slowness
to my grandparents
lavare lento
a place for slow washing
alexandria, virginia

the proposal is for a slow laundering facility for alexandria, virginia. the building is intended to be slow and deliberate in its construction and inhabitation. without conventional machines, the architecture and the individual must take on increased roles in the process of washing. ideas about how slowness relates to memory, drawing and construction, and about how we might ground ourselves in a manageably paced lifestyle are at the root of the thesis.

composite ideogram
detail: slip form wall
model
partial plan
lavare lente
a place for slow washing

abstract ii

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Festina Lente: Hurry up, make Slow Architecture!

Dr. Paul Emmons

In the opposition between fast and slow, fast consistently wins our approbation. The word 'slow' is pondersously loaded with connotations of dim, dull, sluggish and foolish. However, the preference for speed is challenged by the slow food movement initiated by Italian writer Carlo Petrini in 1986 to resist Fast Food which: "diminishes opportunities for conversation, communion, quiet reflection and sensuous pleasure, thus shortchanging the hungers of the soul. In the name of productivity, Fast Life has changed our way of being and threatens our environment and our landscapes. Our defiance should begin at the table with Slow Food. Let us rediscover the flavors and savors of regional cooking." The fast-growing cittaslow movement extends these values to the urban environment. Of course, both movements were initiated in Italy, where the aging of cheese is measured in years unlike Wisconsin cheddar’s aging that is measured in weeks. Stepping away from fast-track building, Wisconsin Steven Siebers, challenges himself and us with the question: can there be a slow architecture and what is its construction?

Ever since the turtle won a race against the hare, prudence entails a slow and steady pace. In ancient Rome, Suetonius recorded that Augustus, patron of architecture and author Vitruvius, had a motto for ruling the empire that was festina lente or 'hurry slowly'. In the Renaissance, Erasmus described the phrase through the image of the swift movement of a dolphin tempered by the stability of an anchor. Aldus Manutius, the Venetian who published an edition of his friend Erasmus’s A dages, earlier printed an image of a dolphin wrapped around an anchor in the in una rubru Huyneronotomachia Poliphili (1499). This graceful design was so important to Aldus that he adopted it as his printer’s colophon. Renaissance emblems like this were visual riddles with mottos that challenged readers to reflect upon their possible meanings. Rather than the author who hastily and efficiently provides an executive summary for those who merely want the bottom line, these pictorial paradoxes deliciously expand time by inviting readers to construct their own interpretations in the unvocalized space of the hyphen between signifier and signified. Renaissance architect and author of the first architectural treatise since ancient times, Leon Battista Alberti, employed an emblem of festina lente in his marble façade of the Florentine church Santa Maria Novella: a turtle with a sail on its back. Like emblems, Si ebers shows us that architectural drawings, through their slow construction, invite imaginative forays into the realm of the possible that quicken into birth.

The emblematic representations of festina lente rightfully became the image of the prudent architect. In a 1567 French treatise, Philibert de L’Orme’s architect carefully steps out of a cave to reach the palm as his compass paces his walk. The image of festina lente in Hypnerotomachia Poliphili of a half-sitting and half-standing young lady who holds a wing upward with one hand while the other is weighted down with a stone inspired notable architectural frontispieces such as that in Walther Hermann Ryff’s Der furnimbsten notwendigsten der gantzen Architectur of 1547. Ryff’s work shows a putto similarly armed standing upon a cube set on a base and is surrounded by the tools of the architect.

Erasmus’s lengthy reverie on the dolphin and anchor emblem of festina lente suggested that the anchor represents the period of deliberation before a work is begun and the dolphin the speed of its completion. Architectural work requires completion of a design before construction of a building can begin, so its deliberation is through the making of the drawing. The Noctes Atticae of Aulus Gellius described festina lente as maturity – being neither too soon nor too late – and compares it to the ripening of fruit and of human beings. Through his master’s thesis, Siebers demonstrates himself to be a prudent architect, ripening not only a design, but also his architectural imagination in a work that is a cool manifesto for a slow architecture.
Introduction

Slowness doesn’t just refer to how long it takes to design a scheme, construct a drawing or construct a building. Instead, I have come to understand slowness as more of a state of mind or perhaps more appropriately, as a heightened sensitivity which can inform how we think, draw, build and live.

According to Todd Williams and Billie Tsien, slowness relates to memory as we become physically involved in a constructive process. Through a physical and emotional expenditure, there is the potential for us to make the process of design and construction a meaningful and thoughtful extension of ourselves. Thus, representational and constructive discoveries remain resilient with us, because of our personal engagement in the act, as compared to if we had gained the knowledge through an external means.¹

Slowness relates to drawing when the designer layers and overlaps information, i.e. plan, section, elevation, details and other various studies and notes, onto a foundation of earlier drawings. In this way, the story of the building and the drawing is elaborated upon, through the presence of related elements which are informed by remnants of previous design decisions. Slowness also relates to drawing if the drawing is constructed in a way which speaks to how the building is to be constructed and how it will mature and weather over time.

Slowness relates to food when the experience of farming, cooking and eating are understood as celebrations of a regional identity. The international slow food movement was founded in 1986, by Carlo Petrini, and was established to protect against the global homogenization of food.² The organization consists of a world-wide network of small convivias, or chapters which meet informally to share and promote local small producers and learn about culinary traditions that draw upon their cultural diversity.³

Slowness also relates to cities. The mayors of four Italian towns met in Orvieto, Italy in 1999 and founded the slow city movement.⁴ In an article about the cittaslow charter movement, Paul Knox, Dean of Virginia Polytechnic Institute and State University, states that in order to obtain certification as a slow city a locale must commit to enhancing and preserving local traditions, reinforcing the city’s unique history, culture, architecture and physical environment and embrace a relaxed pace of life.⁵

Slowness relates to construction if each of the elements of the building, i.e. floor, roof, walls, etc. is challenged to take on an additional responsibility, in order to stay in the game. Slowness also informs construction when the whole is built up from smaller, thoughtfully considered pieces, which are scaled so that one or two people can move and assemble them. Slow construction might also draw some inspiration from the slow food movement by promoting the use native materials and techniques while pursuing a slow thoughtfulness in all stages of design and construction.

³ Irving np
⁵ Knox np
slowness is the theme
the first thoughts on slowness

I first started to consider slowness as a theme in a scheme I proposed for a competition, in the fall of 2004. The title of the competition entitled: animal, vegetable, mineral, called for a design that would connect 1001 and 1021 Prince Street, the two buildings which make up our Washington Alexandria Architecture Center.

The proposal was a rather playful one which drew its inspiration and spirit from the children’s game, animal vegetable mineral, from which I assumed the competition took its name. The proposed scheme recommended that a Ferris wheel and a series of platforms be installed in the courtyard to form a sort of circulatory link between the two buildings.

Like the children’s game which is played solely for the purpose of a joyful exchange -- without much strictness about how or when one begins or ends the play -- the scheme builds on the idea that spaces or paths should have an inherent complexity to them or perhaps more appropriately, an indirectness which invites slowness, encourages joyful exchanges and suggests that people can reside in the place for as long or as short a period as they’d like.
Goldsworthy’s “roof” was a project Goldsworthy had been commissioned to design and build in the east wing of the National Gallery. The project involved installing a series of eight partially overlapping slate domes in a narrow space that had formerly served as a Japanese garden.
bricks are taking over mending wall - constructed of header courses

on the right is a full scale investigation of how to build with brick. the wall that was constructed was a patch like installation to an existing brick planter box located near the front entrance of the washington alexandria architecture center. the patched portion had been in a state of ruin for nearly three years.

the bricks used were a slightly different dimension than the original bricks. the mortar used was not colored red like the original mortar. lastly, the new portion of the wall was structural, unlike the rest, which was a veneer, facing concrete masonry units. given these variegations it seemed to me unreasonable to try to repair the wall, in a way that attempted to make a seamless match to the original construction.

instead, the design and construction of the wall using only headers attempts to mend the wall and recognizes and reflects it’s nature as a structural patch and as a link between the old and new, which is distinct from the original construction.

buildings < inform > drawings

goldsworthy’s domes and header wall

during the fall semester of 2004 i had the unique opportunity to see andy goldsworthy working on his installation entitled “roof,” a project he had been commissioned to design and build in east wing of the national gallery. the project involved installing of a series of eight partially overlapping slate domes in a narrow space that had formerly served as a japanese garden.

in observing how they worked on the site, how they moved and placed giant pieces of slate, installed and used jigs to inscribe arcs, used wet saws to cut and finish the stone and how they drew or made notes with stubby pieces of chalk – i couldn’t help but draw parallels with my own studio work and header wall investigation.

i became increasingly interested in exploring how drawings were considered and about how drawings could inform and inspire built things, and about how build things and the materials of their making could inform the drawings necessary to make them.

in reviewing the construction documents (measured sketches) i came to appreciate his method of drawing and about how an idea could be translated to the site or how site/constructive knowledge could inform the drawings. all the drawings that were on display were hand drawn, sketches, with only the most critical dimensions noted. conceivably the ones that goldsworthy knew that he could control of or the boundaries he knew he wanted to work to. he didn’t have to spend the time to painstakingly draw in each piece of stone or joint, because he knew that they each piece was going to be different and require modifications of the site.

in the same spirit, when i constructing my subsequent drawings for the header wall, i paid close attention to the dimensions at the corners, always drawing them first (as they were laid first). i was also mindful of the coursing, which i drew as a line for each course (as they were maintained by a strung level line, from level corner to level corner). the bricks themselves could be drawn freehand or in some rare cases it was not necessary to draw them. drawing perfect rectangular bricks and precise joints seemed to make less and less sense, because it did not seem to acknowledge the material and the hand of the maker plan an integral role in the making.
making = knowing
drawing tools

physically constructing the tools with Jon, also
gave me a sense of the thoughtfulness and
rigorousness necessary for the slow process
of making. In approaching my subsequent
work I found myself, almost subconsciously,
making design decisions that were informed
by ideas about how a slow rigorousness could
be extended to the process of constructing a
drawing or constructing a building.
on making thousandths of an inch material tolerances
the right are drawing tools and details co-designed and built for display as part of the “tools of the imagination” exhibit at the national building museum in washington, d.c.

may - oct 2005

the design and subsequent refinement of these drawing instruments, so that we could machine the pieces in the school’s rather modest shop, was an endeavor and it gave me a heightened sense of the importance of distilling an idea and about being mindful of a material’s will.

aluminum pressure fit pegs antigraph pantograph ellipsograph
soak wash spin
diagram

the piece on the right was an early study of the process of washing and the interrelated nature of each of the individual cycles. it was the first step in conceptually breaking apart the washing machine, a black box, which veiling us from the process and the tacit aspects of washing.

hurry up, so you can wait

one of the main misconceptions about machines is that they free us from work so we will have more time, conceivably, to do something else. however, most of the time we end up waiting, sometimes for great lengths of time for tasks to be completed. conversely, if the environment were to engage us and invite us to immerse ourselves in what we were doing, then we would never have to be waiting, because we would always be active and passing the time in a meaningful and enjoyable way.
the site. is located in alexandria, virginia on a corner lot, at the intersection of commerce street and south payne street. there is currently a derelict, one story brick and wood timber building on the site, which was built in 1912. this building formerly served as an icehouse.

the icehouse is allowed to remain, and becomes an important element in the design scheme. in this way the design responds to the existing urban condition. this stance seems appropriate in the scope of the thesis if one thinks about slowness as it relates to the physical passage of time, and specifically, concerning how materials age and weather. a rather nice opportunity arises to establish a dialogue between the new and the old structure.

metaphorically i think about the two buildings as if they were a parent (icehouse) and a child (lavare lente). like a parent and a child, the two buildings share architectural genetics and external influences. theoretically aging at the same rate, they will pass the years together, with the experienced and weathered parent always acting in a support role, informing and guiding decisions about the new structure and any subsequent additions to it.
lavare lente
the first thoughts

these are early studies of the structure and details. the walls, the floors and the roof are all “double walled” systems. this comes out of a desire that each element of the buildings becomes more integral - by taking on at least one additional responsibility.

in the early designs, columns supported the main building volume. they were post tensioned concrete columns. the footings would be poured first with the reinforcing rods sticking out. the individual pieces would then be slowly slid down from above. to complete the system the rods would be capped and tightened to make the structure rigid. as the design evolved, these columns took on a nature similar to the roof and the floor, becoming wider and hollow.

the walls on the second floor were thickened to house the necessary pipes and a portion of the walls of the washing station were designed to accommodate an integral bench and a table. a portion of the wall was also sloped and was given a treatment like a washboard, with the intention that you wash on the walls.

the upper portion of the floor is made of perforated metal and the lower portion is a bent plate concrete beam. this allows the main floor surface to remain level and also eliminates the possibility of water pooling up. instead, water drains through to the sub-floor trough which is sloped to move the water to storage cauldrons or out of the building.
lavare lente

first floor plan and details

- chimneys and ash collection vessels
- former ice house, wood storage
- plaza
- water storage tanks
- open-air stairway
- covered extension of the plaza

lavare lente

- wall section
- section detail: wood log cradle
- elevation: slip cast concrete wall
- section detail: slip cast concrete wall and formwork
lavare lente
second floor plan, elevation and details

The building conceptually is made up of three main walls. One cluster of four walls on the northeast portion of the plan delineates the wash areas and the lounge. These walls, oriented north-south, act as chimneys and support the main floor. Secondly, a wall on the north-west, encloses an exterior stair and funnels wind from the northwest through the structure and through the outdoor line drying area. Lastly, the angled wall at the south edge of the site houses a secondary, open-air stair. Its orientation responds to a neighboring building.

elevation
second floor plan
detail: copper panel support
detail: washing station
detail: roof drain

lavare lente
(a) washing areas (b) sorting area (c) deck / summer drying (d) open-air stairway (e) deck
The roof, constructed of corrugated glass, is a double wall system. The panels are rectangular, but are custom made with diagonal corrugations, running at 45 degree angles. This allows them to be structural, as the corrugations span from truss to truss. This configuration also allows water, that condenses on the underside of the roof or rain which falls on the top portion, to trickle diagonally to the edges where it can be collected in gutters. The edge gutters are integrated into the trusses. In order that no portion of the panel is left unsupported the corrugations of upper and lower panels span in opposite directions. From above or below they form patterns of intersecting diagonals.

Over the washing areas, between the chimneys, the panels are 4'x6' and span from roof truss to roof truss, where they are mounted to the supports. Over the sorting area, the panels are 4'x8' and span from one truss to every third truss, where they are mounted.

In this drawing you can also see the first articulations of the stair tower and winter drying area on the west side of the building. This modification to the plan begins a theme of differentiating the edge elements - as they have begun to take on different responsibilities than their interior counterparts.
lavare lente
sections and details

on the right are some studies that attempt to reconcile the connections between the roof and the walls and between the walls and the floors. Each element and its respective method of construction was initially conceived of as a bit of an independent system. Therefore, some modifications had to be made to the spacing of some of the elements or changes had to be made within the building modules themselves in order for the whole to be resolved.

The roof structure consists of queen post beams that span 8’ o.c., from chimney wall to chimney wall. These beams, in turn, support two additional queen post beams spaced between the chimney walls and spanning from the north edge of the structure to the south bearing wall. In an earlier scheme there was only one queen post beam between each pair of walls. An additional beam was added, per bay, to support the glass panel roof and allow it to span from beam to beam. This provided additional stability, and simplified the connections in terms of the overall scheme.

The queen post system was selected because it reduced beam depth, but also because the tension cables of the queen post beams could serve as clothes lines for drying on the interior and exterior of the building.
lavare lente
section washing bay, section transverse, details

at the beginning of the project many of the elements, particularly the walls, were very similar in form. as the design became more developed, elements on the edges began to take on slightly different characteristics, because of their nature as edge entities.

the wall on the east side of the building became a solid, 2' thick wall, in order to support a cantilevered steel and glass cage structure which became the envelope to enclose the lounge area and the area for ironing. on the west side of the building the wall became thick enough to be inhabitable and house the primary stair and winter drying lines.
drawing with material
slip cast concrete wall

the drawing on the right came out of a rediscovery of a rather obvious concept, namely, that when we construct buildings we construct them with materials (not with lines, which we often use to construct drawings) these materials have inherent properties, characteristics and dimensions, which are usually not fully expressed in the drawings.

that said, the method used to construct the drawing on the right and which informed later iterations, came out of a desire to allow materials and their inherent qualities and dimensions to manifest themselves in the drawings and allow the drawing to be informed by the process of construction.

the general intent was that the constructive process of the building and the constructive process of the drawing would inform each other.

constructing a wall
constructing a drawing

slip cast concrete wall

the slip cast method of constructing a concrete wall utilizes a single set of form work, the form work is set up, the concrete is poured, the concrete is allowed to cure, the form work is removed and shifted over, the process is repeated. in this way a rather substantial structure can be built up from small units, over time.

likewise the drawing was constructed using a single form - a wood block stamp. each time the form was set, time was allotted for curing, the form was then removed, shifted and reused.

in order to keep a portion of each wall hollow, two sets of form work were employed, the interior was made of bronze segments, which nested together and which were not to be removed and an exterior form made of wood segments, which were shifted and reused after each pour. a portion of the bronze form work is a reveal on the finish wall, it serves as a ledge to support the wood form work, as the wall is constructed vertically.
lavare lente
index sheet #1

first floor plan
elevations, slip cast wall (2)
section detail, slip cast wall form work
detail, header wall coursing
detail, wood ash access hatch
section, white washing station
elevation, soak wash rinse
elevation wood log cradle
section wood log cradle

lavare lente
(a) stair tower/winter drying
(b) chimneys and ash collection vessels
(c) plaza
(d) former ice house, wood storage
(e) water storage tanks
(f) open-air stairway
(g) covered extension of the plaza
lavare lente
index sheet #2

elevation, north
second floor plan
section longitudinal - through lounge, washing area and stair tower/ winter drying detail, copper panels and supports
elevation, washing area
section detail, washing station
elevation, soak wash rinse areas
perspective, washing area
detail, stair tower/Winter drying details, stair railings
perspective, stair tower stairs
exploded axonometric, slip cast wall form work
detail, slip cast wall form work
detail, axonometric roof bay
detail section, chimney cap
detail elevation, chimney cap

lavare lente
(a) stair tower/ winter drying (b) sorting area (c) washing areas
(d) lounge (e) deck / summer drying (f) open-air stairway (g) deck
lavare lente

sort
Each wash station has its own table for sorting clothes pre- or post-washing. These tables can also be used for gathering, as they are positioned in the main space. The tables have several compartments so that one can sort and store their colors, whites, and delicate clothes separately.

Once you have completed your laundering, you can also use this table for folding or use it for storing clean, and/or folded clothes while completing another load.

soak wash rinse
The wash area contains a basin for soaking clothes, a basin and a soapstone angled wall for washing and rinsing and a basin for boiling whites.

perspective, washing area
perspective, sorting table
interior elevation, washing area
section detail, soaking area
lavare lente
soak wash rinse

white apple wood logs, stored in the wood cradle walls on the first floor, are burned in furnaces at the south tip of each chimney. heat generated from the fire is used to heat the water to supplement washing and boiling white clothes. ashes from firewood fall into the hollow interior portions of the four main walls where they are collected to be used as a washing agent for the whites.

section detail, white washing station
elevation, soak, wash, whites
during most of the year, weather permitting, clothes would be hung to line dry on an exterior line. The first option is on the southern side of the building, where a series of lines extend from the structure. This second floor outdoor gathering space is pleasantly cool as the northwest wind is directed through it. Clothes could be hung from the tension cables of the queen post beams that support the structure’s roof.

A secondary line extends across south Payne street and affixes to an installation to a nearby telephone pole. The line is circulated with a hand pulley system. The combination of the wind blowing and the clothes moving helps them to dry a little more rapidly. The line gives people in the neighborhood an idea about the building’s use, so additional signage identifying the building’s function is unnecessary.

The third line is utilized mainly in the winter or if it is raining outside. It is located within the depth of one of the walls of the western stair tower. The rather generous height of the tower combined with the installation of a release valve at the top, allows heated air that is drawn to the top to escape. This line is also circulated using a hand pulley system. Drying and air circulation is also aided by a ventilation pipe that runs under the length of the building. During most times of the year, air within the building will be hotter than air outside the building, so as the hot air escapes through the roof vents, cooled air will be drawn in from the ventilation pipe through vents on the floor and passively circulated.
lavare lente
east elevation
Thank you

thank you committee: jaan holt, paul emmons, susan piedmont-pal-ladino and marco frascari. i sincerely thank you for your patience and support over the last several years, but especially throughout the thesis work. i consider myself extremely fortunate to have had the pleasure of working with each of you. i consider each of you friends and i hope that you consider me yours. i deeply appreciate the time and effort you have given to me and to the school.

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thank you family: mom, dad, lynn and james for your love and support.
Image Credits

photo on page 3 (left side of sheet)

“goldsworthy’s roof” 15 February 2005. photo by author

presentation photo, page 29

presentation photo. 15 June 2005. photo taken by george makrinos
experience

The Urban Workshop  Washington, DC  05
Masonry Wall Construction  April 2005

Amestudio  Alexandria, Virginia  05
website | design, programming and maintenance  amestudio.com

Robert M. Gurney Architect, FAIA  Alexandria, Virginia  04
summer 2002 to fall 2004
presentation model construction
study model construction
website | design, programming and maintenance | robertgurneyarchitect.com
lighting and bath fixture product research and cataloging
computer renderings, submitted for unbuilt competition
general office duties

National Building Museum  Washington, D.C.  02
Design Apprenticeship Program (DAP)  fall 2002
worked with inner city high school students in a design studio setting - exploring
creative possibilities for window and door designs. final projects were displayed at
the national building museum as part of a museum exhibit.

education

Virginia Polytechnic Institute and State University, Blacksburg, Virginia  05
master's degree of architecture

Virginia Polytechnic Institute and State University, Blacksburg, Virginia  04
bachelor's degree of architecture

Washington Alexandria Architecture Consortium  02
fall 2002 to summer 2005

study abroad,  summer 2002
Riva San Vitale, Switzerland

honors

Center Director’s Award  05
given annually to a student whose academic work, various extra-curricular activities
and consistently positive attitude have been exemplary; the recipient of this award
has undertaken a number of activities in a spirit of generosity in order to improve the
learning experience for future students and has consistently produced design work
of a superior quality

Kyrus/Wheeler Award (one of five recipients)  05
awarded annually to those students who have continually given of him/herself to
improve the total quality of the physical and educational environment of the
Washington Alexandria Architecture Center and whose selfless, volunteer actions
have made significant contributions to the growth of the school

Washington Alexandria Architecture Consortium Brick Award  05
awarded annually to a student for explorations in the creative use of masonry.

Merit Award | Animal: Vegetable: Mineral Competition | Honorable Mention  05
one of twelve Virginia Polytechnic students chosen to compete for the Virginia
Society Prize, one day charette at the National Building Museum, Washington, D.C.

CADD Award  03
presented to the student enrolled in a computer class whose dedicated endeavors
on the computer have resulted in outstanding achievement in the creation of
drawings and images.

exhibitions

National Building Museum | Tools of the Imagination  May - Oct 2005  05
co-designed and built an ellipsograph, antigraph, and pantograph w/ professor
Jon Foote

49 flamingos  05
an installation in the Washington Alexandria Architecture Center main lobby, fall 2004