and pick it up from inside when they wish to clean it or can carry it downstairs. Bathers walk past the desk to the stairs, rather than through it. In this way, access to the building is less authoritarian and controlling while the manager can still watch the entry carefully if necessary. The stairs are within the scaffolding bays of the shower structure.

As one walks through this part of the building, each step makes a clattering sound as it hits the walkway made of metal gratings loosely fit in their frames. They have wood slats underneath that act as the ceiling finish for the floor below preventing insecurity about walking on a grating that can be viewed through. The structure is made by repetitively adding steel pieces together. It is a homogenous aggregate that runs the length of the site. This part of the building is simple, repetitive, and efficient. The concern within is the removal of dirt and waste, not socialization. The mechanical-like nature of the bathing ritual is emphasized in this part of the building. The sound of the bather's footsteps further this sensation so that the building rattles and bangs with the sound of metal when being used.

Each shower unit is like every other since the building emphasizes uniformity and purity. There is a dressing and a shower compartment. The floor to the shower compartment is a perforated stainless steel sheet over a metal pan that collects water to the drain pipe rather than having single drains. The back of the shower, facing the brick brownstone, is a metal screen. The bather can look through this into the plumbing chase, and the screen can be hinged and locked to allow easy access to the piping. In this part of the building, the bather is allowed to see all the workings of the building. Bathing is knowable. There is no mystery in where the water comes from or where the waste goes.
The plumbing, though not hidden, is separated from the shower building as well as the brownstone. One can see it, but not touch it. It remains securely contained and controlled while in view. Along the shower side of the plumbing chase is a metal screen and on the other, along the brownstone is a glass wall. The bather can not only see the plumbing, but the wall of the next building. Also the entire shower structure is raised on a concrete plinth slightly above its adjacent lower bath level. The plinth and the glass box encasing the plumbing (like a museum artifact) emphasize the purity and antiseptic nature of this portion of the building. Whenever the scaffolding must touch another part of the building, simple end fittings would make it appear as if the building is pushing itself away from the other, trying to retain its purity. In the act of pushing away the other though, the building becomes somewhat contaminated as well. Therefore these fitting are made of the same materials as the shower part of the building but shaped in the angled vocabulary of the other.

The materials in this section should resist corrosion, dirt, germs, and other contaminates. They are utilitarian in nature rather than concerned with bodily comfort. Every surface is smooth and hard with very little texture. The only tactile surface, the walkway ceiling of wood slats, is not within reach. The partitions and fixtures are stainless steel and glass. The fixtures and mirrors would be polished to reflect while the partitions would have a dull matte finish. Metal screens over glass enclose the ends of the hallways and stairs (alternately with solid panels) to allow more light in and views to the street and alley way. The front has more solid panels than the back.

The showers are lit evenly throughout once again emphasizing the uniformity, the purity of the place. Lighting from the transition space is filtered through a stretchable translucent material. (I would prefer thick latex sheets because of its association with sterility, its high translucency, its color, and its similarity to flesh or skin; but it tends to decay quickly particularly when
street elevation, South facing
exposed to sunlight. A treated fabric like that on pressurized bubble enclosures would be acceptable also.

The panels that act as the skin of the building are mounted in parts, like a machine, that fit closely over the structure. The rectangular latex panels stretch out over one part of the structure (that would support the artificial lighting) that extends just beyond the rest of the frame through the center of the panel. For those pieces that might escape, the flexible material will pull them back in again like a skin.

The showers are not separated into men's and women's. Each androgynous compartment is like every other. Viewing other bathers is limited to the length of the marrow (5') hallway, once again placing the view toward the ritual of bathing for cleanliness rather than on other people.

Before moving into the baths, belongings can be placed in lockers and later retrieved from the other side of them. In this way when bathers move from one section to the other, they are showered, changed into a robe or bathing suit, and have left their 'stuff' behind. Dirt and wastes have been removed, and the emphasis now shifts from objects to sociability. The baths are entered through the top level of the showers. At this level, the ceiling is very low and heavy because it is the underside of the large hot pool above. Here the baths manage to contaminate the purity of the shower structure by hovering over and extending into it. It further transforms the scaffolding structure by changing the shape and size of three of the columns of the scaffolding to add extra support. The columns would still remain steel, but the finish would be reflective and textured like hammered metal. These irregular columns through all the levels to the plinth at the bottom give a hint of what occurs elsewhere in the building. Also at this top level, the stairs within the scaffolding are no longer enclosed. The walkway opens to the outside at the ends as well. The intrusion of the bath causes the containment to break.
bath element of the design with wood screen, balconies and solarium at top, and the faceted roof

The only breaks in the latex skin occur at the lockers on one level and the stair that rises to the hot bath on the upper level. At the break in the skin where people pass through is a foot water spray just at the base of the stair. The break for the lockers has showers used when leaving just behind it. Where ever there is a breach in the skin, water helps to filter out impurities that might pass through. The skin of our bodies is used to control the flow of waste, oxygen, and water and to mediate between inside and outside through the sense of touch. It is both utilitarian and aesthetic. It regulates our bodies while determining the expression of ourselves to the outside world and influencing our perception of the qualities of our environment. The skin at the transition controls the flow of wastes to other parts of the building as well as acts as a translucent light filter. It diffuses light from the outside evenly to the inside, while the people in the transition space might see only shadows of the bathers walking to their showers.

The stair is in the transition zone. As one rises up the stair, breaks in its enclosure allow more of the building to be viewed at once. Looking up and forward, one can see the faceted planes of the roof over the hot bath allowing light in. Looking back, one can still see the scaffolding. And through the breaks, people entering the building below can be seen. The stair expands as it rises up between the pool supports. Bathers enter by rising up surrounded by water. The latex panels of the showers stretch over the stair attempting to close the opening back up like scar tissue might form around an object in the skin.

This hot pool is the largest single social space of the building. Most of the floor area is given to it. It is never more than four feet deep. It is supported to the top level to allow for the greatest amount of natural lighting, privacy, and celebration of the bath. One can soak in the bath and view the area from above. It is supported on large trusses that rest on concrete columns reinforced with steel. The structural moves in this section are at a much larger scale and are similar, but
water tower, photo and section, notice the two tanks entered up through the center with the concrete shell continuing overhead
not repetitive. In this way they can extend into other areas. Also, the large scale of the trusses allows the bathers to walk amongst them, lean on them, and sit against them. The scale of the structure makes it accessible and tactile. It also helps define different areas of the bath that might be taken up by smaller groups while not blocking the view of the entire bath.

The roof panel faceting allows for varied lighting which also breaks the space up in making darker and lighter areas. Bathers have a wide range of spatial qualities to choose from while inhabiting the same large space. Overall the roof panels slope upward toward the South, the street side of the site, in order to bring in more light. The underside of these pieces is either reflective metal or a light textured finish. Panels that are angled in other directions are made of clear and frosted glass. The top roofing material is copper. The roof panel over the solarium is all glass. This skin of this part of the building is held away from the structure, and the edges of the faceted panels do not always line up with the structure supporting them. They are extensions of the structure, but are somewhat independent. The skin does not have a tight fit like the other side, but allows building extensions to occur within while defining extensions of its own. Some panels fold down into the building to make balcony enclosures and other dividers (like intestinal skin). It is not always clear what is the roof and what is a wall. This helps convey some mystery to the building. Some parts are highly expressed, even confronting the viewer, while others are shrouded, preventing knowledge of them while allowing acknowledgment of their presence.

The solarium is supported over the deck space of the largest area of the pool. It is enclosed under the same roof and looks over the pool. It juts out just beyond the main surface of the back elevation much like a bay window, but with a better view because one can stand all the way out in it. Part of the east wall away from the pool is solid, so that sun bathers have some place to put their backs against. The stair to it extends over the
model in site, South facing elevation
pool as well such that bathers walk out above the water on their way up. The deck at the pool level extends out to two balconies. One is placed between the brick wall of the east brownstone and the pool, and the other extends past the property line and adjoins that brownstone in the back.

Part of the scaffolding structure is allowed to extend up into the bath area along the plumbing chase wall. It services four more showers as this level that are not partitioned off. Bathers can cool of with a spray of water from these showers. Two mini-saunas are also placed along this wall right next to the pool. Stairways to the outside cap the ends of the scaffolding structure. One stair has a partial canopy from the extension of one of the roof planes as well as a screen from the street by an extra set of steel panels. The other is completely open.

Materials that were used in one area for one thing might be used here for something else. For example, metal ceiling finishes and wood decks turn upside down the material use in the previous section. With emphasis now on comfort, materials include copper, wood, stone on the lower floor, and textured concrete. These materials weather. Some get darker when wet and lighter when dry.

A armature above the center of the stairway would allow the installation of a movable partition that could separate the bath into two parts beginning at the entry stair. The bath could then be used by groups of men and women alone.

An framed but open elevator gives access to the other spaces below. Large plumbing pipes run up the sides from the mechanical room below to the pool. The level below has a large sauna and steam room as well as access to the changing area and lockers. These, and the rest of the elements in the program are supported within the larger volume below the hot pool. The steam room is enclosed in glass and tile. It has a hot tub in the center. The structure supporting the tub and walkway connect to the masonry wall and tie back to the main concrete columns.
bathhouse from the alley, North facing
The floor below that is at the street level. The control office is located here as well as another hot tub. The programmatic elements of this part of the building are mixed throughout to get a variety of spaces for similar activities. None of the floor area within the building is completely covered on one level. The volume weaves around and through the parts of the building. Some views are blocked above and below. And in some places, a bather may look all the way down from the hot pool to the lap pool while soaking in the heated water. With every added element, structure must be added. This intensifies and effects other areas of the bath as the structure must extend to other levels above or below. The control point is surrounded by a screen in the back that supports shelves, not a solid wall. This allows the public to watch the controller.

The bottom level is sunken into the ground five and a half feet. This is where the lap pool is located. Part of the lap pool has a structural glass wall lighting the mechanical room. At this point, a metal grating covers the floor adjacent to the lap pool above the mechanical room. Patrons can partially see the plumbing in the shadow of the mechanical room, and they can hear its humming and gurgling. The end of the lap pool toward the alley turns into an outdoor hot tub shaded by the extension of the office above. The exit path from the elevator and information booth is suspended above the lap pool so that patrons exit over the water. A small, informal snack counter is provided with most of the floor space in this section given to tables and chairs to sit and eat. A small bridge leads over the lap pool to the laundry area under the scaffolding. Both the laundry area and the snack area have access to the outside in back. The alley level is seven feet below that of the street.

The back elevation is much different from the front on the bath side and very similar on the shower side. The screen on the bath side is designed to allow in as much light as possible and give privacy to the bathers and the surrounding residents. A steel frame supports a glass
wall. On the outside the frame is fitted with hundreds of horizontal wood slats that are angled up toward the outside. From the outside the flat elevation appears relatively unobtrusive. This kind of flatness in the alley way allows a surface against which activities like hanging out the laundry do not intrude. The skin here, though evenly textured is not tightly fit. Behind it elements of the building exist independently. The control booth extends out of this elevation as a point of focus. The wood slats would weather and invite vines to grow along them. This could shade the facility more in the summer and open it up to more sun in the winter. On the inside the lighting would have many streaks of light and dark from the slats and patches of leafy shadows from the vines. The lighting quality might be similar to being under a rippling water surface. In back, changes in ground level occur at 18 inch intervals where possible to allow small places to sit and bath quietly.

This design attempts to blur the clear division implied by the statement: "You know your culture from your trash" (from the song "Give Me Steam" in Peter Gabriel's album US) while showing the importance of both factors within our society socially and formally.
back elevation

front elevation
front elevation in context
The Three Dimensional Meta-Texture

Certain particular formal aspects (occurring in buildings since the nineteenth century) have always caught my interest. These qualities that attract me are very specific, but if expanded upon, can become quite an encompassing explanation of the evolution of some predominant modern and contemporary architectures. The degree to which I find them in existing examples and in the way I go about my own design, process and product, has always amazed me. This may also be due to the fact not just that they exist this way, but because I am so interested in these issues. However, our individual interests determine the direction in which our culture constructs itself. Therefore my interest in these issues is also significant.

In reaction to the careful and (compulsively) intricate models that I make, a fellow studio student asked me, “Are you going to knit another model?” This came at a time partially through this paper, and until then, I had not fully realized the impact of how my notions of how textiles and weaving take form in other works might already do the same in my own design as well as in the process of making that design. Although the comment was meant as a friendly dig, I was somewhat elated to see that my designs conveyed at a fundamental level certain notions that I have been mulling over, both intuitively and intentionally.

These notions begin with Gottfried Semper’s explanation of the development of architecture since its primitive origins in the knot, weaving, and joinery, and find their path today leading to the idea of what I will call meta-texture. This meta-texture consists of spaces like those that might exist in a woven textile enlarged to the scale that people can inhabit the volume within the
1 Gottfried Semper, Gravestone for Bertha Semper-Thimmig, 1859

2 Semper, Parthenon and Propylaea, 1832

3 the Indian hut from Trinidad on display at the Great Exhibition, 1851

4 knot shown in Semper’s essay, 1860

5 knot shown in Semper’s essay, 1860

fabric. Once this development has been presented, I will explore certain aspects that I see might occur, that are important to occur, within the meta-texture, such as the point at which tectonic structure and stereometrics occur simultaneously and are derived from one another, as well as how the mythical in architecture (the repetitive, the old, that which has been explained to us through time in accepted stories/histories) and the adventurous (the unexplained, the new, the perplexing) must elicit a similar interaction.

Gottfried Semper’s, 1803-1879, theory of the evolution of design and joinery begins from what he believes is its cross cultural primitive beginning: “It remains certain that the beginning of building coincides with the beginning of textiles.” Semper offered the wreath as the archetypal work of art. It was an attempt to order and to delimit. The knot was the fundamental base of this woven wreath. The fence was the first vertical enclosure invented and created by people through the interweaving of sticks. From there weaving was developed by twining together finer and finer natural materials from blades of grass to threads. Soon a pattern was generated, first from natural variations in material color and then through dying. These carpets became the enclosing elements as walls, floor coverings, and overhead canopies. Weaving defined the inner life from the outer life. Weaving defined the enclosure.

The support structure was for just that. It was simply a tool. There would be no dwelling until the carpet was draped around it. A teepee, for example, without the fabric might be simply a structure to hold a pot above a fire, a machine. The structure was built for protection and security. Even where solid walls were necessary, they remained hidden beneath the textiles they supported. It was the support for the fabric enclosure, but did not determine the form of the spatial enclosure itself.

Gottfried then researched what happened to form as this primitive pre-architectural weaving became
6 Semper, New Dresden Theater, 1834-42

7 Semper, Gemaldegalerie, Dresden, 1847-54

transformed into monumental form—true architecture. He suggested that monumental art was derived from festival celebrations. There a structure was usually built to mark with glory the reason for the celebration. These scaffoldings were then covered with all the adornments of the festival—banners, carpets, trophies, and garlands. "This is the motive for the permanent monument, which is intended to recount for coming generations the festive act and the event celebrated." Eventually, these carpet covered scaffold-like structures were transformed and executed in stone, achieving material permanence.

Here the pattern or texture of the cloths hung between the structural members conveyed the meaning, the significance of that structure's existence. "My main interest in introducing these examples is to draw attention to the principle of exterior adornment and dressing of the structural scaffolding that becomes necessary with improvised festive structures, and that always and everywhere conveys by itself the nature of the thing."  

This relationship of the structure to the dressing was further explained by Semper's principle of veiling structural parts. "The denial of reality, of the material, is necessary if form is to emerge as a meaningful symbol, as an autonomous creation of man." Despite the fact the reality is to be masked, Semper does state that the structure behind the mask must not be false or the mask will not be effective. So the structure and material use must be rational and understandable for the adornment to be meaningful and mysterious, but still believable.

Semper's evolution from weaving to stonework continued by recognizing changes in the enclosure of buildings. In his theory construction methods took form after the cladding rather than the cladding mimicking a construction method. "Terra cotta dressings are the forerunners to brick walls, and stone plaques the forerunners to ashlar. Light mat walls transformed into clay tile, brick, and stone. "Wickerwork was the essence
8 Semper, polychromy study of the Parthenon, 1832?
The primitive hut transformed into the Greek temple. Over time, peoples changed these methods for economy, durability, and the like. Carpet enclosures were replaced by walls covered in stucco and plaster, wood panels, or marble panels. These were painted as in Greek and Oriental polychromy modeled after commonly used woven patterns. Then the use of colored wall materials for patterning replaced the role of painting. Appearing first in Roman buildings, the nature of the building materials themselves were used as the decorative element. For the Romans, "No longer were material and construction subordinate features hidden behind a partition wall, merely serving; they began to create form, or at least to influence it." Once the wall itself became both the ornament and the structure the next step would be to transform the meaning to the form of the structure and the walls and do away with ornament altogether.

For Semper however, this Roman legacy was not always the only option. Although he felt it usually preferable to build such that the material functioned as the ornamental patterning as well as support, painting and cladding might have taken place when the construction material was not pleasing, for exterior protection, or where changing demands in comfort, warmth, and the like called for an interior dressing.

Semper categorized the four basic methods of making, the four elements of architecture as: 1. weaving [enclosure]; 2. joinery [tectonics]; 3. ceramics (and later metalwork) [hearth]; 4. and the mound (later stonework) [stereometrics]. The textile arts transformed raw materials into bindings and fastenings or covers and enclosures through these elements. He hailed the Greek temple as "an unsurpassed and never before attained harmony of the four elements of architecture working together as one, toward a great goal." Semper linked Beauty (arts) and Necessity (manufacturing or crafts, also linked to knot linguistically), despite the recognized division developing in the nineteenth century. He hoped for an architecture that would...
9 Hendrik Petrus Berlage,
Stock Exchange, Amsterdam,
Holland, 1890-1903. Notice
the colored patterns of the
brick define the
ornamentation hung like
carpets between the
supports.

10 Berlage, Stock Exchange

reconciliate these elements despite these developing rifts that would come to define the essence of the modern period.

"Our savior has become the representative of the despot who personifies his Kingdom on earth and is the sole master of the spiritual and the worldly! the reconciliation of these opposites is at the same time the start of a new artistic era, and artistic development ever higher then the Hellenic. When will this era begin?"

Unfortunately for Semper, this era would have to wait. In the early nineteen hundreds, the modern convention developed that led form to be the ultimate generator of any meaning. During this period architecture was torn away from textiles.

While Adolf Loos' arguments were somewhat totalitarian and circular (for example, he defined the modern man as one who shuns ornament and then concluded that all modern men would not enjoy ornament), these notions were epitomized in Adolf Loos' attack on ornament. *Ornament and Crime* (1908) described a world where men (women had not yet evolved that far) no longer needed or even wanted ornament, a world that would lead to glorious modern utopic splendor only without it. Loos and many of the moderns strangely enough denounce religion yet all sought a mythical conclusion to a life's work of pure modern design.

Loos declared the cross (made by knotting two sticks together) the first erotic mark. The development of culture to reject ornament was evolutionary. Therefore the notion that simple walls, or form, allow for meaning was the only natural way for society to develop a la Loos. Old myths were replaced by new ones. God was not dead, but had taken a new form. If one accepts Loos' idea that design without ornament was good because it was design without the erotic, then one has to question why is it good that we evolve out of the erotic (mythically associated with the empowerment of
"The modern man who tattoos himself is either a criminal or a degenerate."

"If a tattooed man dies free, this merely means that he died before he could commit his crime"

"Every art is erotic. The first ornamental mark ever made, the cross, was erotic in origin... But the man of our time who in intimate impulse dirties the walls with erotic symbols is either a criminal or a degenerate."

"The evolution of culture is synonymous with the exclusion of ornament from objects of use."

"Behold, the time is nearing, and fulfillment awaits us. So the streets if the cities will shine like white walls! Like Zion, the holy city, the capital of heaven."

"The ornament created today has no contact with us, no human relationship, no connection with the order of the world."

"Modern man uses his dress like a mask. His individuality is of such formidable power that it cannot be expressed by the array of clothes he wears."

"The absence of ornament is proof of spiritual strength."

-Adolf Loos, Ornament and Crime, 1908


women). And eventually this was questioned. That which was novel could not be kept up without it. Despite the rift away from past design modes plain surfaces were then the organic development of the culture since they were tied to our evolution.

Walter Benjamin described in one essay the downfall of storytelling as a consequence of the value of experience declining since the first World War. Replaced now by the new form of communication, information as in newspapers and the novel, stories were not previously a matter of verification. Information on the other hand must sound plausible and be verifiable. It gives everything to the reader with little mark left by the writer. In fact, the writer does leave a mark, but this mark is made through the choice of information conveyed. Although information is related to us as though it were some unbiased absolute, the act of choosing a topic is the first bias for it places a value on what is important to know and what is not. This is necessary if the information we receive is to be meaningful at all. However, information is rarely presented to us as a subjective issue, only as an absolute fact. As such, room for interpretation, meaning, and responsibility are once again negated. Storytelling, however, allows for more interpretation. The reader associates it with himself while the teller usually places into the story some mark of his own experience like how the teller heard the story for the first time. These marks of experiences become traces left in the story like ornament on a building calls attention to its significance and relates its relationship to its makers and users over time. "To live means to leave traces." But this tracing was replaced by the apparently inviolable, rational condition of information.

Writers like Walter Benjamin were both celebratory and mournful about this modern condition. Loos, in the other hand was clearly elated by it. "Every age had its style; should only ours be denied its own style? By style we meant ornament. And then I said: Do not weep. Behold. This is precisely what constitutes the greatness
Adolf Loos.
of our time: the inability to invent a new ornament.\textsuperscript{3} This inability was to become the mark on architecture and the trace beginning at a larger scale. For Semper's carnival and festival motivated architecture scheme, if there is no longer any collective myth to celebrate then there would be nothing to motivate building. Or could it be that the myth was here the monument of no monument?

Whereas Semper's mask is the expression of the carnival spirit and the reason for monumental architecture's origins, Loos' mask is there to repress that spirit. The individuality of the user was supposed to replace that of the maker. For the pre-modern, highly preceded understandings of typology governed the framework in which ornament was created by the maker. For the modern, mass-production left no trace of the maker within the item itself, but since previous typological concerns had been discarded, the mark of the maker in fact occurred at that scale, the scale of the mass-produced item, one often hard to discern in everyday life so it might appear that there was no trace of the maker, that mass production had somehow made the item absolute in its creation. For Loos the stressed relationship was between the object and user, not the maker and user with the object simply as a medium.

Loos linked a lack of ornament with greater economic wealth. In \textit{Ladies Fashion} (1899) Loos said that women have not rid themselves of thirteenth century ornament values like men have evolved to do. Only when women developed parallel clothing attitudes to men would they attain equal social and economic standing. Loos said modern workers who create ornamented objects do so not of their free will but because of the tyrannical oppression of backwards and powerful people. This forced production damaged the economy by wasting time and material on unnecessary frivolity. The working class would get paid more and would have to work half the time. However, rather than the free utopic world this sounded like, essentially this left just enough time and money for the working class to become also a leisure
12 Josef Hoffmann, Stoclet Palace, Brussels, Belgium, 1905-11. The side walls of this building appear to have no thickness like carpets sewn together at the seams, but there is no ornamentation on the surfaces and no indication of any other supporting structure.

13 Erich Mendelshon, Einstein Tower, Potsdam, Germany, 1920

14 Le Corbusier, Ronchamp Chapel, 1950-5

15 Adolf Loos, villa project for the Venice Lido, 1923

16 Loos, Steiner House, Vienna, Austria, 1910
Loos suggested that lack of ornament would slow down changing styles and fashions contrary to what did happen as clothing with lack of ornament became a fashion trend. Clothing he felt would change only when there were certain cultural constraints behind it that would change. So in a sense, form was absolute at any instant in time.

Loos’ designs express his views on ornament. His exteriors are white bare walls with punched windows, gaining their strength from the drama of the form rather than any texture. His stark facades mask the interior raumplan. Within a tightly stretched container, he manipulated and interwove the interior volumes of the building which were covered with lavish textured marbles and adorned with the furniture and decorative carpets of the owner.

During the advent of Modernism, the expression of architectural meaning evolved from the notion that texture conveyed the message and reason for a building's existence to the idea that the form of the building gave strength and meaning to the design. With the change of expression also evolved a change in the myths they portrayed as well.

The development of the glass curtain wall hung on a structural frame, brought to full splendor and glory by Mies, signaled another development, the beginnings of one form of post-modern construction. On Mies’ towers and many other buildings since them, the glass hung on the structure like Semper's carpets over the joinery. The glass however, had no texture. It was not a material to look at, but one to look through. It tells no story or conveys any experience of its own or its maker but only that of the ever changing scenery of passers-by, never holding onto that image for more than the instant it takes to produce it. No traces were ever left on it either of the user or the maker. Because these empty plates of glass are held up like carpets on a structure, we might
17 Walter Gropius and Adolf Meyer, The Bauhaus, Dessau, Germany, 1926

18 Mies Van Der Rohe, Glass Skyscraper project, 1921

19 Mies, 860 Lake Shore Drive, Chicago, 1948-51

▷ Richard Sennet.
“Plate Glass” in Rariton.
Sennet. p 356.
Sennet. p 359.

Fredric Jameson.
“Postmodernism or the Cultural Logic of Late-Capitalism” in New Left Review. (September 1984). p 60.
expect more there and this gives the sense of a presence of absence.

Richard Sennet describes Mies' towers as transparent, yet not without bounds, not open. There is no way to remove the glass and no way to get out of it. The inhabitant is isolated in the building and allowed only to view or be viewed. Even though Mies imagined a marriage between inside and outside, the sense of sight became divided from those of sound, smell, and touch. Rather than this observability enlightening the actions of the viewer, visibility joints together with passivity. "There will be no mystery, and no experience, for one who coolly takes the measure of everything." Despite this now acknowledged absence of experience in all the glass (exchanged for open information), it is such that this "absence acquires a sacred character." Once again the ideas of the period have obtained a mythic character, even if the story is that there is no myth, that we can know and describe everything rationally. The glass is a material of coldness, solitude and inviolability, conditions of the arts not of construction for it cannot be easily adapted or modulated through time.

Of postmodernism, Frederic Jameson speaks about a "new kind of flatness or depthlessness, a new kind of superficiality in the most literal sense." Depth is replaced by surface. Also these surfaces are without a texture that might suggest more meaning and therefore more depth. He describes the way glass towers are not something you can see themselves, but that they distort and reflect the elements around them. They cannot be gazed into and there is no sense that they would be any different inside. There is no depth to the building. It is all non-tactile surface. It brings nothing of experience to the site.

In the early twentieth century there was a crisis of ornament, of texture, of painting. Form emerged as the generator of an architectural design. However, this method has lost its prominence also and is now
overview, 1979, Andean Foothills, straight lines are ancient markings. The spiral at lower right has a diameter of about 260 feet from which a thin triangle reaches and covers part of a 600 foot bird figure. At bottom is the Pan American Highway.

Jackson Pollock, *Alchemy*, 1947

center portion (approximately one third) of a map of two million galaxies (white dots) that covers ten percent of the sky and extends two billion light years deep

becoming replaced by the reemergence of texture, but in a manner such that the texture and structure are at the same scale and in fact have become one, performing both building requirements of support and enclosure.

By intensifying the number of surfaces, once again depth can be achieved, but at the scale of the building rather than the scale of a wall surface. The textile-like structures, woven together to form three dimensional webs much like a “cat’s cradle” string hand game or the webs of some spiders and worms that describe the quality of the enclosure. The structure becomes a woven pattern to inhabit, look at, and interpret. Although built out of similar materials to the previous steel and glass structures, the buildings with their irregular filigree or tracery, begin to suggest a storytelling of their own.

This interest in using texture to describe the origins of structure is a phenomenon found in other fields as well today. As a hypothesis to suggest what could have caused the “clumpiness” or structure of the universe (meaning its non-homogeneity) so early in its beginning after the big bang (necessary in order to explain why the big bang did not result in a universe with complete even distribution of matter) involves the notion of cosmic defects called textures. The textures would seed aggregations of material that could evolve into the clusters of galaxies we see today. These defects in the cosmic fabric were produced from the breaking of symmetries that existed very early in the history of the universe. "At birth, the universe was exceedingly hot and existed in a state of perfect unbroken symmetry. But as it expanded the universe cooled, passing through a series of abrupt changes in its physical state, called phase transitions. In each phase transition, some of the symmetry relations between forces and particles broke. Thus, the universe degenerated from a phase containing unified forces and identical particles to the modern, more familiar state of differing forces and particles." As the universe has expanded, the scale of the textures enlarged to become the galaxies we see
23 silk snare web built by *Lycophora montana*

24 sheet web built by *Cyrtophora citricola*

25 rose window, Sainte Chapelle, 1241/3-48

26 gel structure of an unoriented acrylic fiber, 31,500X

27 a rearranged card web of rayon fibers
“Liquid crystals offer a convenient way to study the formation and evolution of defects closely analogous to those that may have arisen in the early universe. Defects in liquid crystals show up as dark lines and loops... The subsequent evolution of defects in the liquid crystals beautifully illustrates the idea of scaling which is central to defect theories of the origin of cosmic structure. The photographs show the crystal one second (a), 1.7 seconds (b), 2.9 seconds (c), and 4.8 seconds (d) after the phase transition... Initially small phase transition defects lead to the appearance of progressively larger structures.”

linen embroidery found inside a grave at Saqqara in Egypt, possibly over 6,000 years old, shown in Semper’s essay, 1860

Jean Nouvel, Institute du Monde Arab, Paris, 1983-7, detail of the South facade with the different opening positions
and live within today. Contemporary physicists look toward textures as one possible origin of the structure of the universe.

Likewise, the relationship between architectural form and ornament has been changing. There are many buildings and designs whose structures have transformed such that they appear to be the texture itself. This is a three dimensional texture that illicits the meaning of the architecture and completely determines, though incidentally, the perception of the form.

The maker once again has the ability to impart something of themselves and their experience to the design. Where the building design process had been rational and also brutal, it has attained again a certain quality of knitting, of weaving. Care is placed into the consideration of each surface texture as well as its placement, and experience that is not necessarily from rational bases is allowed to come through. This occurs both in the direction of the adventurous in large scale, apparently gestural moves (Coop Himmelblau's Vienna attic conversion and Behnisch & Partners' Hysolar Institute building) as well as in the creation of a mythical condition in large scale ornamental productions (Jean Nouvel's Institute du Monde Arab).

In Nouvel's building one wall of unyielding, repeated panels replaced the notion of plain glass panels within a structure to control light and views. These pieces are highly ornamental. They are mass produced, and yet we see the mark of the maker. For constructions like Behnisch' and Coop Himmelblau's the experience of the maker is imparted through the gestural moves that occur at the scale of the building. Like Semper's mask, if the building is well made and functions without hindrances, we once again come to accept that some story is being told to us. We are not just in a gathering of rational elements that inform us only about the buildings structure.

However, the post-modern problem is not simply to gain experience again, but to have it simultaneously with information. Experience involves mimesis,
31 Institute du Monde Arab,
South facade

32 Institute du Monde Arab,
South facade

Joh Horgan.
“Quantum Philosophy” in
Information involves ratio, rationality, critique, and verifiability. For example, Native American burial mounds have had their contents unearthed, destroying the mounds that had sparked scientists in the first place because of the atmosphere, the experience they generated by marking sacred territories. Now that we understand completely the contents of the mounds and their reason for being, they exist no longer. Their trace has been erased.

The key here is that both will exist at the same time, but neither will exist in completion. Some mounds could be researched while others left alone. Possibly, they could be studied with equipment like sonography where information could be gathered without disturbing the mounds. Still, information gathered in this manner is not total since these methods only describe certain aspects of the objects. As technology progresses, experience and information will exist more and more toward completion, but they could never both reach it. We cannot simultaneously construct our environment and evaluate it at every moment. In quantum physics this behavior is described by Heisenberg's Uncertainty or Indeterminacy Principle (1927) which states that in quantum physics two 'conjugate variables', such as position and momentum, cannot be measured exactly at the same time. Measuring one variable more exactly renders measurement of the other more ambiguous. Since both measurements cannot be accurately known simultaneously, the notion of a specific effect occurring from a unique cause is replaced by that of statistical probabilities (but *not* randomness). Also when measuring these variables, the decision of how and what to measure will effect the outcome of the particle's behavior as well as the measurements. "The most profound lesson of quantum mechanics, he remarks, is that physical phenomena are somehow defined by the questions we ask of them." Experience and information exist simultaneously. By our experience we
33 Coop Himmelblau, Attic Conversion, Vienna, 1984-8

34 Attic Conversion, model

35 Attic Conversion, section and ground plan

36 Coop Himmelblau, Funder Factory 3, 1988-89, model
37 examples of cat’s cradle configurations

38 Behnisch & Partners, Hysolar Institute Building, University of Stuttgart, Interior

choose what information to know and this in turn influences our experiences.

The same is true for the mythical (the ritualistic) and the adventurous (the innovative). "The decentralizing tendency toward independence and individual existence finds its counterweight in the centralizing social life." Both are necessary for survival. The independence allows change and progression while the centralizing keeps us sane throughout it. One reason Behnisch' and Coop Himmelblau's two projects are successful is because they have both elements, an innovative and a mythical. The Hysolar Institute's large, textural piece spans over several regular rectangular laboratories. The attic addition has its biomorphic wing set against the backdrop of aged Viennese buildings.

Such a vocabulary works particularly well as additions within existing contexts, rather than as isolated pieces. Time renders everything mythical in the sense that we accept all that is past without question since it is inviolable. Therefore existing buildings provide a backdrop against which to measure new and innovative constructions. Without some sort of accepted elements in a project, there is no way to grasp hold of it. However, without innovative projects, the built environment would exist in stasis.

Coop Himmelblau's Funderwerk 3 Factory, 1988-89, however is not so successful. Though it is made up of both what might be called gestural elements as well as a large, easily identifiable rectilinear box, the two formal parts to the project are at essentially the same scale whereas in the two previous projects, the repetitive elements (the Viennese context and the laboratories) added together to make the larger scale. Coop Himmelblau's large plain box lacks this sense of aggregation, growth, and time upon which to place the expressive pieces. The plain and flat box, rather than rationally and simply expressing the repetitive factory production, negates it by wiping all texture off the surface. Meanwhile the foundation for the gestural pieces is not convincing in the way that the attic
39  Hysolar Institute Building, section, elevation

40  Left orb-web built by a Zygellia spider, Right web constructed in a laboratory after the spider had been fed with a dose of caffeine.

41  Hysolar Institute Building, interior

42  Hysolar Institute Building, plans
conversion is. The pieces do no appear to be working toward some specific expression and spatial formation. The believability of Semper's carnival mask was based on the proper construction and operation of its foundation layer. When all the pieces appear to be acting as they should, we will consider the myth they might be working toward as well. The Funderwerk 3 Factory does not possess this underlying sense of authenticity or the outward expression of some specific beliefs or sensibilities.

These faceted structures when open or infilled with glass appear distinctly tectonic, sticks and planes added together within an environment. However, when the web becomes dense enough that the facets are filled with opaque material the construction seems to move into the realm of stereometrics, determining the dimensions of solid volumes giving the appearance of a carved shape rather than an additive one. The constructions can easily define either fields of open web spaces or technological, cave-like volumes; or they can slip between the two in one design.

The project of contemporary architecture is to continue exploring this apparent simultaneity (actually occurring at alternating scales) of stereometrics and tectonics, of myth and innovation, and of experience and information.
ZIPPY "Mortality 'N' Things" by Bill Griffith

I HAVE TO
CONFESS TO
A MORBID
HABIT....TH'
FIRST THING I
READ IN TH'
PAPER EVERY DAY
IS TH' OBITUARIES!

TO MAKE
SURE YOU'RE
NOT
LISTED?

TH' DECADES
AREN'T
WHIZZING
BY ANY
SLOWER,
ZIP...

WHAT'LL
WE CALL
TH' FIRST
TEN YEARS
OF TH' 21ST
CENTURY...
TH' "O'S"?

THERE'S SO MUCH
OUT THERE...ONE
LIFETIME JUST
ISN'T ENOUGH...

TO ROMP?
TO SWORY?
TO HAVE
FUN?!

NO...I'LL NEVER
HAVE ENOUGH
TIME TO
CRITICIZE
IT ALL!!

...SIGH...
I felt that the building could have been more successful overall in the design. I brought up and dealt with many issues both in research and design, but because of this, I do not think that I was able to fully explore and pursue any of them to the level I would have liked. In other words, I started a lot of potential design pieces, but could have done any of them more and better: more folds in the skin of the roof; and more interaction internally in the bath section between pieces, programmatic and formal, so that parts of the building extended into and effected one another, not just the other sections of the design and external spaces.

During the design, I continually questioned the existence of a public bathhouse, not in terms of security, but in terms of standards of cleanliness being imposed upon a societal group. However, every time something is built some element of control must be implemented because we live by setting value judgments on things. It gives "meaning" to the actions we take and experiences we have. The bathhouse then was a good tool to explore the relations between social control and social justice, but at the same time leaves one ambivalent as to what direction to take. I feel that we must strive to make things "better", that the invention of utopias are necessary for human socialization and interaction. At the same time I recognize there will always be contradictions in every act committed, in every building built. Our judgment is the only thing that can moderate the necessary balance. However, our judgment varies from person to person. Keeps life interesting, doesn't it?

The last thing that I did not get a chance to explore at all (it would have been a thesis in itself) is the making of surface textures for buildings. I would like to explore unusual materials, particularly commonly used objects, in making very tactile surfaces. For some reason texture (surface texture and three-dimensional texture) has always intrigued me, but I have generally regarded it as a side interest. I would have liked it to have played a larger role in this thesis.
North End, Boston, 1989
You know your culture from your trash. You know your culture from your trash.
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APPENDIX:


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3 Semper. p 29.

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