# A CLOCKWORK ARCHITECTURE

DIGITAL MINDS

ANALOG SPACES

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"A CLOCKWORK ARCHITECTURE"[DIGITAL MINDS IN ANALOG SPACES]

THIS THESIS IS AN INVESTIGATION OF THE WAY IN WHICH ARCHITECTURE CAN RESPOND TO AND ACKNOWLEDGE THE PROGRESSION OF TIME OVER LONG AND SHORT TERM PERIODS. MUCH LIKE THE HANDS OF A TRADITIONAL ANALOG CLOCK, WE USE OUR BODIES AS A FRAME OF REFERENCE TO HOW TIME IS PASSED BY PICKING UP ON CHANGES IN THE ENVIRONMENTAL QUALITIES OF LIGHT, SHADOW, TEMPERATURE, ORGANIZATION, POSITION, AND GROWTH. QUALITIES, EACH AFFECTED IN SOME WAY BY THE NATURAL CYCLES OF THE ENVIRONMENT, ARE DIRECTLY LINKED TO OUR SENSES. THROUGH REPEATED EXPOSURE, OUR BODY MEMORIES BECOME ACCUSTOMED TO EACH SPACE WITHIN A BUILDING AND THE QUALITIES THAT ARE ASSOCIATED WITH IT TO THE POINT WHERE ANY SLIGHT CHANGE OR VARIATION FROM THE NORM BECOMES INCREASINGLY APPARENT AND REQUIRES ADJUSTMENT ON OUR PART. OVER THE LONG TERM, THESE CYCLES OF ADJUSTMENT AND RE-ADJUSTMENT BECOME INSTANCES OF RITUAL TO US, TYPICALLY CREATED IN TUNE WITH THE PASSING DAYS AND/OR SEASONS. BY OPTIMIZING THE USE OF EACH OF THESE ENVIRONMENTAL QUALITIES WITH SENSITIVITY TO THE RITUALS WITHIN A BUILDING AND ITS SURROUNDINGS, IT CAN ULTIMATELY BE POSSIBLE TO CREATE AN ARCHITECTURE WHICH HELPS INCREASE ONE'S AWARENESS OF THEIR EXISTANCE WITHIN MANY DIFFERENT SCALES OF TIME AND PLACE.

"A CLOCKWORK ARCHITECTURE"[DIGITAL MINDS IN ANALOG SPACES]

OUR BODIES AND MINDS FUNCTION BOTH DIGITALLY AND ANALOGICALLY. LIKE THE HANDS OF A TRADITIONAL ANALOG CLOCK, WE USE OUR BODIES AS A CONSTANT FRAME OF REFERENCE FOR OUR PERCEPTION OF TIME. THE SENSUAL AND SPATIAL ASPECTS OF OUR ENVIRONMENT: SUN, LIGHT, TEMPERATURE, WIND, AND ORGANIZATION, INFORM OUR BODIES IN AN EFFORT TO DECIPHER WHERE WE ARE GEOLOGICALLY, YEARLY, AND DAILY. CONCURRENTLY, OUR MINDS FUNCTION TO PROCESS AND STORE ALL OF THIS INFORMATION IN A COMPUTER-LIKE FASHION WHICH, IN THE LONG-TERM, CREATES MEMORIES AND RITUALS THAT SERVE AS BENCHMARKS OF TIME PASSED AND THE GROWTH THAT HAS OCCURRED OVER THAT TIME. THIS THESIS SERVES TO EXPLORE THE WAY IN WHICH ARCHITECTURE ACKNOWLEDGES THIS PROGRESSION OF TIME IN BOTH LONG AND SHORT TERM CYCLES.

THIS "CLOCKWORK ARCHITECTURE" BEGINS WITH A SHORT-TERM CYCLE WHICH HIGHLIGHTS THE DIFFERENT POSITIONS WITHIN A GIVEN PROGRAM THAT ARE EXPERIENCED ON A REGULAR BASIS, AND WHICH ARE EXPERIENCED BASED ON THE TIME OF DAY. SINCE SENSORY INPUT IS LINKED TO SHORT TERM MEMORY, THESE REGULARLY EXPERIENCED SPACES WILL HAVE APPROPRIATE SENSUAL AND SPATIAL ASPECTS ASSOCIATED WITH THEM. THROUGHOUT THE LONG TERM CYCLE OF THE BUILDING'S USE, THOSE WHO INHABIT AND USE IT ON A REGULAR BASIS WILL BE REPEATEDLY EXPOSED TO THESE SENSUAL AND SPATIAL CHARACTERISTICS SUCH AS LIGHT, TEMPERATURE AND SPATIAL ORGANIZATION, WHICH WILL EVENTUALLY CREATE INSTANCES OF RITUAL ADJUSTMENT AND PROGRESS THESE MEMORIES OF ENVIRONMENT TO THE LONG TERM.

WHILE BEING REPEATEDLY EXPOSED TO THESE SPACES, THE INHABITANTS WILL ALSO BE CREATING LASTING MEMORIES OF LIFE. Thus, the long term cycle of the building will begin to inform the program by focusing on the constant growth and change of the architecture, body, and mind. Program elements such as an educational facility will begin to foster one's artistic ideas which will facilitate the growth of the mind. Other spaces such as galleries, exhibition spaces, and a theater will allow the building to constantly change its image by means of the work created by those artistic ideas. Lastly, spaces such as artist loft apartments and a small business center will allow the growth of one's self through the constant cycle of their life.

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THROUGHOUT OUR LIVES, THERE EXISTS ONE THING THAT IS ALWAYS IN A CONSTANT. UNCHANGING STATE OF MOTION: TIME. IT NEVER CEASES, NEVER CHANGES PACE, AND THERE IS NO ESCAPING IT. AS TIME PROGRESSES, WE BECOME AWARE OF THE DIFFERENT WAYS IN WHICH ITS PASSAGE CAN BE INDICATED. LIKE THE WORKINGS OF A TRADITIONAL ANALOG CLOCK, WE USE OUR BODIES AS A FRAME OF REFERENCE TO HOW WE PERCEIVE THE PASSING OF TIME THROUGH SENSORY AND SPATIAL INFORMATION. THE SIMPLE ENVIRONMENTAL CHANGES THAT ARE LINKED TO THE PASSAGE OF TIME, ENGAGE OUR SENSES AND TURN OUR BODIES INTO A LIVING, BREATHING CLOCK. CONDITIONS SUCH AS TEMPERATURE, WIND SPEED, LIGHT QUALITY, AND SHADOW CAN EACH BECOME INDICATORS THAT INFORM WHERE WE MAY BE WITHIN A DAY, A MONTH, OR A YEAR. ARCHITECTURAL CONDITIONS CAN BEGIN TO INFORM THE PASSING OF TIME AS WELL. THE PREVIOUSLY MENTIONED ENVIRONMENTAL CONDITIONS BEGIN TO CHANGE THE WAY IN WHICH A SPACE IS EXPERIENCED, OR WHAT TIME WITHIN A CYCLE IT MAY BE EXPERIENCED, WHICH IN TURN BEGINS TO INFORM THOSE WHO INHABIT THE SPACE AS TO HOW TIME HAS PASSED. EACH ENVIRONMENT WITHIN A BUILDING HAS A UNIQUE SET OF DESIRABLE CHARACTERISTICS THAT ENHANCE THE WAY IN WHICH THAT SPACE IS EXPERIENCED. AS WE EXPERIENCE THESE ENVIRONMENTS, WE BEGIN TO FORM MEMORIES OF THE ENVIRONMENTS THEMSELVES AND THE EVENTS WHICH TAKE PLACE WITHIN THEM. THESE BITS OF INFORMATION BECOME STORED IN OUR MINDS IN A COMPUTER-LIKE FASHION, AND THEY SERVE AS BENCHMARKS OF TIME PASSED. THESE BENCHMARKS THEN BEGIN TO SERVE AS FURTHER POINTS OF REFERENCE TO THE AMOUNT OF GROWTH AND CHANGE THAT HAS TAKEN PLACE WITHIN THE MIND, THE BODY, AND THE ENVIRONMENT. FURTHERMORE, AS THESE ENVIRONMENTS ARE EXPERIENCED, THE SENSORY INFORMATION BECOMES STORED IN OUR BODY MEMORIES TO SERVE AS A MEANS OF COMPARISON TO FUTURE EXPERIENCES AS WELL. HOWEVER, EXAMINING CURRENT TRENDS OF TECHNOLOGY, PRINT MEDIA, AND THE ARTS, WILL REVEAL THAT OUR CULTURE HAS BECOME DRIVEN BY OUR SENSE OF SIGHT RATHER THAN A MIXTURE OF ALL SENSES. THIS FOCUS ON THE SENSE OF SIGHT IS SLOWLY NUMBING US TO OUR REMAINING SENSES, EACH OF WHICH CONTRIBUTES TO THE WAY IN WHICH WE PERCEIVE SPACE AND TIME.

THROUGH REPEATED EXPOSURE TO SENSUAL INFORMATION OVER A PERIOD OF TIME, OUR BODY MEMORIES BEGIN TO FORM NOTIONS OF RITUAL TO THE POINT WHERE WE MAY BE ABLE TO REMEMBER AND IDENTIFY A SPECIFIC ENVIRONMENT OR RECONSTRUCT A SPECIFIC EVENT BASED ON SENSUAL CHARACTERISTICS THAT WE PERCEIVE. THROUGH FURTHER EXPLORATION OF THESE IDEAS, IT SHOULD BE POSSIBLE TO CREATE A COMPLETE SENSORY ARCHITECTURE IN WHICH MEMORIES ARE CREATED, FOSTERED, AND RECALLED IN AN EFFORT TO BETTER UNDERSTAND WHERE WE ARE IN PROGRESSION OF TIME AND SPACE.

## THE ANALOG BODY

## BODY MEMORY AND THE SENSES:

"My body remembers who | am and where | am located in the world," writes JUHANI PALLASMAA, "[IT] IS TRULY THE NAVEL OF MY WORLD, NOT IN THE SENSE OF VIEWING POINT OF THE CENTRAL PERSPECTIVE, BUT AS THE VERY LOCUS OF REFERENCE, MEMORY, IMAGINATION, AND INTEGRATION." WHAT PALLASMAA IS REFERRING TO IN THAT STATEMENT IS SOMEWHAT OF A NEW NOTION THAT THE BODY ITSELF, JUST LIKE THE MIND, HAS ITS OWN SENSE OF MEMORY. THE REASONING BEHIND THIS CONCEPT IS QUITE SIMPLE, WHICH THROWS INTO QUESTION WHY IT IS ONLY A RECENT EXPLORATION, NOT ONLY IN ARCHITECTURE, BUT IN FIELDS OF HEALTH AS WELL. WITH REGARDS TO ARCHITECTURE, THE NOTIONS OF BODY MEMORY BOIL DOWN TO THE FACT THAT THE BODY IS THE POINT OF REFERENCE THROUGH WHICH ALL EXPERIENCE OCCURS. "AT THE VERY BEGINNING OF OUR INDIVIDUAL LIVES WE MEASURE AND ORDER THE WORLD OUT FROM OUR OWN BODIES," ADD KENT C. BLOOMER AND CHARLES W. Moore2. WITHOUT BODY, THERE WOULD BE NO NEED FOR EXPERIENCE. OUR BODIES HOLD WITHIN THEM THE CAPACITY FOR A MULTITUDE OF SENSORY AND SPATIAL EXPERIENCES, AND IT IS THROUGH THOSE EXPERIENCES THAT WE BEGIN TO FORM IDEAS OF VOLUME, TEMPERATURE, LIGHT, SHADOW, AND OVERALL AURA THAT EACH INDIVIDUAL ENVIRONMENT CARRIES WITH IT. IDEAS OF BODY MEMORY ALSO CARRY WITH THEM IMPLICATIONS OF TIME, BECAUSE IT IS THROUGH TIME THAT WE BEGIN TO COLLECT AND STORE THIS SENSORY INFORMATION WITHIN

OUR BODIES TO SERVE BOTH AS A POINT OF REFERENCE TO PAST AND FUTURE EXPERIENCES

AS WELL AS A MEANS THROUGH WHICH WE ENHANCE THE USE OF THE SENSES TO EXPERIENCE
ENVIRONMENT. "THE BODY IMAGE...IS INFORMED FUNDAMENTALLY FROM HAPTIC AND ORIENTING
EXPERIENCES EARLY IN LIFE. OUR VISUAL IMAGES ARE DEVELOPED LATER ON, AND DEPEND
FOR THEIR MEANING ON PRIMAL EXPERIENCES THAT WERE ACQUIRED HAPTICALLY," ARGUE
BLOOMER AND MOORE. TO BETTER UNDERSTAND THE IDEAS OF BODY MEMORY, PERHAPS IT
MAY BE BENEFICIAL TO FIRST DISCUSS HOW IT RELATES TO PARTICULAR SENSORY AND SPATIAL
EXPERIENCES.

## VISUAL IMAGES - SIGHT

When relating the senses to architectural experiences, our sense of sight is certainly the most prominent way through which we interpret space. A vast proportion of architecture throughout the ages has, whether voluntarily or involuntarily, incorporated an ocular bias. If not entirely noticeable in Classical architecture, it is most definitely apparent over the past 30 or so years of architectural practice. This is a type of architecture which, according to Pallasmaa, is "aimed at a striking and memorable visual image," which has "adopted the psychological strategy of advertising and instant persuasion.4" This ocular bias goes way beyond architecture and into realms of technology, print media, advertising, and art as well. In each of these different areas, the drive is to get the point across in the quickest and most efficient way possible, which in most cases is visually. The architecture of large cities in particular is one domain in which ocularcentrism can be seen with its large buildings that tend to be viewed primarily through the eyes of eighty-mile-an-hour passer-bys.

WHAT WILL BE OFFERED NOW IS A STATEMENT WHICH CRITICIZES THIS RECENT TREND:

THE OCULARCENTRISM THAT THIS TREND BRINGS ABOUT IS ALSO ONE THAT DESENSITIZES

THE BODY TO THE OTHER SENSES. CREATING ARCHITECTURE THAT IS BASED ON STRIKING

MEMORABLE IMAGES IS A METHOD THAT SHOULD BE EXPLORED. BUT THERE ARE ALTERNATIVE METHODS FOR STRIKING IMAGES ASIDE FROM THE VISUAL. THIS TENDENCY TO FOCUS ON VISUAL IMAGERY HAS HAD NUMEROUS CRITICS, BEYOND ARCHITECTS. FOR INSTANCE, MAX SCHELER REFERRED TO THIS TYPE OF ATTITUDE AS A "HATRED OF THE BODY.5" PALLASMAA TAKES A SLIGHTLY DIFFERENT APPROACH BY SAYING THAT, "THE ART OF THE EYE HAS CERTAINLY PRODUCED IMPOSING AND THOUGHT-PROVOKING STRUCTURES, BUT IT HAS NOT FACILITATED HUMAN ROOTEDNESS IN THE WORLD." HE FURTHERS THAT THOUGHT BY CONTINUING, "...MODERNIST DESIGN AT LARGE HAS HOUSED THE INTELLECT AND THE EYE, BUT IT HAS LEFT THE BODY AND THE OTHER SENSES, AS WELL AS OUR MEMORIES, IMAGINATIONS, AND DREAMS, HOMELESS. 6" LASTLY, BLOOMER AND MOORE ADD THAT, "THE HISTORIC OVEREMPHASIS ON SEEING AS THE PRIMARY SENSUAL ACTIVITY IN ARCHITECTURE NECESSARILY LEADS US AWAY FROM OUR BODIES. THIS RESULTS IN AN ARCHITECTURAL MODEL WHICH IS NOT ONLY EXPERIENTIALLY IMBALANCED, BUT IN DANGER OF BEING RESTRICTIVE AND EXCLUSIVE, SUCH AS A SMALL HOUSE WITH A HUGE PICTURE WINDOW AND PRACTICALLY NO CENTERPLACE.7" CRITICS OF OCULARCENTRISM CALL FOR US TO BRING A BALANCE BACK TO THE USE OF OUR SENSES, AND ARCHITECTURE MAY BE ONE OF THE BEST WAYS FOR US TO BEGIN DOING SO. THE REMAINING SENSES EXIST FOR A REASON. AND IT MAY BE POSSIBLE TO CONVINCE ONE THROUGH FURTHER DISCUSSION OF THOSE SENSES THAT VISION MAY NOT BE THE MOST IMPORTANT FORM OF SPATIAL AND SENSORY EXPERIENCE, PARTICULARLY WITH REGARD TO THE NOTIONS OF BODY, MEMORY, AND THE PROGRESSION AND PASSAGE OF TIME. HOWEVER, ONE WILL ALSO NOTICE THAT VISUAL IMAGERY IS NOT THE ONLY SENSORY AREA THROUGH WHICH WE ARE BEING NUMBED.

#### THE SOUND OF SPACE

ASIDE FROM SIGHT, SOUND IS PROBABLY ONE OF THE BEST SENSORY EXPERIENCES

WHICH HELPS US GAIN A BETTER UNDERSTANDING OF A SPACE. WHAT MAKES SOUND A MORE

FULFILLING SENSORY AND SPATIAL EXPERIENCE IS THE FACT THAT, UNLIKE SIGHT, SOUND

INTERACTS WITH SPACE. AS PALLASMAA WRITES, "THE SENSE OF SIGHT IMPLIES EXTERIORITY, BUT SOUND CREATES AN EXPERIENCE OF INTERIORITY. | REGARD AN OBJECT, BUT SOUND APPROACHES ME; THE EYE REACHES, BUT THE EAR RECEIVES. BUILDINGS DO NOT REACT TO OUR GAZE, BUT THEY DO RETURN OUR SOUNDS.8" IMAGINE YOURSELF BLINDFOLDED AND PLACED IN A SERIES OF ROOMS IN WHICH YOU HAD TO JUDGE THE VOLUME AND CHARACTER OF A SPACE. WITHOUT YOUR SIGHT, WHICH SENSE WOULD YOU THEN USE TO JUDGE WHETHER THAT SPACE IS LONG OR COMPACT, WIDE OR NARROW, TALL OR SHORT, CLUTTERED OR EMPTY? THERE REVERBERATIONS AND ECHOES CREATED BY THE COMBINATION OF YOUR VOICE AND THE SURROUNDING SURFACES CAN IDENTIFY EACH OF THOSE CHARACTERISTICS IMMEDIATELY. SOUND GIVES US A SENSE OF CONNECTION WITH A SPACE AND ITS INHABITANTS AS DIFFERENT SOUNDS BECOME ASSOCIATED WITH DIFFERENT SPACES. REVERTING BACK TO THE BLINDFOLD EXAMPLE, ONE CAN SURELY ENTER THE KITCHEN OF A BUSY RESTAURANT AND IMMEDIATELY RECOGNIZE THE COLLISIONS OF POTS, PANS, AND UTENSILS; OR PERHAPS THE SIZZLE OF ONE'S DINNER BEING COOKED IN A PAN, AND THEN CONTINUE THROUGH THE DOORS AND INTO THE DINING AREA WHERE CONTRASTING SOUNDS OF CONVERSING AND CONSUMING CUSTOMERS WILL ALERT THEM THAT THE CHARACTER OF THE SPACE HAS CHANGED. HOWEVER, OUR ABILITIES TO MAKE USE OF CONNECTIONS BETWEEN SOUND AND SPACE ARE INCREASINGLY BLINDED AS OF LATE. OFFICES AND SHOPPING MALLS STREAM MUSIC OVER SPEAKERS MAKING IT HARD TO JUDGE THE SPACE BASED ON ECHOES, WHILE OTHER BUILDINGS MAKE GREAT ATTEMPTS TO ABSORB SOUND.

SOUND ALSO HAS A CONNECTION TO PERSONAL MEMORY AND TIME. PARTICULAR SOUNDS

CAN BEGIN TO RECALL MEMORIES FROM ONE'S CHILDHOOD AND OTHER PAST EXPERIENCES.

PERHAPS THE SOUND OF A TRAIN RECOGNIZED IN A BIG CITY COULD TRIGGER ONE'S MEMORY

OF GROWING UP ON A FARMHOUSE ALONG A RAILROAD TRACK, OR THE CAWING OF A SEAGULL

COULD TRIGGER MEMORIES OF ONE'S FAVORITE SPOT TO SIT ALONG THE HARBOR. "BUILDINGS

AND CITIES ARE INSTRUMENTS AND MUSEUMS OF TIME," STATES PALLASMAA, "THEY ENABLE US

TO SEE AND UNDERSTAND THE PASSING OF HISTORY AND TO PARTICIPATE IN TIME CYCLES THAT

SURPASS INDIVIDUAL LIFE.9"

#### THE SMELL OF SPACE

ANOTHER MEMORY-PROVOKING SENSORY EXPERIENCE IS THAT OF SMELL. "A PARTICULAR SMELL MAKES US UNKNOWINGLY RE-ENTER A SPACE COMPLETELY FORGOTTEN BY RETINAL MEMORY: THE NOSTRILS AWAKEN A FORGOTTEN IMAGE, AND WE ARE ENTICED TO ENTER A VIVID DAYDREAM. THE NOSE MAKES THE EYES REMEMBER. 10" WHAT PALLASMAA IS DISCUSSING IN THAT STATEMENT STRENGTHENS THE EARLIER CONVICTION MADE THAT PERHAPS VISUAL IMAGERY IS NOT THE FIRST AND FOREMOST WAY IN WHICH HUMANS ACTUALLY REMEMBER A SPACE. AFTER ALL, RESEARCH HAS SHOWN THAT OLFACTORY MEMORIES SEEM TO BE THE MOST PERSISTENT OF ALL THE SENSES. THE SAME RESEARCH CONTINUES THAT MEMORIES OF AN IMAGE MAY BEGIN TO FADE AFTER A FEW DAYS, WHILE THE MEMORIES OF A PARTICULAR SCENT CAN REMAIN UNFADED FOR A YEAR." IT IS UPON RETRIEVING MEMORY OF THE SCENT OF A SPACE THAT ONE CAN BEGIN TO RECONSTRUCT AN ENTIRE EXPERIENCE THAT HAD OCCURRED WITHIN IT. SIMILAR TO SOUND, DIFFERENT SCENTS BECOME ASSOCIATED WITH DIFFERENT SPACES, AND THROUGH REPETITION OF EXPOSURE, THE MEMORY OF THOSE SCENTS CAN BE PROGRESSED TO THE LONG TERM. THIS IS ANOTHER AREA IN WHICH THE BLINDFOLD TEST CAN BE APPLIED. ASSUMING THAT EACH ROOM IN A BUILDING HAS A UNIQUE SCENT WHICH IS STRONG ENOUGH FOR ONE TO RECOGNIZE, ONE MAY BE ABLE TO CORRECTLY IDENTIFY WHICH SPACE THEY HAVE ENTERED. THIS BECOMES A HANDY TOOL WHICH IS ALREADY IN USE, FOR INSTANCE, IN THE DESIGN OF HOUSES FOR THE BLIND, HOWEVER IT NEED NOT BE LIMITED TO THAT USE ALONE. AGAIN SIMILAR TO THE QUALITIES OF SOUND, SENSES OF SMELL ALSO INTERACT WITH THE BOUNDARIES OF A SPACE. ONE CAN CERTAINLY RECALL ENTERING THE HOUSE OF A RELATIVE ON THANKSGIVING DAY, ONLY TO BE GREETED BY A PLETHORA OF TANTALIZING SMELLS.

#### THE TASTE OF SPACE

TO IMAGINE THAT A PARTICULAR SPACE MIGHT HAVE A NOTICEABLE TASTE WITH REGARDS TO ARCHITECTURAL DESIGN IS QUITE DIFFICULT TO DO. HOWEVER, THERE ARE THOSE WHO WOULD

ARGUE OTHERWISE. ADRIAN STROKES WRITES, "IN EMPLOYING SMOOTH AND ROUGH AS GENERIC TERMS OF ARCHITECTURAL DICHOTOMY | AM BETTER ABLE TO PRESERVE BOTH THE ORAL AND TACTILE CONDITIONS THAT UNDERLIE THE VISUAL. THERE IS A HUNGER OF THE EYES, AND DOUBTLESS THERE HAS BEEN SOME PERMEATION OF THE VISUAL SENSE. AS OF TOUCH, BY THE ONCE ALL-EMBRACING ORAL IMPULSE. 12" IT IS CERTAINLY NOT EXPECTED THAT WHILE VISITING A BUILDING, ONE BEGIN TO TASTE THE MATERIALS BY LICKING A WALL. WHO HAS EVER HEARD OF MOUTHWATERING MARBLE COUNTERTOPS? THERE ARE, HOWEVER, CERTAIN COLORS, DETAILS. AND SURFACES WHICH EVOKE DIFFERENT ORAL SENSATIONS. OR, PERHAPS YOU SHOULD JUST BEGIN LICKING MATERIALS. AS PALLASMAA WRITES OF HIS VISIT TO THE DL JAMES RESIDENCE BY CHARLES AND HENRY GREENE. "I FELT COMPELLED TO KNEEL AND TOUCH THE DELICATELY SHINING WHITE MARBLE THRESHOLD OF THE FRONT DOOR WITH MY TONGUE. 13" IT IS MORE OF A BELIEF THAT THE "TASTE" OF A SPACE IS RELATED TO THE SCENT OF IT. THERE ARE, FOR INSTANCE, CERTAIN MATERIALS THAT EMIT AN ODOR INTO A SPACE WHICH MAY MAKE IT PLEASANT OR UNPLEASANT TO BREATHE IN. IN HIS CLASSIFICATION OF SENSORY SYSTEMS, JAMES J. GIBSON EVEN GOES AS FAR AS COMBINING SCENT AND TASTE INTO WHAT HE REFERS TO AS THE "TASTE-SMELL" SYSTEMI4. THESE TOO BECOME CHARACTERISTICS WHICH MAKE IT EASIER FOR ONE TO IDENTIFY THE ENVIRONMENT THEY ARE IN, AND TO RECALL THOSE PAST MEMORIES WHICH HAVE PREVIOUSLY BEEN ASSOCIATED WITH SIMILAR SCENTS.

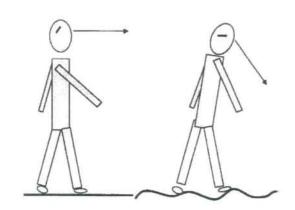
## THE TOUCH OF SPACE

TOUCH IS THE LAST, BUT CERTAINLY NOT LEAST OF THE SENSES WHICH CAN BE USED TO DISTINGUISH SPACE AND INFORM BODY MEMORY. TEMPERATURE AND TEXTURE ARE TWO DISTINCT CATEGORIES OF TOUCH WHICH CAN DIRECTLY RELATE TO ARCHITECTURAL SPACE. "OUR SKIN TRACES TEMPERATURE WITH UNERRING PRECISION: THE COOL AND INVIGORATING SHADOW UNDER A TREE, OR THE CARESSING SPHERE OF WARMTH IN A SPOT OF SUN, TURN INTO EXPERIENCES OF SPACE AND PLACE," STATES PALLASMAA<sup>15</sup>. TEMPERATURE IS ONE OF THE CHARACTERISTICS THAT IS DIRECTLY TIED TO THE NOTIONS OF TIME. WHETHER IT BE THROUGH

THE SHORT CYCLE OF DAY TO NIGHT, OR THE LONG CYCLE OF THE CHANGING SEASONS,
THE TEMPERATURE OF BOTH INTERIOR AND EXTERIOR SPACES CHANGES NOTICEABLY. EACH
DIFFERENT TEMPERATURE SHIFT CAN COMPLETELY CHANGE THE WAY IN WHICH A SPACE IS
EXPERIENCED, OR THE TIME THAT IT IS BEST EXPERIENCED. CERTAINLY AN OUTDOOR BALCONY
IS NOT AS WELCOMING IN THE COLD WINTER MONTHS AS IT MAY BE ON A SUNNY SPRING
AFTERNOON.

THE SENSE OF TOUCH AND TEXTURE ARE ALSO INCORPORATED INTO THE BUILDING IN SEVERAL DIFFERENT WAYS. AS WE WALK THROUGH A BUILDING, WE NOTICE THE DIFFERENT SURFACES THAT MAKE UP THE GROUND WHICH HELPS US DISTINGUISH ONE SPACE FROM ANOTHER. THIS BECOMES TIED TO THE SENSE OF SOUND AS WE BECOME AWARE OF THE DIFFERENCES IN THE NOISE OUR FEET MAKE AS THEY COME IN CONTACT WITH THESE DIFFERENT SURFACES. THERE ARE SOME WAYS IN WHICH YOU CAN GET SOMEONE TO PAY EXTRA ATTENTION TO THE TEXTURE OF THE GROUND THEY MAY BE WALKING ON AS WELL. MODELED AFTER HERMANN SCHONE, THE STATOLITH THEORY OF HEAD TILT PROPOSES THAT WHEN PEOPLE WALK ON UNEVEN SURFACES, THEY TEND TO TILT THEIR HEADS FORWARD BY AS MUCH AS 30 DEGREES SO THAT THEY MAY TAKE IN THE GROUND AHEAD OF THEM. SURFACES SUCH AS THESE CAN SURELY BECOME QUITE MEMORABLE MOMENTS IN ARCHITECTURAL ENVIRONMENTS, AND MAY ALSO BE USED TO INDICATE SPECIFIC EXAMPLES OF IMPORTANT PATHS<sup>16</sup>. TEXTURES CAN ALSO BECOME INCORPORATED INTO THE CYCLE OF TIME. THE USE OF CERTAIN MATERIALS CAN HELP ARCHITECTURE ACKNOWLEDGE THE PROGRESSION OF TIME THROUGH THE EXPRESSION

OF THE "WEAR AND TEAR" THAT THEY
ARE SUBJECTED TO. PALLASMAA
ALSO DISCUSSES HOW OUR SENSE OF
TOUCH CAN PUT US INTO A STATE OF
CONNECTION WITH THE HISTORY OF A
BUILDING. "THE DOOR HANDLE IS THE
HANDSHAKE OF THE BUILDING," HE



Statolith theory of head tilt, after Hermann Schöne, 1980. Drawing by Joy Monice Malnar

STATES, "THE TACTILE SENSE CONNECTS US WITH TIME AND TRADITION: THROUGH IMPRESSIONS OF TOUCH WE SHAKE HANDS WITH COUNTLESS GENERATIONS.17"

## MATERIALS, SENSES, AND TIME

THE NOTIONS OF TOUCH AND TEXTURE LEAD DIRECTLY INTO IDEAS OF MATERIALITY AND HOW IT FITS INTO THE WHOLE SCHEME OF THINGS. IT IS THROUGH MATERIALS THAT THE EXPLORATION OF MANY OF THE SENSES IS POSSIBLE WITH REGARDS TO ARCHITECTURE. IT IS IN THE COLD CONCRETE THAT WE FIND TEMPERATURE AND TEXTURE. IT IS IN THE ODOR OF WOOD, THE SOUND ECHOING OFF OF THE POLISHED STEEL, AND THE SUNLIGHT FILTERING THROUGH THE EXPANSIVE GLASS WALLS. AS BRIEFLY MENTIONED IN THE PREVIOUS SECTION. THE MATERIALITY OF A BUILDING CAN ALSO BEGIN TO ACKNOWLEDGE PROGRESSION OF TIME THROUGHOUT ITS LIFE SPAN. "NATURAL MATERIALS - STONE, BRICK, AND WOOD - ALLOW OUR VISION TO PENETRATE THEIR SURFACES AND ENABLE US TO BECOME CONVINCED OF THE VERACITY OF THEIR MATTER. NATURAL MATERIALS EXPRESS THEIR AGE AND HISTORY...AND THE PATINA OF WEAR ADDS THE ENRICHING EXPERIENCE OF TIME TO MATERIALS AND CONSTRUCTION," ARGUES PALLASMAA18. HOWEVER, IN AN AGE OF EXPANSIVE GLASS, COATED METALS, AND SYNTHETIC PLASTICS, IT IS HARD FOR ONE TO SEE THIS "WEAR AND TEAR" THAT MAKES ONE AWARE OF THE CYCLE OF A BUILDING'S USE. THROUGH A PROPER SENSE OF MATERIALITY, IT MAY BE POSSIBLE TO BETTER EXPRESS THE NOTIONS OF CHANGE AND GROWTH THAT ARE INHERENT IN THE CREATION AND FUNCTIONING OF ARCHITECTURE.

## FRAMES OF REFERENCE

ASIDE FROM ACTING AS A FRAME OF REFERENCE TO SENSORY EXPERIENCE, OUR BODIES

ACT AS A FRAME OF REFERENCE TO NOTIONS OF BOTH TIME AND LOCATION AS WELL. THESE

NOTIONS OF TIME AND LOCATION ARE CLOSELY RELATED. WE LIVE OUR LIVES THROUGH A

SERIES OF EVENTS. EACH EVENT TAKES PLACE IN A PARTICULAR LOCATION AT A PARTICULAR

TIME WITHIN A LONG OR SHORT TERM CYCLE. THE CYCLE COULD BE THE PASSAGE OF A DAY,

A MONTH, OR A YEAR. REGARDLESS OF THE LENGTH OF CYCLE THAT THE EVENT OCCURS IN, WE USE IT AS A REFERENCE POINT TO OTHER SIGNIFICANT EVENTS THAT OCCURRED WITHIN THAT CYCLE. FOR INSTANCE, THROUGHOUT THE PERIOD OF A DAY, ONE MAY START OFF AT HOME, PROGRESS TO SCHOOL, THEN TO WORK, THEN BACK HOME. IF SOMEONE AT THIS PERSON'S WORK ASKS THEM HOW THEIR DAY WAS AT SCHOOL, THE PERSON MUST THEN REFERENCE EVENTS, TIMES, LOCATIONS, AND SENSORY DATA THAT HAD OCCURRED PREVIOUSLY IN THE CYCLE OF THEIR DAY. THESE CONVICTIONS ARE QUITE SIMILAR TO THE IDEAS EXPRESSED IN FLIPBOOKS. EACH PAGE IN THE FLIPBOOK REFERS TO A PARTICULAR EVENT, TIME, AND LOCATION WITHIN A LARGER SERIES OF EVENTS. WE REFERENCE WHERE WE EXIST AT ANY CURRENT TIME AND LOCATIONS BASED ON HOW WE GOT THERE THROUGH THE PROGRESSION OF OTHER TIMES AND LOCATIONS. ARCHITECTURE COMES INTO THE PICTURE BY CREATING SPACES IN WHICH THESE EVENTS CAN OCCUR. AS PALLASMAA ARGUES, "ARCHITECTURE DOMESTICATES LIMITLESS SPACE AND ENABLES US TO INHABIT IT, BUT IT SHOULD LIKEWISE DOMESTICATE LIMITLESS TIME AND ENABLE US TO INHABIT THE CONTINUUM OF TIME. "9"

THE USE OF THE BODY AS A FRAME OF REFERENCE THROUGH TIME PROGRESSION AND LOCATION ARE ALSO DIRECTLY RELATED TO MOVEMENT, AS WELL AS THE TRANSITIONAL ELEMENTS THROUGH WHICH THAT MOVEMENT OCCURS. JOY MONICE MALNAR AND FRANK VODVARKA POINT OUT THAT, "...TRANSITIONAL ELEMENTS TEND NOT TO FARE WELL IN DESIGN ANALYSIS, SELDOM BEING REGARDED AS OTHER THAN FUNCTIONAL COMPONENTS THAT CONNECT SIGNIFICANT SPACES." THEY CONTINUE THAT, "THEY ARE CRITICAL IN FORMING A SENSORY EXPERIENCE OF SPACE GENERALLY, AND ESSENTIAL TO MOVEMENT THROUGH SPACE.<sup>20</sup>" THE POINT THAT THEY ARE TRYING TO MAKE IS THAT, WHILE TRANSITIONAL ITEMS SUCH AS HALLWAYS, STAIRS, ELEVATORS, AND DOORS SERVE AS THE "SPACES IN-BETWEEN," THEY SERVE A PARALLEL PURPOSE AS INDICATORS OF THE PROGRESSION OF TIME THAT EXISTS BETWEEN SPACES.

## SENSORY ARCHITECTURE

ALL OF THE PREVIOUSLY LISTED INFORMATION LEADS US TO ONE POINT: THERE MUST BE SOME WAY IN WHICH ARCHITECTURE CAN RESPOND TO THIS NATURE OF THE BODY TO KEEP A MEMORY OF SPACE AND PLACE STORED WITHIN IT. THE WAY IN WHICH THIS CAN BE ACHIEVED IS THROUGH AN ARCHITECTURE WHICH RESPONDS, IN SOME WAY, TO A COMBINATION OF EACH OF THE SENSES LISTED ABOVE. BY DOING SO, IT WILL ENHANCE ONE'S ABILITY TO BOTH STORE AND RECALL THE MEMORIES THAT BECOME ASSOCIATED WITH EACH OF THE SENSES. IT WILL ENHANCE THE WAY IN WHICH WE USE OUR BODIES AS A FRAME OF REFERENCE FOR EXPERIENCE THROUGH TIME AND LOCATION. LASTLY, IT WILL CREATE A SPACE WHICH WILL BE ABLE TO ADEQUATELY RESPOND TO THE PROGRESSIONS OF TIME THAT ARE INHERENT IN ONE'S LIFE, AS WELL AS THE LIFE OF THE BUILDING ITSELF.

ONE METHOD THROUGH WHICH THESE IDEAS CAN BE EXPRESSED IS OFFERED BY A. RICHARD WILLIAMS IN HIS BOOK THE URBAN STAGE. WILLIAMS SUGGESTS THAT, AS MENTIONED EARLIER, "...DESIGNERS HAVE BEEN TRAINED TO OPTIMIZE FORM/FUNCTION RELATIONSHIPS THAT EMPHASIZE VISION." HE THEN CONTINUES TO DISCUSS HIS EXPERIENCE WITH THEATRICS AND HOW IT CAN RELATE TO ARCHITECTURE. IN THEATER, HE POINTS OUT. ORGANIZED SENSORY INFORMATION IS NECESSARY FOR THE SUCCESS OF THE PERFORMANCE. THUS, HE SUGGESTS THAT DESIGNERS SHOULD BEGIN TO, "ORCHESTRATE AND TUNE THEM [ARCHITECTURAL SETTINGS] OVER A FULL RANGE OF SENSORY RESPONSES, AS FLEXIBLY AS CAN BE DONE ON STAGE." WILLIAMS CONTINUES THE ANALOGY OF THEATER TO ALSO SUGGEST THAT THOSE SENSORY SETTINGS FOR ARCHITECTURE NEED BE TUNED BASED ON THE TYPE OF "PERFORMANCE" THAT THEY ARE LINKED TO21. THESE NOTIONS MAKE PERFECT SENSE BECAUSE THEY ALLOW FOR ADEQUATE EMPHASIS TO BE PLACED BOTH ON THE CONSIDERATION OF SENSORY INPUT, AS WELL AS THE FORMAL AND FUNCTIONAL RELATIONSHIPS WITHIN DESIGN. THE TABLE SHOWN ON THE NEXT PAGE, CREATED BY MALNAR AND VODVARKA ALSO BEGINS TO GIVE SOME EXAMPLES OF HOW SENSORY ARCHITECTURAL DESIGN CAN BE APPLIED TO SOMETHING EVEN AS SIMPLE AS A FLIGHT OF STAIRS.

THE SENSORY SYSTEMS LISTED THERE ARE BASED ON THE PREVIOUSLY MENTIONED SENSORY SYSTEM CLASSIFICATION OF J.J. GIBSON. SIMPLE ITEMS SUCH AS THE PLACING OF HEATING AND AIR-CONDITIONING DUCTS AT THE ANKLE, HAND, OR HEAD POSITION TO INDICATE THE BEGINNING AND ENDING OF STAIR FLIGHTS BEGIN TO SHOW HOW SIMPLE ASSOCIATIONS CAN BE MADE THAT, THROUGH REPETITION OF EXPOSURE, CAN PROGRESS TO ONE'S MEMORY AND

Sensory System	Stairs
Visual system	Color, material pattern, size of staircase, location of staircase in space, and whether in an enclosed or open space
Auditory system	Treads made of materials that emit tone when stepped on or tapped with a cane
	Space echoes or absorbs the sound of footsteps
	Mechanical sound introduced into enclosed stairwell
Taste-smell system	Venting to include whiff of fragrance to indicate stair room or beginning and end of stair run
Basic orienting system	Continuous run or changes in direction
	Rectangular or spiral
Haptic system	
Touch	Treads—material texture gradient, and change in degree of hardness: selection of material for its thermal conductivity to facilitate temperature transfer when walking barefoot
	Railings—material texture gradient (rough vs. smooth), change in degree of hardness (rubber vs. steel), thermal conductivity (copper vs. wood), drag (leather vs. marble)
	Vibration transfer between treads and railing or mechanical system and railings
Kinesthesia	Change in tread-to-riser ratio to decrease or increase exertion and speed of person (take into consideration stairs typically thought of as going below ground level or up into attic or loft space)
	Landings located to provide moments of rest
Temperature and Humidity	Heating and air-conditioning vents located at ankle, hand, or head height to indicate first and last stair treads
	Air vents located at top or bottom of stair to coincide with direction of main movement on stair
	Distinct air velocity, temperature, and/or humidity change at top and bottom of stair

Sensonally designed stairs. Created by Joy Monice Mainar and Frank Vodvarka

ULTIMATELY BE REMEMBERED WHENEVER A SIMILAR EXPERIENCE PRESENTS ITSELF. 22

## THE DIGITAL MIND

"ALL EXPERIENCE IMPLIES THE ACTS OF RECOLLECTING, REMEMBERING, AND COMPARING. AN EMBODIED MEMORY HAS AN ESSENTIAL ROLE AS THE BASIS OF REMEMBERING A SPACE OR PLACE."

-JUHANI PALLASMAA, THE EYES OF THE SKIN 23

## CONCEPTS OF MEMORY

UP UNTIL THIS POINT, THE DISCUSSION HAS MAINLY FOCUSED ON THE IDEAS OF BODY MEMORY, AND HOW IT COLLECTS, STORES, AND MAINTAINS INFORMATION. WHAT WILL BE CONSIDERED NOW IS HOW THIS INFORMATION BECOMES PROCESSED IN OUR MIND. IT WILL FIRST BE NECESSARY TO UNDERSTAND A FEW VERY BASIC CONCEPTS OF MEMORY, NAMELY THE DIFFERENCES AND CONNECTIONS BETWEEN SHORT TERM AND LONG TERM MEMORY.

SHORT TERM MEMORY IS, IN ITS MOST BASIC SENSE, MEMORY THAT HAS RECENTLY BEEN STORED. IT IS SOMETIMES REFERRED TO IN OTHER TERMS AS "PRIMARY," "WORKING," OR "ACTIVE" MEMORY. THE SHORT TERM MEMORY IS DIRECTLY RELATED TO WHAT IS KNOWN AS OUR SENSORY STORE. THE SENSORY STORE IS THE AREA IN WHICH ALL RECENT SENSORY INPUT IS BRIEFLY HELD. THE CAPACITY OF SHORT TERM MEMORY IS ONE WHICH HAS BEEN DEBATED, BUT THE GENERALLY ACCEPTED BASE FOR SHORT TERM CAPACITY IS GEORGE MILLER'S "SEVEN PLUS OR MINUS TWO ITEMS. 24" ITEMS REMAIN IN THE SHORT TERM MEMORY FOR ANYWHERE BETWEEN 2 AND 30 SECONDS.

TO CONTRAST, LONG TERM MEMORY IS PASSIVE MEMORY WHICH CAN LAST ANYWHERE FROM 30 SECONDS TO AN ENTIRE LIFETIME. THE CAPACITY OF LONG TERM MEMORY IS

APPARENTLY UNLIMITED, ALTHOUGH SOME DISPUTES HAVE BEEN SPARKED DUE TO ONE'S NATURE TO UNWILLINGLY FORGET CERTAIN BITS OF INFORMATION. THE PROCESS OF TAKING MEMORY FROM THE SHORT TERM AND PROGRESSING IT TO THE LONG TERM IS KNOWN AS ENCODING. ENCODING CAN OCCUR THROUGH SUCH DEVICES AS REPETITION, REHEARSAL, AND MEANINGFUL ASSOCIATION. THE OTHER LINK BETWEEN LONG AND SHORT TERM MEMORY HAPPENS THROUGH THE PROCESS OF RETRIEVAL. RETRIEVAL IS THE PROCESS THROUGH WHICH MEMORIES ARE MOVED TO THE SHORT TERM SO THAT THEY MAY BE ACTED UPON. RETRIEVAL IS, IN ITS MOST BASIC SENSE, REMEMBERING. THERE MUST, OF COURSE, BE SOMETHING WHICH SPARKS THAT RETRIEVAL PROCESS.

## THE MIND'S VISION

IN THE CASE OF THIS ARGUMENT, THAT "SOMETHING WHICH SPARKS THE RETRIEVAL PROCESS" IS, OF COURSE, SENSORY DATA. THE PARAGRAPHS LISTED IN THE PREVIOUS SECTION OF THE ANALOG BODY DISCUSS HOW EACH OF THE DIFFERENT SENSES CAN EVOKE MEMORIES AS RECEIVED BY THE BODY. THOSE SAME MEMORIES OF SENSORY DATA COMBINED FOR AN ENVIRONMENT BECOME STORED IN THE MIND, AND BECOME THE MEANS THROUGH WHICH WE LATER RECONSTRUCT THAT ENVIRONMENT. MALNAR AND VODVARKA EXPLAIN,

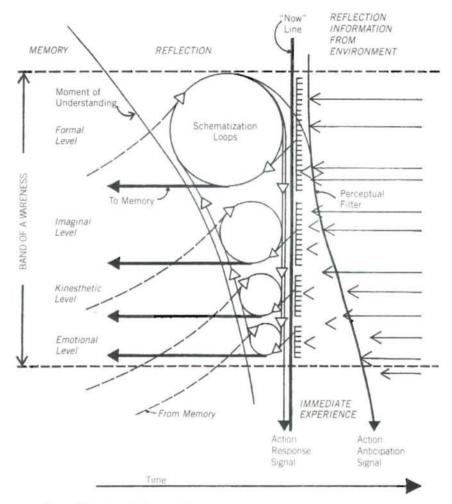
"...THAT A PLACE IS ALWAYS SPECIFIC, BUT THAT ITS ELEMENTS ARE COMMON, THAT ITS COMPREHENSION RELIES ON SENSORY DATA FILTERED THROUGH THE MEMORY, AND THAT....THE FULL COMPREHENSION OF PLACE RELIES NOT JUST ON SENSATION (THE FLOW OF DATA RECEIVED THROUGH THE SENSE ORGANS) BUT ALSO ON PERCEPTION (THE DATA AFTER IT IS PROCESSED AND INTERPRETED). WE SUGGEST THAT HUMANS COMMONLY EXPERIENCE THREE KINDS OF SENSORY RESPONSE: FIRST, AN IMMEDIATE PHYSICAL RESPONSE TO STIMULUS; SECOND, A RESPONSE CONDITIONED BY PRIOR KNOWLEDGE OF ITS SOURCE; AND THIRD, A RESPONSE TO STIMULUS AS IT HAS BECOME IDENTIFIED IN ONE'S MEMORY WITH A PARTICULAR TIME AND PLACE...SUCH SENSATIONS CAN INVOKE STILL OTHER SENSATIONS, THE SUM OF WHICH THE MIND USES TO RECONSTRUCT THE DIMENSIONS OF PARTICULAR PLACES. INDEED, IMPRINTING CAN BE SO POWERFUL THAT THE DETAILED AWARENESS OF PLACE CAN OCCUR IN THE PRESENCE OF THE STIMULUS ALONE.<sup>25</sup>"

IN OTHER WORDS, NOTIONS OF PLACE ARE NOT SIMPLY FORMED BY THE SHORT TERM SENSORY INPUT THAT WE RECEIVE, BUT ALSO ON THE LONG TERM IMPLICATIONS THAT OCCUR AFTER WE HAVE BEEN EXPOSED TO THAT SENSORY INPUT AND HAVE MADE ITS PERMANENT ASSOCIATION WITH THE ENVIRONMENT IN WHICH IT WAS ORIGINALLY EXPERIENCED. WE RECEIVE THAT INPUT

AS OUR SENSE ORGANS REACT TO A PARTICULAR STIMULUS. OUR BODIES THEN RESPOND BASED ON OUR PRIOR KNOWLEDGE OF THE SOURCE, FOR INSTANCE, WHETHER WE ARE FAMILIAR WITH IT OR NOT. UPON FORMING A REACTION TO THAT STIMULUS, WE STORE IT IN OUR MEMORY AS AN OCCURRENCE AT THAT PARTICULAR TIME AND PLACE. THAT IS THE POINT AT WHICH ANY RECEIVED SENSORY INPUT WHICH IS SIMILAR TO THAT PARTICULAR STIMULUS IS PRONE TO RECOLLECTION OF THE TIME AND PLACE WHICH IT OCCURRED. THAT IS ALSO THE POINT IN WHICH THESE SENSORY/SPATIAL EXPERIENCES BECOME PERSONAL FOR EACH ONE WHO MAY BE PRESENT AT THAT TIME OR LOCATION. FRANCES DOWNING EXPRESSES THIS IDEA BY NOTING THAT, "HOWEVER POWERFUL A MENTAL IMAGE MAY SEEM IN MEMORY, IT DOES NOT INCLUDE ALL THE ENVIRONMENTAL INFORMATION CONTAINED IN ANY PARTICULAR PLACE OR EVENT EXPERIENCE. INSTEAD THE MENTAL IMAGE PRESENTS A VERSION OF EXPERIENCE THAT IS MOST IMPORTANT TO THE INDIVIDUAL OR SITUATION AT A PARTICULAR MOMENT IN TIME.<sup>26</sup>"

THIS DISCUSSION HAS TOUCHED BRIEFLY ON THE IDEAS OF HOW THIS SENSORY DATA GETS FILTERED INTO OUR MEMORY THROUGH UNDERSTANDINGS OF THE BASICS OF LONG AND SHORT TERM, BUT A MORE THOROUGH UNDERSTANDING IS NECESSARY TO FULLY COMPREHEND THE IDEAS BEHIND THIS WRITING. ONE SUCH MODEL THAT SUGGESTS IDEAS ON HOW THIS DATA MAKES IT TO OUR MEMORY, SHOWN IN THE DIAGRAM ON THE NEXT PAGE, WAS DEVELOPED BY CHARLES W. RUSCH. THE DIAGRAM BEGINS ON THE RIGHT, INDICATING THAT THE SENSORY DATA FROM THE SURROUNDING ENVIRONMENT APPROACHES WHAT RUSCH CALLS THE PERCEPTUAL FILTER, WHICH ANTICIPATES THE ACT OF RECEIVING THE STIMULI. THE STIMULI THAT PENETRATE THE PERCEPTUAL FILTER THEN APPROACH THE "NOW" LINE, AT WHICH POINT THE DATA HAS BEEN RECEIVED, AND THE BODY PREPARES AN ACTIVE RESPONSE TO THE STIMULI. ONE THE DATA HAS BEEN TAKEN INTO THE AREA OF "REFLECTION," IT IS THEN CATEGORIZED INTO DIFFERENT LEVELS OF MEANING, REFERRED TO IN THE DIAGRAM AS "SCHEMATIZATION LOOPS." THESE LOOPS ARE CATEGORIZED INTO AREAS OF FORMAL, IMAGINAL, KINESTHETIC, AND EMOTIONAL LEVELS. THROUGH THESE LOOPS, THE SENSORY INFORMATION THEN BECOMES WOVEN INTO THE MEMORY, AND STORED FOR LATER RECOLLECTION.

THE PROCESS ALSO WORKS IN REVERSE FOR THE IDEAS OF MEMORY RECOLLECTION. THE RECALLED SENSORY INFORMATION GETS PASSED BACK THROUGH ITS APPROPRIATE LOOP AND THEN PLACED AT THE "Now" LINE AT WHICH THE TIME OF RECOLLECTION IS OCCURRING.<sup>27</sup>



Charles W. Rusch, total diagram: a function model of mental process.

THIS MODEL HAS SEVERAL AREAS WHICH MAKE COMPLETE SENSE WHEN TYING IT IN TO THE PREVIOUSLY DISCUSSED TOPICS. FIRST OF ALL, THE DIFFERENT SCHEMATIZATION LOOPS, PARTICULARLY EMOTIONAL, ADEQUATELY ACCOUNT FOR THAT WHICH WAS POINTED OUT BY DOWNING ABOUT HOW EACH SENSORY MEMORY IS DIFFERENT PER PERSON. THE LOOPS AND THEIR MULTI-DIRECTIONAL NATURE ALSO REFLECT HOW THE SENSORY INPUT BECOMES ASSOCIATED WITH DIFFERENT CHARACTERISTICS WITHIN AN ENVIRONMENT, AND HOW THOSE ASSOCIATIONS BOTH BECOME STORED THROUGH REFLECTION AS WELL AS RECONSTRUCTED

THROUGH STIMULI AS THE CYCLES OF TIME PROGRESS ON.

## A CLOCKWORK ARCHITECTURE

"WE CAN MAKE SHELTERS THAT ACTIVELY ENHANCE OUR PARTICIPATION IN PLACES,
ENCOURAGING RESPONSES TO CLIMATE THAT, THROUGH REPETITION, EVOLVE INTO PERSONAL
RITUALS, LINKING US TO A PLACE, ADDING MEANING TO OUR LIVES."

- RALPH L. KNOWLES RITUAL HOUSE28

## RITUAL, REPETITION, MIGRATION

THE RALPH KNOWLES QUOTE ABOVE BEGINS TO TALK ABOUT THE SAME IDEAS OF RITUAL AND REPETITION THAT HAVE BEEN MENTIONED IN THE PRECEDING SECTIONS. THE IDEA OF FORMING A SENSE OF RITUAL IN ARCHITECTURE FOCUSES PRIMARILY ON THE NOTION THAT PEOPLE MAKE ADJUSTMENTS TO PARTICULAR SPACES IN TUNE WITH THE CHANGING SEASONS TO GAIN A BETTER SENSE OF COMFORT WITHIN THAT SPACE. FOR INSTANCE, DURING THE WINTER MONTHS, ONE MAY SITUATE THEIR FAVORITE READING CHAIR IN THE DIRECT SUNLIGHT, USING THE HEAT TO GAIN A MORE COMFORTABLE TEMPERATURE. DURING THE SUMMER, THAT SAME PERSON MAY DECIDE TO MOVE THE CHAIR TO A MORE SHADED AREA OR NEAR AN OPEN WINDOW TO ACHIEVE COMFORT THROUGH THE NATURAL COOLING. THESE COMFORT ADJUSTMENTS, WHETHER LARGE OR SMALL, SIGNIFICANT OR MINISCULE, FOLLOW THE PATTERNS OF CLIMATE CHANGE. THROUGH THEIR REPETITION, WE NOT ONLY PUT OUR OWN PERSONAL TOUCH ON THAT SPACE, BUT WE FURTHER LINK OURSELVES TO OUR SURROUNDINGS BY RESPONDING TO CHANGES IN ● THE ENVIRONMENT. THESE NOTIONS OF RITUAL HAVE BEEN PRIMARILY LINKED TO THE SPACES IN WHICH WE LIVE, BUT CAN ALSO BE APPLIED TO OTHER SPACES AS WELL. AS KNOWLES STATES, "EVERY BUILDING HAS A RITUAL COMPONENT: CHANGING CLASSES AT SCHOOL OR CHECKING IN AND OUT OF THE FACTORY OR OFFICE, USUALLY ACCOMPANIED BY SOME DEGREE OF SOCIALIZING. BUT MOST SUCH ACTIONS ARE BY THE CLOCK."29 THE PROBLEM, AS KNOWLES BEGINS TO GET AT. IS THAT PEOPLE CARRY OUT THESE RITUALS BASED ON TIME RATHER THAN BASED ON

ENVIRONMENTAL CHANGES. CREATING A SPACE WHICH ALLOWS FOR THESE ENVIRONMENTAL ADJUSTMENTS TO BE MADE FOSTERS A SENSE OF SPONTANEITY AND PUTS ONE BACK IN TOUCH WITH THEIR SURROUNDINGS. AFTER REPEATING THESE COMFORT ADJUSTMENTS ENOUGH TIMES, ONE BECOMES SO AWARE OF THEIR ENVIRONMENT THAT ANY SLIGHT CHANGE OR VARIATION IN LIGHT, TEMPERATURE, SHADOW, OR TEXTURE BECOMES INCREASINGLY APPARENT.

AS THE CHARACTERISTICS OF OUR ENVIRONMENTS CHANGE, SIMPLE ADJUSTMENTS FOR COMFORT MAY NOT BE SUFFICIENT ENOUGH. OFTEN TIMES, MIGRATION AND MOVEMENT THROUGHOUT SPACES OCCURS BASED ON SEASONAL SHIFT AS WELL. "REGARDLESS OF DISTANCE, MIGRATIONS TEND TO FOLLOW DAYS AND SEASONS," STATES KNOWLES. "SHIFTING OUR POSITION CARRIES US THROUGH DOORWAYS AND AROUND OBJECTS, CHANGING OUR PERCEPTIONS OF SPACE. WE MAY MOVE TO A SHADY PORCH, DESCEND TO A COOLER LOWER FLOOR, OR LEAVE THE HOUSE ENTIRELY AND GO OUT UNDER THE TREES ON A WARM SUMMER AFTERNOON". EACH OF THESE SMALL MIGRATIONS NOT ONLY PROMISES MORE COMFORT ELSEWHERE, IT RHYTHMICALLY ANIMATES PASSAGES THAT VARY WITH TIME AND SEASON."50 THUS, IT IS NOT ONLY THE SPACES THAT BECOME IMPORTANT IN THE ADJUSTMENT FOR COMFORT, BUT THE ELEMENTS THAT SERVE AS TRANSITION SPACES ALSO BECOME JUST AS IMPORTANT. IT IS IN THE TRANSITION SPACES THAT THE MOVEMENT FROM ONE STATE TO THE NEXT OCCURS.

## THE SUN AS A CLOCK

"THE SUN IS FUNDAMENTAL TO ALL LIFE," STATES KNOWLES. "IT IS THE SOURCE OF OUR VISION, OUR WARMTH, OUR ENERGY, THE RHYTHMS AND RITUALS OF OUR LIVES. ITS MOVEMENTS INFORM OUR PERCEPTIONS OF TIME AND SPACE AND OUR SCALE IN THE UNIVERSE. ASSURED ACCESS TO SUNSHINE IS THUS IMPORTANT TO THE QUALITY OF OUR LIVES." IF THIS STATEMENT IS CORRECT, THEN WHY COULD IT BE THAT ARCHITECTURE DOESN'T RESPOND MORE EFFICIENTLY TO SUCH AN IMPORTANT FACTOR LIKE THE SUN? ASIDE FROM THE ADDITION OF WINDOWS, MANY BUILDINGS TEND NOT TO REGARD THE CHARACTERISTICS BROUGHT ABOUT BY

THE SUN. BEGINNING TO CREATE ARCHITECTURE THAT RESPONDS TO THE SUN IS PROBABLY THE SINGLE BEST WAY THAT ONE CAN START TO MAKE PEOPLE MORE AWARE OF THEIR EXISTENCE IN TIME AND SPACE. THE SUN IS A CONSISTENT FACTOR AT EVERY POTENTIAL SITE. THE CHARACTERISTICS OF THE ENVIRONMENT PROVIDED BY THE SUN AT EACH SITE IS DIFFERENT AS YOU MOVE FROM ONE TO THE NEXT, AND THUS, THE ARCHITECTURE THAT RESPONDS TO THE SUN WOULD BE DIFFERENT AND UNIQUE FROM ONE SITE TO THE NEXT AS WELL. IT IS NOT THE ONLY THING THAT NEED BE CONSIDERED, AS THERE ARE CERTAINLY MANY OTHER CHARACTERISTICS OF THE ENVIRONMENT THAT DIFFER FROM SITE TO SITE THAT CAN STRENGTHEN THIS EXPRESSION, BUT THE SUN IS PROBABLY THE BEST STARTING POINT. THE SUN ITSELF BRINGS WITH IT IMPLICATIONS OF THE PASSING OF TIME, BOTH FROM THE SHORT TERM DAY-NIGHT CYCLE TO THE LONG TERM CHANGING OF THE SEASONS. IT ALSO CONTRIBUTES TO THE CHARACTERISTICS OF AN ENVIRONMENT THAT DEAL WITH EACH OF THE DIFFERENT SENSES AS WELL. FROM THE SIGHT OF SHIFTING SHADOWS TO THE WARMTH OF A SPOT IN DIRECT SUNLIGHT, OR TO THE CHANGING TEXTURE OF GROWING PLANTS, OUR ENVIRONMENTS BEGIN TO CHANGE AND GROW AS THE SUN MAKES ITS CYCLES.

## CHANGE, GROWTH, CONCLUSION

NOTIONS OF CHANGE AND GROWTH HAVE BEEN BUILT INTO THIS ENTIRE PROCESS, SO IT IS FITTING THAT WE END WITH A REEMPHASIS OF THEM. IT IS WITHIN THESE IDEAS OF CHANGE AND GROWTH THAT MAKE US FURTHER AWARE OF OUR SURROUNDINGS. AS YOU COME INTO CONTACT WITH A PARTICULAR ENVIRONMENT ON A REGULAR BASIS, YOUR BODY SERVES AS THE REFERENCE POINT THROUGH WHICH ALL EXPERIENCE OCCURS. WHETHER CONSCIOUSLY OR UNCONSCIOUSLY, YOU BEGIN TAKE IN EVERY LITTLE BIT OF INFORMATION ABOUT THAT ENVIRONMENT AND ITS SURROUNDINGS. FROM SENSUAL INFORMATION SUCH AS LIGHT, TEMPERATURE, TEXTURE, SMELL, AND ECHO TO SPATIAL INFORMATION SUCH AS THE LOCATION OF DOORS, WINDOWS, AND PARTITIONS, YOU BEGIN TO FORM PERSONAL SNAPSHOT MEMORIES ABOUT THAT SPACE. THESE MEMORIES OF ENVIRONMENT BECOME STORED IN THE BODY AND

MIND TO SERVE AS POINTS OF COMPARISON AND RECOLLECTION. AFTER BEING SUBJECT TO THAT ENVIRONMENT FOR A CERTAIN AMOUNT OF TIME, YOU BECOME SO INTENTLY AWARE OF THE SURROUNDINGS TO THE POINT THAT ANY CHANGE OR VARIATION FROM THE INFORMATION YOU HAVE STORED IN YOUR MIND AND BODY BECOMES INCREASINGLY APPARENT TO YOU, AND CONNECTS YOU TO THAT SPACE EVEN FURTHER. IT IS THE INTENT OF THIS THESIS PROJECT TO CREATE THE ENVIRONMENTS WHICH CAN RESPOND TO, ACKNOWLEDGE, AND HEIGHTEN THIS PROCESS OF FORMING ENVIRONMENTAL MEMORIES. IT IS THE INTENT TO BE ABLE TO CREATE AN ARCHITECTURE WHICH ALLOWS PEOPLE TO BECOME FULLY CONNECTED WITH A SPACE THROUGH PRECISE USE OF THE SENSES AND THE NATURAL CYCLES THAT EXIST IN ALL OUR SURROUNDINGS, AND TO HEIGHTEN THE AWARENESS OF WHERE WE EXIST WITHIN ALL SCALES OF TIME AND PLACE.

PROGRAM PRECEDENTS ••••••••••

MIT MEDIA LAB EXPANSION - FUMIHIKO MAKI GRAZ KUNSTHAUS - PETER COOK/COLIN FOURNIER

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TECTONIC PRECEDENT ••••••••••

**GREENSCREEN** 



## MIT MEDIA LAB EXPANSION

ARCHITECT: FUMIHIKO MAKI

DATE: GROUNDBREAKING SLATED FOR SPRING 2007

TOTAL COST: APPROX. \$120 MILLION

TOTAL SIZE: 163,000 SQUARE FEET, 6 OCCUPIED FLOORS

LOCATION: MASSACHUSETTS INSTITUTE OF TECHNOLOGY CAMPUS, CAMBRIDGE, MA

#### PROJECT DESCRIPTION:

DESIGNED AS AN EXPANSION TO THE MIT MEDIA LAB, THIS BUILDING WILL SIT ADJACENT AND CONNECTED TO THE WEISNER BUILDING, WHICH SERVES AS THE CURRENT HOME TO THE MEDIA LAB. THE TWO BUILDINGS COMBINED WILL HOUSE THE MEDIA LAB. THE LIST VISUAL ARTS CENTER, THE SCHOOL OF ARCHITECTURE AND PLANNING DESIGN LAB AND CENTER FOR ADVANCED VISUAL STUDIES, THE DEPTARTMENT OF ARCHITECTURE'S VISUAL ARTS PROGRAM, THE COMPARATIVE MEDIA STUDIES PROGRAM, AS WELL AS THE OKAWA CENTER FOR FUTURE CHILDREN. THE BUILDING SITS ONE BLOCK OFF OF THE BANK OF THE CHARLES RIVER, AND OFFERS GREAT VIEWS OF THE BOSTON SKYLINE. RATHER THAN BEING DESIGNED AROUND TECHNICAL SERVICE EQUIPMENT LIKE MANY MIT BUILDINGS, THIS DESIGN PUTS PEOPLE FIRST, PROVIDING EXCELLENT AMOUNTS OF NATURAL LIGHT, OPERABLE WINDOWS, VIEWS, AND MANY DIFFERENT AREAS OF SOCIABILITY. MAKI'S DESIGN FOR THE EXPANSION WILL BECOME THE NEXT PIECE IN MIT'S "EVOLVING CAMPUS" WHICH FEATURES BUILDINGS BY OTHER PROMINENT ARCHITECTS SUCH AS FRANK GEHRY AND I.M PEI.

#### PROJECT SIGNIFICANCE:

THIS PARTICULAR PROJECT IS SIGNIFICANT TO THE DEVELOPMENT OF MY THESIS IN A FEW WAYS. A SIGNIFICANT PART OF MY PROJECT IS BASED ON HOW A PARTICULAR PROGRAM CAN SPARK GROWTH AND DEVELOPMENT OVER TIME. THE INTENT OF THE MIT MEDIA LAB EXPANSION ITSELF IS TO MAXIMIZE SOCIAL AS WELL AS INTELLECTUAL INTERACTION AND DEVELOPMENT THROUGH THE WAYS IN WHICH THE SPACES ARE ORGANIZED AROUND 2 MAIN ATRIUMS, OFFERING EVERYONE A VIEW OF WHAT IS GOING ON IN OTHER LABS. THE TRANSPARENCY OF THE WALLS SURROUNDING THESE ATRIUMS CREATES A SENSE OF CURIOSITY IN OTHERS TO SEE WHAT THE OTHER DISCIPLINES ARE WORKING ON AND MAKES THEM AWARE OF THE DIFFERENT TIMES OF DAY THAT PEOPLE MAY OR MAY NOT BE INHABITING THOSE SPACES WITHIN A GIVEN TIME FRAME. THE



NEARBY SOCIAL SPACES THEN SPARKS THE INTERACTION BETWEEN DISCIPLINES AND PEOPLE TO FOSTER THE COMBINATION OF NEW IDEAS LEADING TO NEW DEVELOPMENT AND GROWTH IN ALL DISCIPLINES. THE TRANSPARENCY IS ALSO CARRIED TO THE EXTERIOR SKIN OF THE BUILDING, OFFERING THOSE ON THE OUTSIDE A VIEW OF WHAT IS HAPPENING WITHIN WHILE ALSO ALLOWING ADEQUATE SUNLIGHT TO PENETRATE AND PROVIDE NATURAL LIGHTING TO THE AREAS, CONNECTING THOSE ON THE INTERIOR WITH THE NATURAL CYCLES OF THE EXTERIOR.

THE PROGRAM OF THE BUILDING ITSELF IS ALSO SIGNIFICANT TO THE DEVELOPMENT OF MY THESIS PROJECT MAINLY BECUASE IT OFFERS MANY SPACES SIMILAR TO THOSE THAT WILL BE INCLUDED IN MY OWN PROGRAM, BUT ALSO BECAUSE OF THE WAY IN WHICH THE SPACES WERE CREATED TO ALLOW SOME FLEXIBILITY IN THEIR USE, AND THE WAY IN WHICH ADJACENCIES ARE USED TO ENCOURAGE A STRONG AWARENESS OF THE DIFFERENT CYCLES THAT ARE APPARENT IN EACH OF THE DIFFERENT SPACES.

PROJECT SPACES AND SIZES:

LAB SPACES: 7 SPACES RANGING FROM 5,000-8,500 S.F. EACH. THESE SPACES FACE ONE ANOTHER ACROSS THE CENTRAL ATRIUM AND ARE STAGGERED IN CONFIGURATION SO THAT THE FIRST FLOOR OF ONE LAB IS AT THE SECOND LEVEL OF AN ADJACENT LAB.

CONFERENCE ROOMS: 8 SMALLER CONFERENCE ROOMS ARE SCATTERED AMONG THE LOWER 5 FLOORS, WITH ONE LARGER CONFERENCE ROOM LOCATED IN THE EVENT SPACE, WITH AN OUTDOOR TERRACE DIRECTLY ADJACENT.

ADMINISTRATIVE: 3,200 S.F. TOTAL. MOST ADMINISTRATIVE AREAS TAKE THE FORM OF MEZZANINE OFFICES THAT SURROUND THE LABORATORY SPACES.

EVENT SPACES: SEVERAL SPACES FOR LARGE TO SMALL EVENTS INCLUDING:

- -- 100 SEAT THEATER
- --3,500 S.F. MULTI-PURPOSE SPACE FOR DEMO/EXHIBITION/LARGE MEETING
- --2,500 S.F. CONFERENCE ROOM WITH OUTDOOR TERRACE
- --3,500 S.F. RECEPTION/DINING AREA
- --1,800 S.F. CATERING KITCHEN



"A CLOCKWORK ARCHITECTURE" 32

EXHIBITION SPACE: SEVERAL EXHIBITION SPACES ARE LOCATED DIRECTLY ADJACENT TO THE LOWER ATRIUM WITH CONNECTIVITY TO THE BUILDING'S EXTERIOR.

SOCIAL SPACES: A COMBINATION OF SOCIAL SPACES ARE PROVIDED THROUGHOUT THE BUILDING TO SPARK SOCIAL AND INTELLECTUAL INTERACTION. THESE INCUDE THE UPPER ATRIUM, A CAFE, SEVERAL COFFEE AREAS, AND GENEROUS CIRCULATION SPACE.

ATRIUM SPACES: TWO ATRIUMS ARE PRO-VIDED IN THIS BUILDING.

- --THE OUTER ATRIUM, LOCATED ON BUILDING'S PERMIETER, RISES 4 STORIES AND IS FLANKED BY SEVERAL EXHIBITION SPACES.
- --THE INNER ATRIUM RISES 2 STORIES
  AND SERVES AS SOCIAL/EXHIBITION
  SPACE FOR THE BUILDING'S
  INHABITANTS.





PROJECT TITLE: GRAZ KUNSTHAUS LOCATION: GRAZ, AUSTRIA

ARCHITECTS:

PETER COOK & COLIN FOURNIER

DATE OF COMPLETION: SEPTEMBER 2003

NET AREA: II,100 SQUARE METERS

PROJECT DESCRIPTION: COMPETITION DESIGN FOR A NEW MUSEUM AND ART CENTER IN THE HEART OF GRAZ, AUSTRIA. OTHER COMPETITION ENTRIES

INCLUDE ZAHA HADID, COOP HIMMELBLAU, AND MORPHOSIS.



COOK AND FOURNIER'S DESIGN FOR THE KUNSTHAUS INCLUDES 2 LARGE EXHIBITION SPACES IN A DYNAMIC AMOEBA-LIKE FORM ON WHICH A LARGE SCREEN IS CREATED.D OTHER PROGRAM ELEMENTS INCLUDE A MEDIA LOUNGE, CAFE, KITCHEN, ADMINISTRATIVE OFFICES, MEETING ROOMS, A LIBRARY, SEMINAR SPACES, AND OTHER SMALL EXHIBITION SPACES.<sup>4</sup>

PROJECT FEATURE: THE EXTERIOR SKIN OF THE BLOB LIKE EXHIBITION STRUCTURE SERVES AS A LARGE SCALE DISPLAY SCREEN. CALLED BIX, THE SCREEN IS A LOW-RES SCREEN MADE OF BIXELS(A COMBINATION OF "BIG" AND "PIXEL"). THESE BIXELS ARE CREATED BY 930 CIRCULAR FLOURESCENT LIGHTS, EACH OF WHICH HAS A COMPLETELY ADJUSTABLE LUMINOSITY FROM 0-100%.

BIX FUNCTIONS AS AN URBAN SCREEN UPON WICH ART PROJECTS CAN BE DISPLAYED THROUGH USE OF SOFTWARE DEVELOPED BY REALITIES:UNITED. TWO DIFFERNET PROGRAMS WERE DEVELOPED FOR THE USE OF BIX. THE FIRST PROGRAM, BIX DIRECTOR, ALLOWS USERS TO COMPOSE A PROGRAM TO BE PLACED ON THE BIX SCREEN. THE SECOND PROGRAM, BIX SIMULATOR, ALLOWS USERS TO SEE A 3D REPRESENTATION OF WHAT THEIR PROGRAM WOULD LOOK LIKE DISPLAYED ON THE FLOWING FORM OF THE BIX SCREEN. 5



"A CLOCKWORK ARCHITECTURE" 34

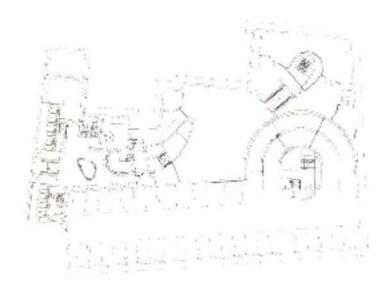
ONE OF MY PARTICULAR INTERESTS IN THE KUNSTHAUS AND ITS BIX FACADE WAS THE CHANGE IN HOW THE SCREEN IS VIEWED FROM DAY TO NIGHT.

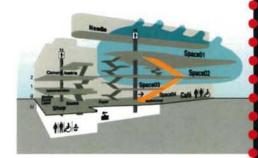
DURING THE DAY, THE BIXELS ON THE SCREEN BLEND INTO THE SURROUNDINGS MORE DUE TO THE LEVELS OF SUNLIGHT. AS IT FADES PROGRESSIVELY FROM DAY TO NIGHT, THE SCREEN BECOMES MORE AND MORE APPARENT, AND EVENTUALLY STANDS OUT AS THE URBAN SCREEN THAT IT IS. THIS MAKES THE VIEW OF WHAT IS BEING DISPLAYED ON THE SCREEN MORE EASILY VISIBLE TO THOSE CLOSE UP AS WELL AS FAR AWAY.

THIS SCREEN IS ALSO A GOOD EXAMPLE OF INCORPORATING AN ELEMENT INTO A BUILDING THAT CHANGES ITS DISPLAY ON A REGULAR BASIS. THIS WOULD CAUSE THOSE WHO DO PASS BY REGULARLY TO COMPARE WHAT THEY SEE AT ONE INSTANCE TO WHAT THEY SEE AT ANOTHER INSTANCE DURING THE CYCLE OF A DAY, MONTH, OR YEAR.

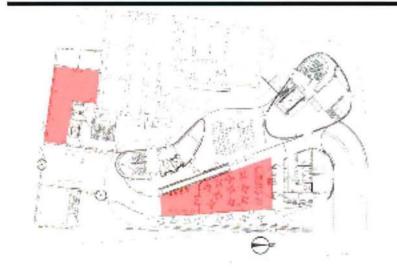


"A CLOCKWORK ARCHITECTURE" 35





THE LOWER GROUND FLOOR MAINLY CONSISTS OF BELOW GRADE PARKING, RESTROOMS, AND SUPPORT SPACES.



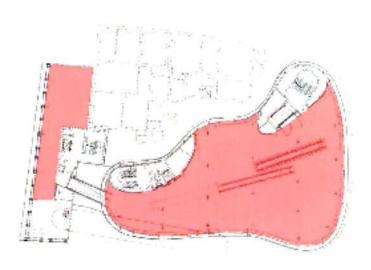


THE GROUND FLOOR FEATURES BOTH A PLATFORM FOR NEW MEDIA AS WELL AS A MEDIA LOUNGE AND CAFE ALLOWING VISITORS TO BE EXPOSED TO NEW AND OLD FORMS OF MEDIA ART.



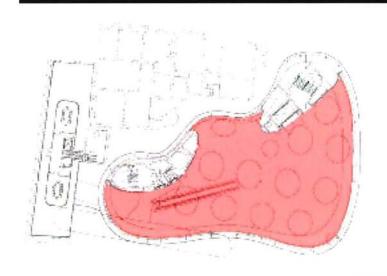


THE FIRST FLOOR FEATURES THE FIRST OF THE MULTI-STORY EXHIBITION SPACES.



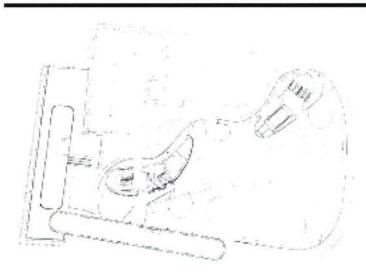


THE SECOND FLOOR FEATURES ANOTHER LEVEL TO THE EXHIBITION SPACES. THE CEILING HERE IS EQUIPPED WITH HUNDREDS OF FLOURESCENT LIGHTS ON THE CEILING, EACH ADJUSTABLE TO CREATE THE RIGHT AMOUNT OF LIGHT FOR THE EXHIBITIONS.





THE THIRD FLOOR FEATURES THE TOP LEVEL OF THE EXHIBITION SPACES. THE NOZZLES ON THE ROOF PROVIDE NATURAL DAYLIGHT, AND ARE ALSO EQUIPPED WITH LIGHT COILS FOR ARTIFICIAL LIGHTING. THE CEILING OF THIS AREA FOLLOWS THE CURVITURE OF THE BLOB LIKE EXTERIOR.

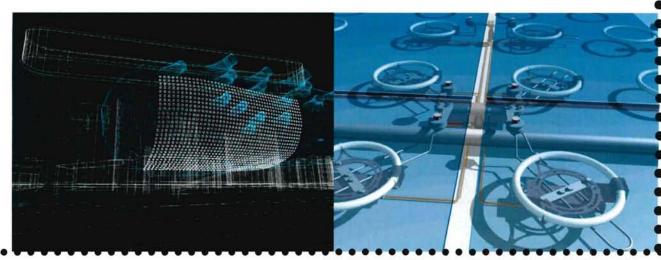




THE FOURTH FLOOR FEATURES A CROSSWALK TO WHAT IS KNOWN AS THE NEEDLE. THIS HOUSES A LOUNGE AND SMALL BAR FOR VISITORS, AND IS THE LAST STOP ON THE TRIP THROUGH THE EXHIBITION SPACES.6

### PROJECT SIGNIFICANCE:

THE BULK OF THIS PROJECT'S SIGNIFICANCE TO MY THESIS COMES FROM ITS PROGRAMMATIC ELEMENTS AND TECTONIC LANGUAGE. THE LAYOUT OF THE KUNSTHAUS BEGINS TO SHOW HOW SOMETHING SIMILAR TO MY PROPOSAL CAN BEGIN TO BE FUNCTIONALLY LAYED OUT TO MAXIMIZE ONE'S PATH OF TRAVEL THROUGHOUT. THE FORM OF THE "BLOB" ITSELF BEGINS TO CREATE MORE FLUID PATHS OF TRAVEL FROM ONE LEVEL TO THE NEXT, OR FROM ONE AREA TO THE NEXT, SERVING AS A VERY SMOOTH TRANSITION. THE TRANSITION SPACES BETWEEN ONE AREA AND THE NEXT BECOME IMPORTANT BECUASE THEY BEGIN TO PREPARE THE USER FOR WHAT THEY ARE ABOUT TO EXPERIENCE. EACH DIFFERENT LEVEL AND/OR SPACE IN THE KUNSTHAUS PROVIDES A UNIQUE EXPERIENCE, FROM THE LARGE GLASS FACADES OF THE MAIN LEVEL. TO THE ALIEN-LIKE LIGHTWELLS ON THE UPPER LEVELS OF THE EXHIBITION SPACES. EACH UNIQUE EXPERIENCE BECOMES A NEW POSSIBILITY FOR A "SNAPSHOT OF TIME" THAT ONE WILL REMEMBER, AND BEGIN TO COMPARE TO OTHER SIMILAR EXPERIENCES. CERTAIN ELEMENTS SUCH AS THE LIGHTWELLS, WHICH ARE ALSO EQUIPPED WITH ARTIFICIAL LIGHTING, BEGIN TO FURTHER PROVIDE ALTERNATE EXPERIENCES BASED ON WHAT TIME OF DAY THE VISITOR EXPERIENCES THAT SPACE. IF THEY VISIT ON A DAY WITH PLENTIFUL SUNLIGHT, THEY WILL EXPERIENCE THE NATURAL LIGHTING FILTERING THROUGH THE WELLS. ON A MORE OVERCAST DAY, OR PERHAPS AT NIGHT, THEY WILL NOTICE THAT THE CHANGE FROM NATURAL TO ARTIFICIAL LIGHTING.



"A CLOCKWORK ARCHITECTURE" 38

PROJECT TITLE: THE SCIENCE OF ALIENS

LOCATION: LONDON, ENGLAND

DESIGNERS: ART+COM

DATE OF COMPLETION:

OCTOBER 15, 2005

SIZE: 2 FOLDING SCREENS, EACH

2 METERS WIDE BY 7.5 METERS LONG



#### PROJECT DESCRIPTION:

CREATED AS AN EXHIBIT

FOR THE LONDON SCIENCE MUSEUM, THE PROJECT TITLED THE SCIENCE OF ALIENS FEATURES 2 LARGE FOLDED INTERACTIVE TOUCHSENSITIVE SCREENS WHICHENCOURAGES USER INTERACTION TO OBTAIN INFORMATION ABOUT THE EXHIBIT. UPON INTERACTING WITH THE DIGITALLY ANIMATED ALIENS ON-SCREEN, USERS INFLUENCE SOUND EFFECTS, AS WELL AS THE BEHAVIOR OF THE ALIENS THEMSELVES. CREATION OF THE EXHIBIT WAS DONE THROUGH COLLABORATION OF ANIMATORS, FILM MAKERS, AND INTERFACE AND MEDIA DESIGNERS AT ART+COM. THE EXHIBITION REMAINED AT THE LONDON SCIENCE MUSEUM UNTIL FEBRUARY 2006, AT WHICH POINT IT BEGAN TRAVELLING TO BOTH THE BIRMINGHAM THINKTANK AND PARIS LA VILETTE.

## THESIS SIGNIFICANCE AND CRITIQUE:

THIS PARTICULAR PROJECT WAS SIGNIFICANT TO THE DEVELOPMENT OF MY THESIS FOR A FEW REASONS. FIRST OF ALL, IT TOO ADDS A NEW DIMENSION TO THE CONVENTIONAL SCREEN. WHILE STILL FLAT, THIS PARTICULAR SCREEN WRAPS AROUND THE SPACE, REDEFINING IT IN NEW WAYS, AND MAKES USE OF UP-TO-DATE PROEJCTION TECHNOLOGY TO CREATE A CONTINUOUS DISPLAY DESPITE THE SCREEN'S FOLDING NATURE. THE SECOND SIGNIFICANCE TO MY THESIS IS THE ENGAGEMENT OF THE VISITORS IN THE DISPLAY THROUGH THE USE OF TOUCH-SENSITIVE SCREENS. ALLOWING VISITORS TO AFFECT THE BEHAVIOR OF WHAT IS ON THE SCREEN CREATES A GREAT LEVEL OF INTERACTION BETWEEN THE PHYSICAL AND DIGITAL SPACES IN THE EXHIBIT. FURTHERMORE, MAKING USE OF THREE OF THE FIVE SENSES: TOUCH, SIGHT, AND SOUND, ADDS ANOTHER LEVEL TO THE EXPERIENCE OF THE EXHIBIT.



PROJECT TITLE: THE WORLDS

LARGEST 3D DISPLAY

LOCATION: DELFT, NETHERLANDS
DESIGNERS: ENGINEERING STUDENTS AT

THE DELFT

UNIVERSITY OF TECHNOLOGY

DATE OF COMPLETION: APRIL 23,

2006

**VOLUME: 64 SQUARE METERS** 

PROJECT DESCRIPTION: THIS

PROJECT WAS DONE TO COMMEMORATE THE 150TH ANNIVERSARY OF THE ELECTRICAL ENGINEERING SOCIETY. DESIGNED BY ALL ELECTRICAL ENGINEERING STUDENTS AT TU DELFT, THIS 3D DISPLAY IS MADE UP OF FOUR 2 METER CUBES. THE 3D DISPLAY ALSO HAS MANY USES DSIGNED INTO IT. IT CAN BE USED TO DISPLAY ANIMATIONS, AS WELL AS PLAY GAMES OF 3D PONG, DUCK HUNT, SNAKE, AND TETRIS, AND CAN ALSO RECIEVE SMS MESSAGES SENT BY STUDENTS. ALL OF THIS INFORMATION AND DISPLAY IS THEN UPLOADED TO THE INTERNET.<sup>2</sup>

## THESIS SIGNIFICANCE AND CRITIQUE:

THIS PARTICULAR PROJECT IS SIGNIFICANT TO MY THESIS THROUGH ITS ABSTRACT WAY OF THINKING OF A DISPLAY SCREEN. TYPICAL SCREENS ARE THOUGHT OF AS BEING 2-DIMENSIONAL FLAT PANELS SUCH AS CONVENTIONAL TV AND COMPUTER SCREENS. BY TAKING IT TO A THIRD DIMENSION, AND MAKING IT SOMETHING THAT OCCUPIES A LARGE VOLUME OF SPACE, THE STUDENTS AT TU DELFT GAVE A MORE ARCHITECTURAL SIGNIFICANCE TO A LED DISPLAY. ONE WEAKNESS, ALTHOUGH UNDERSTANDABLE, IS THAT THIS SCREEN STILL HAS ITS LIMITS OF A FRAME. OF COURSE, IT IS HARD TO EVEN CONSIDER HOW A FRAMELESS SCREEN WOULD BE POSSIBLE. IT IS, HOWEVER, QUITE INTERESTING TO CONSIDER WHERE SOMETHING LIKE THIS COULD GO IF TAKEN A STEP FURTHER, PERHAPS INCORPORATING MORE THAN ONE COLOR INTO THE DISPLAY, OR MAKING IT LARGE ENOUGH SO THAT THE INTERIOR SPACE OF THE DISPLAY COULD BE ENTERED AND EXPERIENCED BY HUMANS.



"A CLOCKWORK ARCHITECTURE" 40

PROJECT TITLE: MIRROR LOCATION: LONDON, ENGLAND

DESIGNERS: UNITED VISUAL ARTISTS

DATE OF COMPLETION: AUGUST 2, 2006

PROJECT DESCRIPTION: CREATED AS AN

EXHIBITION FOR THE KEMISTRY
GALLERY IN LONDON, "MIRROR" USES
TWO STEREO CAMERAS TO CREATE A
MOVING THREE-DIMENSIONAL PROJECTION OF
THE USER. THE USER VIEWS THEMSELVES FROM

SHIFTING VIEWPOINTS, AND

PURPOSEFUL ERRORS AND DISTORTIONS ARE CREATED IN THE PROJECTION TO FORCE THE USER TO UNDERSTAND THE POSSIBILITY THAT THE COMPUTER HAS ITS OWN WAY OF SEEING US. THE INSTALLATION ALSO INCLUDED AN INTERNET UPLINK, ENABLING USERS TO DOWNLOAD THEIR IMAGE.<sup>3</sup>



THIS PROJECT IS SIGNIFICANT TO THE DEVELOPMENT OF MY THESIS PARTICULARLY FOR ITS INNOVATION IN THE FIELD OF INTERACTION. HUMANS ARE USUALLY THE SUBJECT OF MOST COMPUTER INTERACTION, BUT IN THIS CASE, THE HUMAN IS NOT VIEWED THROUGH THEIR OWN EYES, BUT THE EYES OF THE COMPUTER, WHICH IS A VERY INTERESTING THING TO CONSIDER, AND IS THE STRONGEST PART TO THIS INSTALLATION. IT IS VERY INTRIGUING TO THINK OF WHERE THIS IDEA CAN BE TAKEN FROM HERE TO PRODUCE OTHER INTERACTIVE PIECES THAT DEAL WITH THIS SORT OF ARTIFICIAL INTELLIGENCE AND SIGHT THAT COMPUTERS MAY HAVE.



AFTER COMPLETING THIS PARTICULAR SET OF INTERACTIVE ART PRECEDENT STUDIES, A SHIFT IN THE DIRECTION OF THE THESIS OCCURRED. THE INTERACTIVE ART PRECEDENTS WERE ORIGINALLY MEANT TO BE STUDIES IN THE INTERACTION BETWEEN THE VIRTUAL AND PHYSICAL WORLDS, AND HOW THESE FORMS OF ART BEGAN TO ENGAGE THE SENSES.

THE DIRECTION OF THE THESIS SHIFTED AFTER SOME CONSIDERATION TO FOCUS MORE ON THE CURRENT IDEAS EXPRESSED IN THE THESIS PAPER, PROJECT SUMMARY, AND ABSTRACTS.

A FEW ITEMS FROM THESE PRECEDENTS THAT STILL REMAINED IN THOUGHT THROUGHOUT THE DESIGN PROCESS WERE:

-THE MANNER IN WHICH THESE INTERACTIVE ART PIECES ENGAGED THE USER ON DIFFERENT LEVELS, PARTICULARLY THROUGH THE USE OF AS MANY SENSES AS POSSIBLE

-THE UNIQUENESS OF THE FORM OF INTERACTIVE ART ITSELF, NOT BEING SOMETHING THAT IS TYPICALLY ON DISPLAY IN TRADITIONAL GALLERIES. IT WAS CONSIDERED AT ONE POINT THAT THESE PIECES COULD BECOME EXAMPLES OF WHAT WOULD BE ON DISPLAY IN THE GALLERY PORTION OF THIS PROJECT AS WELL, BUT AFTER CONSIDERATION, THAT IDEA WAS SET ASIDE

Standard sizes

#### **Custom Sizes**

## **Accessory Options**

#### Mounting Hardware

#5132V Mounting Clips,

### Standard sizes

10 ft

12 ft

#### **Custom Sizes**

#### **Finishes**

1

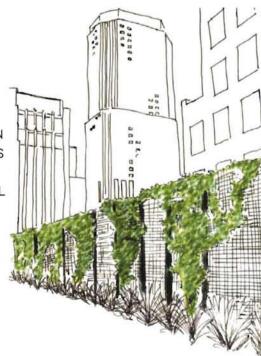
#### **Accessory Options**

**Mounting Hardware** 

THE IDEA BEHIND USING THE GREEN SCREEN PRODUCT WAS TO CREATE A STRUCTURE THAT NATURAL ELEMENTS SUCH AS CLIMBING PLANTS COULD ATTACH THEMSELVES TO AND GROW UP WITHOUT DISTURBING THE STATE OF THE MATERIALS USED ON THE BUILDING FACADES.



THE GREEN SCREEN SYSTEM IS AVAILABLE IN MANY DIFFERENT SHAPES AND SIZES FROM FREESTANDING AND WALL MOUNTED TO COLUMNS. CURVES, AND CUSTOM SHAPES.



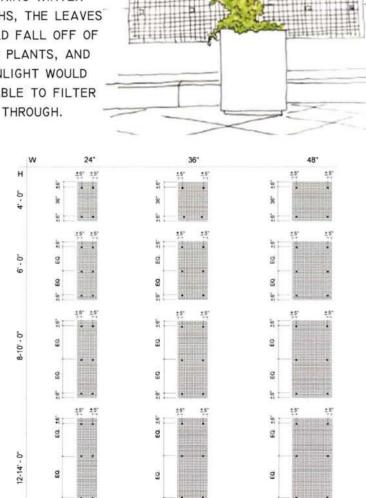
IMAGES COURTESY OF GREENSCREEN PRODUCT CATALOG

## PRECEDENT STUDIES



IN THIS PROJECT, THE GREEN SCREEN SYSTEM COULD BE UTILIZED TO PROVIDE SHADE IN THE SUMMER MONTHS. THE GREEN SCREEN TRELLIS SYSTEM COULD BE PLACED OVER CERTAIN AREAS OF GLASS. IN THE SUMMER, THE CLIMBING PLANTS WOULD GROW UP THE TRELLIS AND PROVIDE NATURAL SHADING FROM SUNLIGHT. DURING WINTER MONTHS, THE LEAVES WOULD FALL OFF OF THE PLANTS, AND SUNLIGHT WOULD BE ABLE TO FILTER

0



IMAGES COURTESY OF GREENSCREEN PRODUCT CATALOG

# SITE SELECTION/ANALYSIS

SITE POSSIBILITIES • • • • • • • • • • • •

DETROIT RIVER - DETROIT, MICHIGAN NAVY PIER - CHICAGO, ILLINOIS

SELECTED SITE & ANALYSIS • • • • • • • • • • • •

GRAND CIRCUS PARK - DETROIT, MICHIGAN

BASED ON FURTHER INVESTIGATION INTO THE IMPLICATIONS OF THE THESIS, THE FOLLOWING CRITERIA WILL BE USED TO SELECT POSSIBLE SITES:

- -A BENEFICIAL PIECE TO THE CHOSEN SITE IS THAT IT HAVE A STRONG SENSE OF HISTORICAL SIGNIFICANCE TO THE SURROUNDING AREA. LOCATING THE PROJECT IN AN AREA THAT HAS A MIXTURE OF NEW AND OLD BUILDINGS WILL HELP EMPHASIZE THE LONG TERM CYCLE OF A BUILT ENVIRONMENT.
- -THE CHOSEN SITE SHOULD BE A PLACE WHICH HAS CONNECTIVITY AND ADEQUATE EXPOSURE TO THE NATURAL CYCLES OF ITS ENVIRONMENT. LOCATING IN AN AREA WITH A VARIETY OF ENVIRONMENTAL AND CLIMATIC CHARACTERSITICS WILL BE BENEFICIAL IN PROVIDING A LEVEL OF CHALLENGE AND OPPORTUNITY TO THE EXPLORATION.
- -THE SITE SHOULD BE ONE WHICH PROVIDES A VARIETY OF DIFFERENT SURROUNDING CHARACTERSITCS WHICH WILL PROVIDE CHALLENGE AND OPPORTUNITY FOR AN ADEQUATE ARCHITECTURAL EXPLORATION OF HOW A BUILDING CAN RESPOND TO ITS SURROUNDING ENVIRONMENT.
- -Another beneficial piece to the prospective site is one which has an adequate level of traffic and usage on a regular basis, regardless of the time of day, month, or year. This will provide an adequate base of existing activity into which the project can situate itself.
- -OTHER DEFINING CHARACTERSITICS INCLUDE THINGS SUCH AS ADEQUATE VISILIBTY, VEHICILAR AND PEDESTRIAN ACCESSIBILITY, AND POTENTIAL FOR FURTHER DEVELOPMENT OF THE SURROUNDING AREA.



## SITE LOCATION:

- -DETROIT, MICHIGAN
- -SITE IS LOCATED IN THE DETROIT RIVER, DIRECTLY IN FRONT OF HART PLAZA ALONG ATWATER DR.

## UNIQUE SITE CIRCUMSTANCE:

THE DETROIT RIVERFRONT, PARTICULARLY HART PLAZA, IS ONE THAT IS SURROUNDED BY A VARIETY OF BUILDINGS FROM NEW TO OLD, EACH OF WHICH ADDS SOMETHING TO THE UNIQUE HISTORY OF THE AREA. THE NATURAL SURROUNDINGS OF THE PLAZA, ALONG WITH THAT OF THE FLOWING RIVER AND ITS CURRENT PLAN FOR REDEVELOPMENT PROVIDE THE UNIQUE OPPORTUNITY TO RESPOND TO THE NATURAL CYCLES OF THE RIVER. BY SITUATING THE SITE DIRECTLY IN THE RIVER, IT LEAVES THE PROJECT OPEN TO THE NATURAL ELEMENTS FROM ALL DIRECTIONS, WHILE NEARBY BUILDINGS SUCH AS COBO CENTER AND THE RENAISSANCE CENTER PROVIDE SOME UNIQUE CIRCUMSTANCES.

Some of the challenges provided by this pariticular site come from its unique location directly in the river. No buildings along the Detroit River currently push that boundary of the river's edge, or the invisible boundaries of the Detroit-Windsor border. This can create some difficulty both with the structure that will potentially be used to support this project, along with some of the social and political issues that would arise from approaching the border between the two cities. Pushing this edge also creates a challenge of building into the river while maintaining adequate paths of travel for watercraft that navigate the Detroit River on a regular basis.

#### ACCESSIBILITY:

-THIS SITE IS LOCATED NEAR SEVERAL MAJOR ROUTES OF TRANSPORTATION WITHIN THE CITY OF DETROIT. THE SITE ALSO HAS THE BENEFIT OF BEING LOCATED NEAR THE DETROIT-WINDSOR TUNNEL, PROVIDING ACCESS FROM CANADA. BEING LOCATED ON THE DETROIT RIVER, THIS SITE ALSO CREATES ACCESSIBILITY TO WATERCRAFT.

## VISIBILITY:

-THE SITE LENDS ITSELF TO A HIGH AMOUNT OF VISIBILITY FROM A VARIETY OF ANGLES ON BOTH SIDES OF THE DETROIT RIVER, FROM PARKS TO HIGH RISE BUILDINGS.

## DEVELOPMENT:

-THIS SITE, LOCATED ALONG THE
DETROIT RIVERWALK, IS AN AREA THAT
HAS BOTH AN ALREADY EXISTING BASE
OF EXCELLENT DEVELOPMENT, AND A
PLAN IN PLACE FOR THE FUTURE
DEVELOPMENT OF THE AREA IN ORDER TO
REGENERATE INTEREST AND INTERACTION
ALONG THE RIVERS EDGE.



"A CLOCKWORK ARCHITECTURE" 48



#### SITE LOCATION:

- -CHICAGO, ILLINOIS
- -AT THE BEGINNING OF NAVY PIER, ON THE NORTH SIDE OF THE ENTRY TO THE CHICAGO RIVER, AND SLIGHTLY NORTHEAST OF GRANT AND MILLENNIUM PARKS

## UNIQUE SITE CIRCUMSTANCE:

THIS PARTICULAR SITE OFFERS A FEW UNIQUE AND BENEFICIAL CIRCUMSTANCES TO THE DEVELOPMENT OF THE THESIS PROJECT. THE WATERFRONT AREA OF CHICAGO IS ONE THAT IS VERY RICH IN CULTURE AND HISTORY WITH ITS VARIETIES OF PARKS, SHOPS AND MUSEUMS NEARBY. JUST LIKE THE DETROIT RIVER SITE, THIS PROVIDES ANOTHER OPPORTUNITY TO MAKE USE OF THE LOCATION NEAR WATER. BEING LOCATED AT THE FOOT OF A MAJOR RIVER IN THE AREA ALLOWS THE BUILDING TO BE COME PART OF THE CYCLE OF BOATS WHICH TRAVEL IN AND OUT ON A REGULAR BASIS, WHICH MAKES IT SUBJECT TO CONSTANT VIEW AT DIFFERENT TIMES OF DAY AND SEASON. THIS SITE ALSO LOCATES ITSELF NEAR SEVERAL SOURCES OF NATURAL ENVIRONMENT SUCH AS GRANT PARK LOCATED TO THE SOUTHWEST AND OLIVE PARK TO THE DIRECT NORTH.

SOME CHALLENGES ARE PREESNTED BY THIS SITE. FIRST OF ALL, THE CHALLENGE IS PRESENTED OF HOW TO CONNECT THE TWO PIECES OF THIS SITE WHILE MAINTAINING ADEQUATE PATH OF TRAVEL FOR WATERCRAFT WHO NAVIGATE THE WATER INLET. THE OTHER CHALLENGE IS THE SIMPLE FACT THAT NAVY PIER HAS A VERY DISTRACTING FEEL THAT MAY TAKE AWAY FROM THE POTENTIAL OF THIS THESIS PROJECT.

#### ACCESSIBILITY:

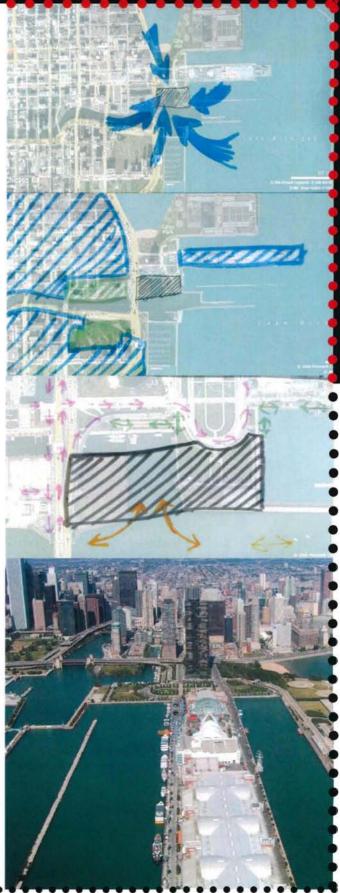
-THE SITE IS SITUATED NEAR MANY DIFFERENT ROUTES OF TRAVEL, WHICH HELPS TO POSSIBLY INCREASE THE LEVEL OF EXPLORATION ON THE SITE AND WITHIN THE SURROUNDINGS. HIGH TRAFFIC AREAS EXIST BY FOOT, AUTOMOBILE, AND BOAT IN THIS AREA.

#### DEVELOPMENT:

-DUE TO THE LEVEL OF DEVELOPMENT IN THE SURROUNDINGS OF THE SITE, OPEN LAND WAS HARD TO COME ACROSS. WHILE A VERY HIGH LEVEL OF DEVELOPMENT ALREADY EXISTS AROUND THIS SITE, SOME PLAN FOR NEW DEVELOPMENT DOES EXIST IN AREAS DIRECTLY ADJACENT TO THE SITE, INCREASING THE USE OF THE SURROUNDINGS.

## VISIBILITY:

-SITE IS LOCATED IN AN AREA OF VERY HIGH VISIBILITY FROM SOME OF THE AREAS THAT ARE HIGH IN INTERACTION, WHILE LOW TO MODERATE LEVELS OF VISIBILITY COME FROM OTHER AREAS, PARTICULARLY FROM THE GRANT PARK AND MILLENNIUM PARK AREAS DUE TO THE INCREASING DEVELOPMENT OF THE STREETFRONT. HIGH VISIBILITY AREAS COME FROM NAVY PIER, LAKE SHORE DRIVE, CHICAGO RIVER, AND NEARBY HIGH RISE BUILDINGS.



"A CLOCKWORK ARCHITECTURE" 50



## SITE LOCATION:

- -DETROIT, MICHIGAN GRAND CIRCUS PARK DISTRICT
- -ABANDONED LOT, FORMER SITE OF HILTON STATLER HOTEL, BETWEEN WASHINTGON BLVD AND BAGLEY AVE.

#### UNIQUE SITE CIRCUMSTANCE:

THIS SITE OFFERS SEVERAL UNIQUE CHARACTERISTICS COMPARED TO THE PREVIOUS SITE POSSIBILITIES, WHICH IS WHY THIS WAS CHOSEN TO BE THE SITE FOR MY PROJECT. THE GRAND CIRCUS PARK DISTRICT OF DETROIT IS ONE OF THE AREAS WITH THE RICHEST FOUNDATION OF HISTORY. ITS COMBINATION OF NEW AND OLD BUILDINGS GIVES IT A UNIQUE VARIETY. THE LOCATION ON THE PARK LINKS THE SITE WITH NATURAL ELEMENTS, AND ALLOWS THE POSSIBILITY OF THE PROJECT TO BECOME THE MISSING PIECE TO THE FRONT THAT DEFINES THE PARK ITSELF. THE SURROUNDINGS OFFER POTENTIAL CHALLENGES AND THE OPPORTUNITY FOR A VARIETY OF VIEWS AS WELL AS DIFFERING POSSIBILITIES FOR THE RELATION TO SEASONAL CHANGES THAT OCCUR WITHIN THE DISTRICT. THIS SITE ALSO SITUATES ITSELF ALONG THE PATH OF THE DETROIT PEOPLE MOVER, WHICH IS A CONSTANT CYCLICAL MOVEMENT OF PEOPLE THROUGHOUT THE CITY, WHICH WILL PROVIDE ONLY ONE OF THE BASIS FOR CONSTANT VIEW OF THIS BUILDING THROUGHOUT THE PASSAGE OF TIME. THE DIFFERING USES IN THE AREA ALSO ALLOW THE SITE TO BE AT USE IN MANY DIFFERENT TIMES OF DAY AND SEASON.

THE CHALLENGES THAT THIS SITE PROPOSES ARE ALSO SEEN AS POTENTIAL OPPORTUNITIES. BEING LOCATED IN AN AREA FULL OF HIGH-RISE STRUCTURES WILL PROVIDE SOME CHALLENGE TO MAINTAINING ADEQUATE WIND AND SUN ON THIS SITE. ALSO, BEING LOCATED IN AN AREA WITH SUCH RICH HERITAGE AND HISTORICAL BUILDINGS WILL PROVIDE THE CHALLENGE OF HOW TO DESIGN A NEW STRUCTURE THAT WILL FIT IN TO THE AESTHETICS OF THE AREA, WHILE ADDING A NEW TOUCH AS WELL. SCALE IS A VERY IMPORTANT ISSUE ON THIS SITE WHEN COMPARING THE VAST HEIGHT OF THE SURROUNDING STRUCTURES TO THE MORE PEDESTRIAN SCALES OF WASHINGTON BLVD AND THE PARK ITSELF.

## ACCESSIBILITY:

-SITE IS CENTRALLY LOCATED NEAR MOST PRIMARY AND SECONDARY TRANSPORTATION ROUTES IN DETROIT.

#### VISIBILITY:

-THE SITE HAS A WIDE VARIETY OF ANGLES FROM WHICH IT CAN BE VIEWED. PRIMARY VIEWS COME FROM THE THEATER DISTRICT, ACROSS GRAND CIRCUS PARK TO THE SITE. OTHER INTERESTING VIEWS ALSO COME FROM THE DETROIT PEOPLE MOVER, WHICH CUTS RIGHT THROUGH THE SITE WITH A NEARBY STATION, AS WELL AS OTHER SECONDARY VIEWS COMING FROM WASHINGTON BLVD. AND THE AREAS OF CURRENT LOW DEVELOPMENT. EACH OF THESE VIEWS LENDS ITSELF TO A DIFFERENT ANGLE OF EXPLORATION.

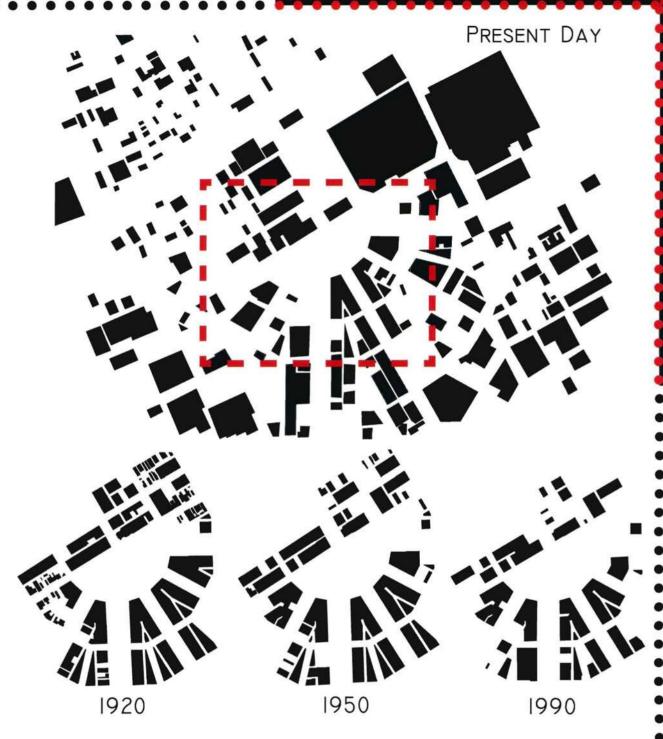
#### DEVELOPMENT:

-SITE IS LOCATED IN AN AREA THAT SERVES AS A TRANSITION BETWEEN HIGHLY DEVELOPED AREAS, AND OTHER AREAS OF VERY LOW DEVELOPMENT. THIS PROVIDES THE BUILDING WITH THE CHANCE TO SERVE AS A CATALYST FOR THOSE LOW DEVELOPMENT AREAS, HOPING TO SPUR UPGRADE IN THE AREA.





"A CLOCKWORK ARCHITECTURE" 52



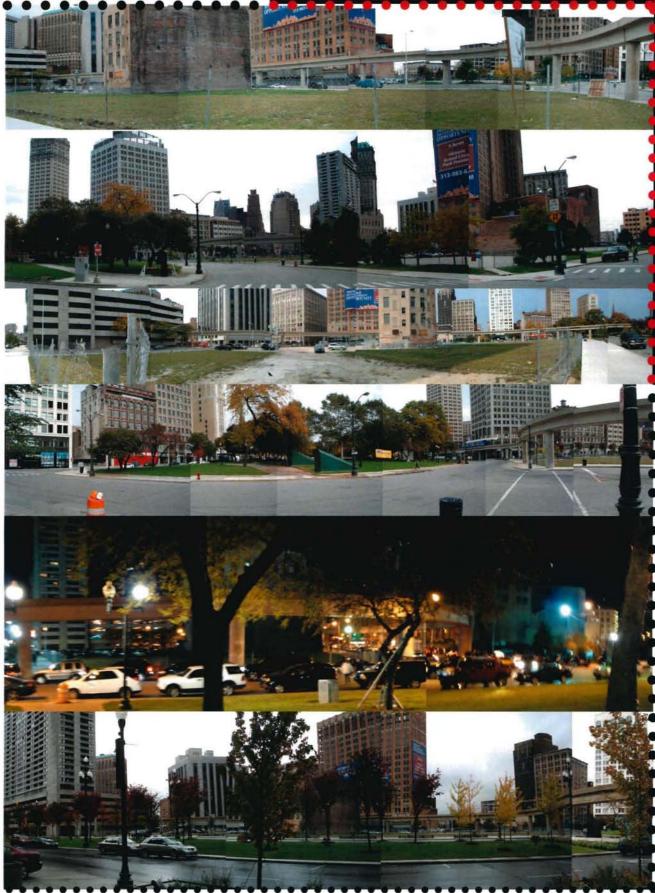
THESE FIGURE GROUND STUDIES TAKEN FROM HISTORICAL SANBORN MAPS BEGIN TO SHOW HOW THE SURROUNDING AREAS OF GRAND CIRCUS PARK HAVE CHANGED OVER TIME. AFTER STUDYING THE MAPS, IT WAS APPARENT THAT THE SURROUNDINGS WERE IN A DECAYING STATE BECAUSE THE URBAN FABRIC AROUND THE PARK HAS BEEN GROWING THIN.

THESE PHOTOGRAPHS SHOW THE SITE MODEL THAT WAS PRODUCED FOR THE AREA SURROUNDING MY CHOSEN SITE OF GRAND CIRCUS PARK IN DETROIT. AS YOU CAN SEE FROM THE MODEL, AS WELL AS THE PRECEDING PHOTOGRAPHS, THERE IS ONE SMALL BUILDING REMAINING ON THE SITE THAT WILL BE REMOVED FOR THIS PROPOSAL. THE IMAGE ABOVE ALSO BEGINS TO SHOW THE CONDITIONS OF HEIGHT IN THE AREA, WHICH CREATE THE CHALLENGE OF BEING ABLE TO CREATE A BUILDING WHICH CAN FIT INTO SUCH AND AREA WITH VARYING HEIGHT CONDITIONS, WHILE ALSO ADDRESSING THE PEDESTRIAN SCALE OF THE WASHINGTON BLVD FRONTAGE, AS WELL AS THE FRONTAGE OF THE PARK ITSELF.

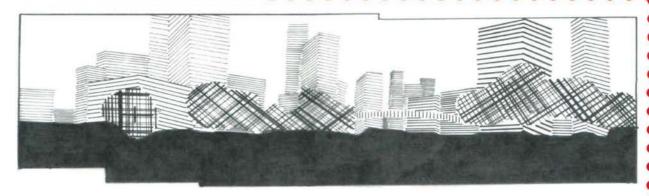


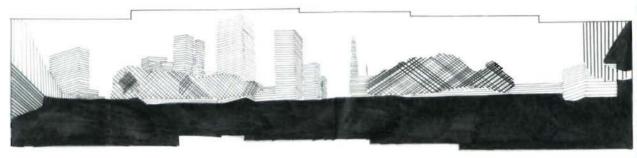
CHOICE:

GRAND CIRCUS PARK



"A CLOCKWORK ARCHITECTURE" 55





THESE TWO PANAROMA STUDIES BEGIN TO LOOK AT THE SITE IN TERMS OF LAYERS AND SCREENS. THE BUILDINGS ARE SEEN AS ELEMENTS BUILT OF HORIZONTAL LAYERS STACKED VERTICALLY THAT COULD POTENTIALLY BEGIN TO AFFECT THE WAY IN WHICH DIFFERENT ELEMENTS REACH THE SITE, WIHETHER THOSE ELEMENTS BE SUNLIGHT, WIND, OR DIFFERENT FORMS OF PEDESTRIAN AND VEHICULAR TRAFFIC. THE DIAGONAL AREAS BEGIN TO SHOW THE NATURAL ELEMENTS SUCH AS TREES IN THE SAME MANNER, DESIGNATING THEM AS MORE OF A TRANSLUCENT SCREEN THAT CAN BECOME PENETRATED TO A CERTAIN EXTENT.

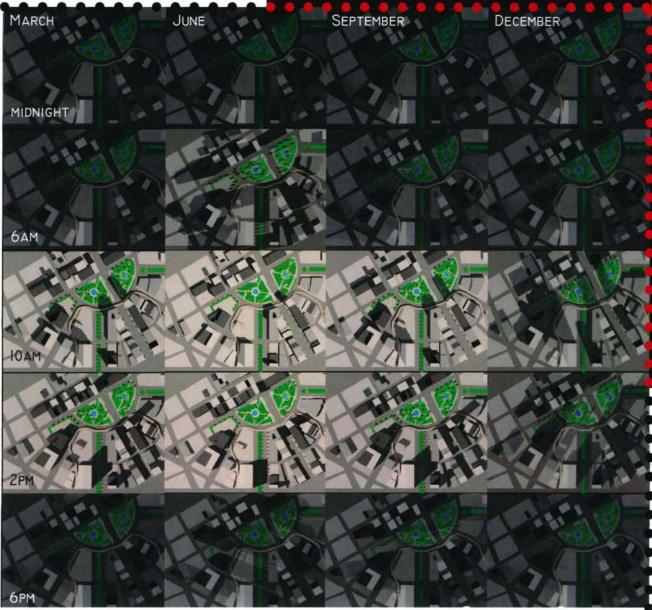
THESE IMAGES BELOW BEGIN TO INDICATE DIFFERENT LEVELS OF CIRCULATION WITHIN THE AREA.

THE IMAGE TO THE LEFT SHOWS PRIMARY AREAS OF PEDESTRIAN CIRCULATION, WHILE THE RIGHT

IMAGE INDICATES DIFFERENT PATHS OF VEHICULAR CIRCULATION WITHIN THE DISTRICT.



"A CLOCKWORK ARCHITECTURE" 56



THIS IMAGE BEGINS TO SHOW THE FIRST STUDY DONE ON THE PATH OF THE SUN AROUND THE SITE. IT INDICATES THE SHADOWS THAT ARE CAST ON THE SITE AT 3 MONTH INCREMENTS, AND SHOWS THEM AT DIFFERENT TIMES OF THE DAY. A MORE IN-DEPTH STUDY OF THE SHADOWS CAST DIRECTLY ON THE SITE ITSELF WAS COMPLETED AT A LATER DATE, AND IS SHOWN IN THE "BUILDING DESIGN" SECTION.

PROGRAM STATEMENT • • • • •	•••	• • •	• •	• •	•	•	• •	•	•	• •	•	•	•	•
BASIC COMPONENTS •••••	•••	• • •	• • •	• •	•	•	• •	•	•	• •	•	•	•	•
ENUMERATION OF ACTIONS •	• • •	•••	••	• •	• •	•	• •	•	• (	•	•	•	•	•
PROGRAM QUANTIFICATION • •	••••	•••	••	• •	••	• •	• •	•	• •	•	•	•	•	•
SPACE DETAIL SUMMARIES • •		• •	• •	• •		•	•	•		•	•	•	•	•

THE CHOSEN PROGRAM FOR THIS PROJECT IS ONE WHICH WILL PROVIDE ADEQUATE MEANS FOR THE IDEAS OF HOW ARCHITECTURE CAN ACKNOWLEDGE THE PROGRESSION OF TIME TO BE INVESTIGATED. THIS WILL BE DONE BY MEANS OF PROVIDING SPACES WHICH FACILITATE THE GROWTH OF ARCHITECTURE, BODY, AND MIND THROUGHOUT THE CYCLE OF BUILDING AND LIFE. SPACES WILL BE PROVIDED WHICH START BY FOSTERING THE GROWTH OF THE HUMAN MIND THROUGH ART. THE SPACES WILL INCLUDE FUNCTIONS WHICH HELP SPARK THOUGHTS, DEVELOP MEMORIES, AND FOSTER IDEAS. SPACES WILL THEN BE PROVIDED THROUGH WHICH THOSE IDEAS CAN BEGIN TO MATERIALIZE AND PUT ON DISPLAY. THIS WILL IN TURN ALLOW THE BUILDING TO BE IN A STATE OF CONSTANT CHANGE AS MORE IDEAS ARE PRODUCED AND MEMORIES ARE CREATED. LASTLY, A PROVIDING OF SPACES WHICH HELP FACILITATE THE CONSTANT CYCLE OF ONE'S LIFE WILL FURTHER THE PROGRAM BY ALLOWING ONE THE INHABITANT TO BE IN A CONSTANT STATE OF CHANGE AS WELL.

WHILE THESE SPACES CONTRIBUTE TO THE DEVELOPMENT AND GROWTH OF THE MIND AND BODY, THEY WILL ALSO CONTRIBUTE TO THE DEVELOPMENT, CHANGE, AND GROWTH OF EACH OTHER. THESE SPACES WILL BE PROGRAMMED AROUND THE IDEA OF "SUSTAINING FROM WITHIN," WHICH MEANS THAT EACH SPACE WILL IN SOME WAY HELP TO FUEL ANOTHER SPACE. A GRAPHIC ART SCHOOL WILL FUEL THE GALLERY SPACES, WHILE THE LOFTS PROVIDE HOUSING FOR THOSE WHO ARE MAJOR CONTRIBUTORS TO BOTH SPACES. THE LOFTS WILL ALSO POTENTIALLY HOUSE THOSE WHO MAY WANT TO MAKE USE OF THE RENTABLE GALLERY SPACES, AS WELL AS THE BUSINESS CENTER. THE THEATER AND EXHIBITION SPACES WILL BE FUELED BY BOTH THE PUBLIC, AS WELL AS THE REST OF THE FACILITY.

#### --DISPLAY

- -- THIN, TRANSFORMABLE, TEMPORARY SPACES.
- -- COMBINATION OF INTERIOR AND EXTERIOR.
- -- SPACES OF GATHERING AND VIEWING.
- -- SPACES WHICH ALLOW THE DISPLAY OF IDEAS.
- --SPACES WHICH FACILITATE THE CONSTANT GROWTH AND CHANGE OF THE BUILDING'S IMAGE
- -- VARIATION OF LIGHT QUALITY.
- -- VARIATION OF MATERIAL TEXTURE.
- --LESS RIGID FORMS TO REFLECT THE NON-PERMANENT NATURE OF THE SPACE.
- --AMPLIFICATION OF THE SENSES TO ENHANCE EXPERIENCE AND MEMORY.

## --CIRCULATION

- --FLOWING, LIQUID AREAS OF TRANSITION BETWEEN MAJOR PROGRAM ELEMENTS.
- --SMOOTH SURFACES TO REFLECT THE FLOWING NATURE OF TRANSITION AND MOVEMENT.
- -- SPACES THAT SERVE AS A PLACE OF PREPARATION AND REFLECTION.
- --THE "SPACES IN-BETWEEN" TO COLLECT/ORGANIZE/STORE MEMORY.
- --SPACES WHICH SERVE AS THE TRANSITION BETWEEN THE DIFFERENT PARTS OF A CYCLE.

#### --EDUCATION

- --SPACES THAT FOSTER THE DEVELOPMENT/GROWTH/CHANGE OF THE HUMAN MIND.
- --SPACES THAT ENCOURAGE USE OF THE HUMAN MIND TO FURTHER DEVELOP THE IMAGE OF THE BUILDING.
- -- SPACES WHICH SPARK THOUGHTS AND DEVELOP IDEAS.
- -- STRONG TIE TO OTHER INTERIOR SPACES.

## -- EXTERIOR/GREEN

- --SPACES THAT CREATE A TIE TO THE SURROUNDING EXTERIOR CONTEXT.
- -- SPACES OR ELEMENTS THAT ALLOW THE BUILDING TO HAVE AN INTERACTION WITH ITS SURROUNDING FABRIC.
- --SPACES OR ELEMENTS THAT ALLOW THE BUILDING TO PEEL ITSELF AWAY TO REVEAL ITSELF TO ITS SURROUNDINGS.
- --SPACES WHICH ALLOW ONE TO BE AWARE OF THEIR SURROUNDING ENVIRONMENT.

## --RESIDENTIAL

- -- SPACES IN WHICH THE CONSTANT CYCLE OF LIFE IS BASED.
- -- SPACES FOR ONE TO RELAX, REFLECT, REFRESH.
- -- SENSE OF ORGANIZATION.
- --STRONG TIE TO ALL ASPECTS OF SURROUNDING ENVIRONMENT.

### --SUPPORT

- --SPACES TO SERVE AS THE THICK, STRONG, PERMANENT FOUNDATIONS UPON WHICH THE BUILDING IS FOUNDED.
- --STIFF, RIGID FORMS TO REFLECT THE PERMANENCE OF THE SPACES.
- -- STRONG SENSE OF ORGANIZATION.

#### -- INTERACTING

#### --GATHERING

- --OF PEOPLE
  - --AT VARYING LENGTHS
  - -- IN VARYING GROUP SIZES
- --OF INFORMATION
  - -- SENSORY INFORMATION
  - -- A TAKING IN OF THE SURROUNDINGS
  - -- EVALUATION OF EXPERIENCE
- --OF MEMORY
- --OF EXPERIENCE
- --OCCURRING IN MANY DIFFERENT PROGRAM ELEMENTS.
- --HUMAN TO HUMAN INTERACTION.
- --LINKS TO CONVERSING, VIEWING, LISTENING, LEARNING, CONSTRUCTING, AND TRAVELING.

#### -- CONVERSING/TALKING

- --AT VARYING TONES AND VOLUMES.
- -- REVERBERATION GIVES A SENSE OF SPACE.
- -- IN MANY DIFFERENT PROGRAM ELEMENTS.
- --HUMAN TO HUMAN INTERACTION.
- -- TO ENGAGE THE AUDIO SENSE.
- -- FOR THE SAKE OF INFORMATION GATHERING.
- --LINKS TO INTERACTING, LISTENING, INFORMING, AND EDUCATING.

#### --SITTING

- -- IN AREAS OF GATHERING.
  - --AT A LENGTH LONG ENOUGH TO TAKE IN THE SURROUNDINGS.
  - -- IN VARYING LEVELS OF LIGHT DEPENDING ON THE NATURE OF GATHERING.
  - -- IN COMFORTABLE POSITIONS.
- -- IN AREAS OF TRANSITION
  - --LONG ENOUGH TO COLLECT/STORE MEMORY, RELAX, AND PREPARE TO MOVE INTO THE NEXT SPACE.
  - -- IN COMFORTABLE POSITION, TO BE AT EASE.
  - -- IN A DIFFUSE LIGHT SETTING SO AS NOT TO OVERPOWER.
- --SERVES PURPOSE OF THOUGHT GATHERING, MEMORY FORMATION, PREPARATION, REGENERATION, REST AND RELAXATION.
- --LINKS TO GATHERING, ABSORBING, WONDERING.

### -- SEEING/VIEWING

- --FROM MANY DIFFERENT ANGLES AND PERSPECTIVES.
- -- IN VARYING LEVELS OF LIGHTNESS AND DARKNESS.
- -- TO ENGAGE THE VISUAL SENSE.
- -- IN HOPES OF SPARKING CURIOSITY, A NEED/WANT TO FURTHER EXPLORE.
- --LINKS TO ABSORBING, LEARNING, EXPLORING, EXPERIENCING.

#### --HEARING/LISTENING

- -- FROM VARYING SOURCES AND DIRECTIONS.
- --AS A MEANS OF INFORMATION GATHERING.
- --AS A MEANS OF SPARKING CURIOSITY.
- --AS A MEANS OF EVALUATING SPACE THROUGH REVERBERATION.
- -- TO ENGAGE THE AUDIO SENSE.
- --LINKS TO CONVERSING/TALKING, ABSORBING, LEARNING, EDUCATING, EXPLORING, EXPERIENCING.

#### -- Touching

- -- A VARIETY SURFACES AND TEXTURES.
- -- TO ENGAGE THE TEXTURAL SENSE.
- -- TO BE ABLE TO ASSOCIATE DIFFERENT TEXTURES WITH DIFFERENT SPACES/MEMORIES OF SPATIAL EXPERIENCE.
- --LINKS TO EXPERIENCING, LEARNING, ABSORBING, MAKING, CONSTRUCTING, DESIGNING.

#### -- DEVELOPING

#### -- INFORMING/TEACHING

- -- IN HOPES OF SPARKING IDEAS, THOUGHTS.
- -- TO PROVIDE INFORMATION TO OTHERS IN HOPES OF FURTHERING THE GROWTH OF THEIR MINDS.
- --LINKS TO ABSORBING, EDUCATING, LEARNING, CONVERSING, GATHERING.

#### --EDUCATING

- -- TO FOSTER DEVELOPMENT OF THE HUMAN MIND.
- -- TO PROVIDE INFORMATION FOR STORAGE.
- -- IN HOPES OF SPARKING IDEAS, THOUGHTS.
- --LINKS TO LEARNING, INFORMING, ABSORBING, MAKING, DESIGNING, CONSTRUCTING.

#### --LEARNING

- -- DEVELOPING THE MIND.
- --FUELED BY EDUCATING AND INFORMING.
- --LINKS TO CONVERSING, VIEWING, LISTENING, TOUCHING, INFORMING, EDUCATING, ABSORBING, CONSTRUCTING, DESIGNING.

## -- ABSORBING

- -- TAKING IN ALL POSSIBLE INFORMATION GIVEN BY SURROUNDINGS.
- -- Touching on as many senses as possible.
- -- CREATING A MEMORY OF EXPERIENCE.
- --LINKS TO CONVERSING, VIEWING, LISTENING, TOUCHING, HEARING, LEARNING, EDUCATING, INFORMING.

## --BUILDING/CONSTRUCTING

- -- A MAKING OF THE PHYSICAL ON MULTIPLE SCALES.
- --FOR THE PURPOSE OF DISPLAY/PROVIDING INFORMATION.
- --ALLOWING IDEAS TO MATERIALIZE.
- -- IN AREAS WITH ADEQUATE LEVELS OF LIGHT.
- --LINKS TO LEARNING, INFORMING, EDUCATING, TOUCHING, SEEING, HEARING, CONVERSING.

## --DESIGNING

- --A CONSTANT DEVELOPING OF THE ENVIRONMENT WITHIN THE BUILDING.
- -- A MEANS THROUGH WHICH IDEAS CAN MATERIALIZE.
- -- FOR PURPOSES OF DISPLAY.
- -- IN AREAS WITH ADEQUATE LEVELS OF LIGHT.
- --LINKS TO BUILDING, LEARNING, INFORMING, EDUCATING, TOUCHING, SEEING, CONVERSING.

## --LIVING/INHABITING

- --AS A PART OF THE CONSTANT CYCLE OF LIFE.
- -- TO RELAX, REGENERATE.
- -- TO CREATE LASTING MEMORIES OF ENVIRONMENT.

PROGRAM/SPACE NAME	NUMBER OF SPACES	SQUARE FEET PER SPACE	TOTAL SQUARE FE				
BUSINESS CENTER							
LARGE OFFICE	6	920	5,520				
MEDIUM OFFICE	5	810	4,050				
STORAGE	1	300	300				
CONFERENCE ROOMS	2	1,050	2,100				
BREAK/COFFEE	FEE I 300		300				
		TOTAL	12270				
RESIDENTIAL							
LOFTS	30	1,900	57,000				
		TOTAL	57,000				
GRAPHIC ART SCHOOL							
SMALL CLASSROOM	4	750	3,000				
MEDIUM CLASSROOM	2	900	1,800				
COMPUTER/DIGITAL LABS	1	1,200	1,200				
CAFE & SEATING	Î	3,000	3,000				
WORKSHOPS	3	1,000	3,000				
MATERIAL STORAGE	. 1	1,000	1,000				
RESTROOM	2	240	480				
CRITIQUE SPACE	1	5,000	5,000				
UPPER LEVEL OFFICES	6	880	5,280				
SOCIAL SPACE/LOBBY	Ĩ	6,000	6,000				
ADMINISTRATIVE SPACE	1	2,400	2,400				
		TOTAL	32,160				
DISPLAY/GALLERY							
EXHIBITION/EVENT	Ī	11,000	11,000				
GALLERY	<i>L</i> <sub>+</sub>	6,000	24,000				
STORAGE/PREP	Ĩ	16,700	16,700				
FILM GALLERY	Į	1,900	1,900				
RENTABLE GALLERIES	6	860	5,190				
FILM THEATER	I	5,500	5,500				
RESTROOMS	8	225	1,800				
CONCESSION		100	100				
TICKETING/BOX OFFICE	Ĩ	100	100				
		TOTAL	66,290				
OTHER							
MECHANICAL	N/A	N/A	16,930				
CIRCULATION	N/A	N/A	34,440				
EXTERIOR	3	N/A	27,010				
		TOTAL	78,380				
		TOTAL APPROX. SQUARE FEET	246,100				

## **BUSINESS CENTER**

#### OFFICE

A. QUANTITIES REQUIRED

A. UNIT CAPACITY:

I. MEDIUM - 10 PERSON MAX.

II. LARGE - 15 PERSON MAX.

B. NUMBER OF UNITS:

I. MEDIUM - 5

II.LARGE - 6

C.NET SQUARE FEET/UNIT:

I.MEDIUM - 810 S.F.

II. LARGE - 920 S.F.

D. TOTAL NET AREA: 4,050 MEDIUM + 5,520 SMALL = 9,570 TOTAL

## **B. Purposes/Functions**

- A.TO ALLOW SPACE FOR THE TEACHERS AND STUDENTS OF THE EDUCATIONAL FACILITY, AS WELL AS OUTSIDE PEOPLE TO BE ABLE TO START THEIR SMALL BUSINESS.
- B. TO PROVIDE SPACE FOR THE GROWTH AND IMPLEMENTATION OF ONE'S IDEAS.
- C.SERVES BOTH THE FUNCTIONS OF PUBLIC AND PRIVATE, DEPENDING ON THE TYPES OF BUSINESSES THAT BECOME A PART OF THE CENTER.
- D.ALSO FUNCTIONS AS BOTH SERVANT AND SERVED, AS WELL AS INDIVIDUAL AND COLLECTIVE, AGAIN DEPENDANT ON THE TYPES OF BUSINESS.

## C.ACTIVITIES

A. THE TYPE OF ACTIVITIES DEPENDS ON THE TYPE OF BUSINESSES THAT WOULD PLACE THEMSELVES IN THE CENTER. MOST ACTIVITIES WOULD BE THOSE TYPICAL OF AN OFFICE SETTING.

## D. SPATIAL RELATIONSHIPS

- A. OFFICES OF THE SMALL BUSINESS CENTER WOULD WANT TO HAVE KEY SPATIAL RELATIONSHIPS TO:
  - I. CONFERENCE ROOMS
  - II. RESTROOMS
  - III. BREAK/COFFEE
  - IV. STORAGE
  - V. EXTERIOR
  - VI. UPPER LEVEL CLASSROOMS

## E.SPECIAL CONSIDERATIONS

- A. HANDICAP ACCESSIBILITY IS DESIRABLE FOR THIS SPACE.
- B.ADJUSTABLE LIGHT AND TEMPERATURE CONDITIONS SHOULD BE PROVIDED TO ACCOMMODATE THE POSSIBILITY OF DIFFERENT BUSINESS TYPES.

## F. EQUIPMENT/FURNISHINGS

A. THE FOLLOWING TOTALS ARE BASED ON STANDARD OFFICE FURNISHINGS AND EQUIPMENT. ANY EXTRA WOULD BE AS NEEDED BASED ON BUSINESS TYPE.

I.DESKS - 20 @ 5'-0" x 2'-0"

II. CHAIRS - 50 @ 2'-2" x 2'-0"

III. CREDENZAS - 20 @ 5'-0" x 2'-0"

G.BEHAVIORAL CONSIDERATIONS

A. NONE

H.STRUCTURAL SYSTEMS

A. NONE

- I. MECHANICAL/ELECTRICAL SYSTEMS
  - A.ADJUSTABLE LIGHTING PROVIDED TO MEET THE NEEDS OF DIFFERENT BUSINESS TYPES.
  - B.ADJUSTABLE HEATING/COOLING SYSTEM TO MEET THE NEEDS OF DIFFERENT BUSINESS TYPES.
- J. SITE/EXTERIOR ENVIRONMENT CONSIDERATIONS
  - A.ADEQUATE VIEW OF EXTERIOR IS DESIRABLE FOR OFFICES FOR PRODUCTIVITY REASONS.

#### CONFERENCE

- A. QUANTITIES REQUIRED
  - A. UNIT CAPACITY: 15 PERSON MAX
  - **B.NUMBER OF UNITS: 2**
  - C.NET SQUARE FEET/UNIT :
    - 1,050 s.F.
  - D. TOTAL NET AREA: 2,100 S.F.
- **B.Purposes/Functions** 
  - A.TO PROVIDE AN INTERACTIVE
    SPACE BETWEEN THOSE
    BUSINESSES THAT EXIST IN THE
    SMALL BUSINESS CENTER AS
    WELL AS THOSE THAT EXIST
    OUTSIDE.



## C.ACTIVITIES

- A. MEETING
- **B.INTERACTING**
- C. DISCUSSING
- D. DESIGNING
- E. PRESENTING
- D. SPATIAL RELATIONSHIPS
  - A. CONFERENCE ROOMS SHOULD HAVE KEY SPATIAL RELATIONSHIPS TO
    - I. OFFICES
    - II. CIRCULATION
    - III. RESTROOMS
    - IV. BREAK/COFFEE
    - **V.EXTERIOR**
    - VI.STORAGE
- E.SPECIAL CONSIDERATIONS
  - A.ADJUSTABLE LIGHTING AND TEMPERATURE TO PROVIDE FOR DIFFERING FORMS OF PRESENTATION AND/OR MEETING.
  - B. VERY LITTLE SOUND PENETRATION DESIRED.

#### F. EQUIPMENT/FURNISHINGS

A. CONFERENCE TABLES:

I.LARGE - 2 @ 5'-0" x 15'-0"

B.CHAIRS: 40 @ 2'-2" X 2'-0"

C.CREDENZAS: 4 @ 5'-0" x 2'-0"

D. PRESENTATION EQUIPMENT:

I.PROJECTORS: 4

II. MOVABLE DRY-ERASE BOARDS: 6

III. PROJECTION SCREENS: 4 @ 5'-0" x 5'-0"

G.BEHAVIORAL CONDITIONS

A. NONE

H.STRUCTURAL SYSTEMS

A. NONE

I.MECHANICAL/ELECTRICAL SYSTEMS

A.ADJUSTABLE LIGHTING TO ACCOMMODATE DIFFERING PRESENTATION FORMATS.

J. SITE/EXTERIOR ENVIRONMENT CONDITIONS

A. ADEQUATE VIEWS OF EXTERIOR ARE DESIRED FOR DAYLIGHTING PURPOSES.



THE CONFERENCE CENTER SHOULD BE ONE THAT PROVIDES ADEQUATE SPACE FOR THE SMALL BUSINESS CENTER TO HOLD MEETINGS OF DIFFERENT SIZES AND TYPES.

#### PRINT/COPY CENTER

- A. QUANTITIES REQUIRED
  - A. UNIT CAPACITY: 8 PERSON MAX.
  - B. NUMBER OF UNITS: I
  - C.NET SQUARE FEET/UNIT: 750s.F.
  - D. TOTAL NET AREA: 750s.f.
- B. PURPOSES/FUNCTIONS
  - A. TO PROVIDE THE NECESSARY SUPPORT AND SERVICES FOR THOSE ARTISTIC BUSINESSES WHICH PLACE THEMSELVES IN THE SMALL BUSINESS CENTER.
  - B. TO PROVIDE THE TOOLS TO ALLOW THE BUSINESSES TO DEVELOP AND GROW.
  - C.TO PROVIDE THE TOOLS NECESSARY FOR THOSE RUNNING THE BUSINESSES TO HELP THEIR IDEAS AND THOUGHTS MATERIALIZE INTO SOMETHING THAT THE PUBLIC CAN BENEFIT FROM.

#### C. ACTIVITIES

- A. PRINTING
- B. COPYING
- C.FAXING
- D. CREATING
- E. DISTRIBUTING
- D. SPATIAL RELATIONSHIPS
  - A. THE PRINT/COPY CENTER SHOULD HAVE KEY SPATIAL RELATIONSHIPS TO:
    - I. OFFICES
    - II. CONFERENCE ROOMS
    - III. BREAK/COFFEE
    - IV. STORAGE
    - **V.RESTROOMS**
- E.SPECIAL CONSIDERATIONS
  - A. NONE
- F. EQUIPMENT/FURNISHINGS
  - A.FULL COLOR PLOTTER: I @ 5'-6" x 2'-4" x 3'-6"
  - B.BLACK & WHITE PLOTTER: I @ 5'-6" x 2'-4" x 3'-6"
  - C.LASER JET PRINTER/COPY/FAX MACHINE: | @ 1'-9" X 1'-6" X 1'-6"
  - D. STORAGE CABINETS: 4 @ 2'-6" x 2'-0"
- G. BEHAVIORAL CONDITIONS
  - A. NONE
- H.STRUCTURAL SYSTEMS
  - A. NONE
- I. MECHANICAL/ELECTRICAL SYSTEMS
  - A. NONE
- J. SITE/EXTERIOR ENVIRONMENT CONDITIONS
  - A. NONE

#### COFFEE/BREAK

- A. QUANTITIES REQUIRED
  - A. UNIT CAPACITY: 15 PERSON MAX
  - B. NUMBER OF UNITS: 1
  - C.NET SQUARE FEET/UNIT: 300s.F.
  - D. TOTAL NET AREA: 300S.F.
- **B.Purposes/Functions** 
  - A. TO PROVIDE SPACE FOR THOSE IN THE SMALL BUSINESS CENTER TO TAKE A BREAK.
- C.ACTIVITIES
  - A. RELAXING
  - **B. CONSUMING**
  - C. CONVERSING
- D. SPATIAL RELATIONSHIPS
  - A. THE COFFEE/BREAK ROOM SHOULD HAVE KEY SPATIAL RELATIONSHIPS TO:
    - I. OFFICES
    - II. RESTROOMS
    - III. EXTERIOR
- E.SPECIAL CONSIDERATIONS
  - A. NONE
- F. EQUIPMENT/FURNISHINGS
  - A. REFRIGERATOR: 1 @ 2'-8" x 2'-4" x 5'-10"
  - B. CABINETS WITH SINK: | @ 6'-0" x 2'-0"
  - C.MICROWAVE: | @ 2'-0" x | 1'-8" x | 1'-2"
  - D. COFFEE MACHINE: | @ | 10" x | 10" x | 1'-2"
  - E. TABLE: 2 @ 4'-0" x 4'-0"
  - F. CHAIRS 8 @ 2'-2" X 2'-2"
- G. BEHAVIORAL CONDITIONS
  - A. NONE
- H. STRUCTURAL SYSTEMS
  - A. NONE
- I. MECHANICAL/ELECTRICAL SYSTEMS
  - A. NONE
- J. SITE/EXTERIOR ENVIRONMENT CONDITIONS
  - A.ADEQUATE VIEW OF EXTERIOR IS DESIRABLE.

#### RESIDENTIAL

#### LOFT APARTMENTS

- A. QUANTITIES REQUIRED
  - A. UNIT CAPACITY: 4 PERSON MAX.
  - B. NUMBER OF UNITS: 30
  - C.NET SQUARE FEET/UNIT: 1,900s.F.
  - D. TOTAL NET AREA: 57,000 S.F. TOTAL
- **B. Purposes/Functions** 
  - A. TO HOUSE THOSE WHO PARTICIPATE IN THE CYCLE OF THE BUILDING.
  - B.A PLACE FOR PEOPLE TO ALSO CONTINUE WITH THE CYCLE OF THEIR LIFE.
  - C. TO PROVIDE SHELTER.

#### C.ACTIVITIES

- A. EATING
- **B.SLEEPING**
- C. RESTING
- D. RELAXING
- E. ENJOYING
- F. INHABITING
- D. SPATIAL RELATIONSHIPS
  - A. THE RESIDENTIAL SPACE SHOULD HAVE KEY SPATIAL RELATIONSHIPS TO:
    - I. EXTERIOR
    - II. SMALL BUSINESS CENTER
    - III. EDUCATIONAL FACILITIES
    - IV. GALLERY/DISPLAY SPACES
- E.SPECIAL CONSIDERATIONS
  - A. HANDICAP ACCESSIBILITY SHOULD BE PROVIDED.
  - B.ADJUSTABLE LIGHTING AND HEATING/COOLING CONTROLS SHOULD BE PROVIDED TO MEET THE NEEDS OF EACH RESIDENT.
- F. EQUIPMENT/FURNISHINGS
  - A.MOST EQUIPMENT AND FURNISHINGS WILL BE PROVIDED BY THE RESIDENTS
    THEMSELVES. THE PROVIDED EQUIPMENT AND FURNISHINGS(PER UNIT) WILL BE:
    - I.KITCHEN CABINETS WITH SINK: 8'-0" X 2'-0"
    - II.ELECTRIC RANGE: | @ 2'-6" x 2'-2" x 4'-0"
    - III.REFRIGERATOR: 1 @ 2'-8" x 2'-4" x 5'-10"
    - IV. WASHER: 1 @ 2'-3" x 2'-6" x 3'-3"
    - V.DRYER: I @ 2'-3" x 2'-6" x 3'-3"
    - VI. TOILET: 1 @ 2'-6 x 1'-4" x 1'-4"
    - VII. BATHTUB WITH SHOWER: I @ 5'-0" x 2'-8" x 1'-8"
    - VIII.BATHROOM CABINET WITH SINK: 1 @ 5'-6" X 2'-0"

- G. BEHAVIORAL CONDITIONS
  - A.A VARIETY OF CONFIGURATIONS SHOULD BE PROVIDED TO OFFER OPTIONS TO THOSE WHO WILL BE INHABITING THE SPACE.
- H.STRUCTURAL SYSTEMS
  - A. NONE
- I. MECHANICAL/ELECTRICAL SYSTEMS
  - A.ADJUSTABLE ARTIFICIAL LIGHTING SHOULD BE PROVIDED TO MEET THE DIFFERING NEEDS OF RESIDENTS.
  - B.ADJUSTABLE HEATING/COOLING SHOULD BE PROVIDED TO MEET THE DIFFERING NEEDS OF RESIDENTS.
- J. SITE/EXTERIOR ENVIRONMENT CONDITIONS
  - A.SUFFICIENT AMOUNTS OF DAYLIGHTING SHOULD BE PROVIDED, AS WELL AS THE POSSIBILITY OF AN EXTERIOR SPACE SUCH AS A BALCONY FOR EACH LOFT.



THE LOFT APARTMENTS
SHOULD PROVDIE DIFFERENT
CONFIGURATIONS IN WHICH
RESIDENTS ARE ABLE TO
CARRY OUT THE CYCLE OF
THEIR LIVES. MATERIAL
EXPRESSION SHOULD
CONSIST OF THOSE WHICH
ADEQUATELY EXPRESS
THE PASSAGE OF TIME
THROUGHOUT THE CYCLE OF
THE SPACE.



### EDUCATIONAL SPACES

### **CLASSROOMS**

- A. QUANTITIES REQUIRED
  - A. UNIT CAPACITY:
    - I. SMALL 20 PERSON PER UNIT MAX.
    - II. MEDIUM 30 PERSON MAX
  - B. NUMBER OF UNITS:
    - I. SMALL 4
    - II. MEDIUM 2
  - C.NET SQUARE FEET/UNIT:
    - I. SMALL 750 S.F.
    - II. MEDIUM 900 S.F.
  - D. TOTAL NET AREA: 3,000 SMALL + 1,800 MEDIUM = 4,800 TOTAL
- **B. Purposes/Functions** 
  - A. TO PROVIDE SPACE THAT WILL HELP FACILITATE THE GROWTH OF THE HUMAN MIND.
  - B. TO PROVIDE SPACE THAT WILL ALLOW FOR IDEAS TO BE FORMED AND THOUGHTS TO BE SPARKED.
  - C. TO PROVIDE SPACE FOR THOSE WHO WISH TO SHARE INFORMATION TO DO SO, AND FOR THOSE WHO WISH TO GAIN THAT INFORMATION TO DO SO AS WELL.

### C.ACTIVITIES

- A. TEACHING
- **B.LEARNING**
- C.INFORMING
- D. CONVERSING
- E. DISCUSSING
- F. DESIGNING
- G. CREATING H. ABSORBING
- I. SITTING
- D. SPATIAL RELATIONSHIPS
  - A. THE CLASSROOMS SHOULD HAVE KEY SPATIAL RELATIONSHIPS TO:
    - I. COMPUTER LABS
    - II. RESTROOMS
    - III. WORKSHOP
    - IV.STORAGE
    - V. GALLERY
    - VI. THEATER
    - VII. SNACK SHOP
    - VIII. SOCIAL SPACE
    - IX. ADMINISTRATIVE OFFICES
    - X.LOFTS
- E.SPECIAL CONSIDERATIONS
  - A. ACCESSIBILITY SHOULD BE PROVIDED FOR THIS SPACE.

#### F. EQUIPMENT/FURNISHINGS

A.TABLES: 60 @ 7'-0" x 2'-0" B.CHAIRS: 80 @ 2'-2" x 2'-2" C.PODIUMS: 6 @ 3'-0" x 2'-0

D.DRY-ERASE BOARDS: I2 @ 5'-0" x 3'-6" E.PIN-UP BOARDS: I2 @ 5'-0" x 5'-0"

### G.BEHAVIORAL CONDITIONS

A.CLASSROOMS SHOULD BE LOCATED NEAR EACH OTHER TO CREATE A SENSE OF COMMUNITY WITHIN THE EDUCATIONAL FACILITIES.

#### H. STRUCTURAL SYSTEMS

A. NONE

### I. MECHANICAL/ELECTRICAL SYSTEMS

A.ADJUSTABLE LIGHTING TO ACCOMMODATE DIFFERENT TEACHING SETTINGS.

### J. SITE/EXTERIOR ENVIRONMENT CONDITIONS

A. VIEWS OF THE EXTERIOR SHOULD BE PROVIDED FOR DAYLIGHTING.



THE CLASSROOMX SHOULD PROVIDE FLEXIBLE SPACES IN WHICH STUDENTS AND TEACHERS ALIKE CAN FIND THEMSELVES COMFORTABLE. CLASSROOMS SHOULD BE SPACES IN WHICH A VARIETY OF LEARNING FORMS IS POSSIBLE, AND A STRONG CONNECTION TO THE EXTERIOR IS PRESENT TO MAKE ITS INHABITANTS AWARE OF THEIR SURROUNDINGS.

### COMPUTER LABS

A. QUANTITIES REQUIRED

A. UNIT CAPACITY: 20

PEOPLE MAX

B. NUMBER OF UNITS: I

C.NET SQUARE FEET/UNIT:

1,200 S.F.

D. TOTAL NET AREA: 1,200s.f. total

**B. Purposes/Functions** 

A. TO PROVIDE SPACE

FOR STUDENTS TO

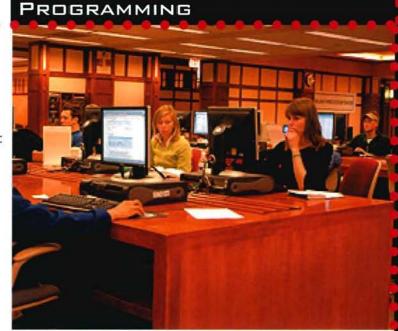
GAIN ACCESS THE

INFORMATION AND

TOOLS NECESSARY FOR

THE FURTHERING OF

THEIR EDUCATION.



B. TO PROVIDE SPACE FOR STUDENTS TO FURTHER DEVELOP THEIR IDEAS AND HELP THEM MATERIALIZE.

### C.ACTIVITIES

- A. RESEARCHING
- **B. DESIGNING**
- C. CONVERSING
- D. LEARNING
- E. INFORMING
- F. ABSORBING
- G. TEACHING

### D. SPATIAL RELATIONSHIPS

- A. COMPUTER LABS SHOULD HAVE KEY SPATIAL RELATIONSHIPS TO:
  - I. CLASSROOMS
  - II. SNACK SHOP
  - III. RESTROOMS
  - IV. SOCIAL SPACE
  - V. WORKSHOP

### E. SPECIAL CONSIDERATIONS

A.LIGHTING SHOULD BE SUCH THAT UNNECESSARY GLARE IS AVOIDED.

### F. EQUIPMENT/FURNISHINGS

- A.DESKS: 20 @ 4'-0" x 3'-0"
- B. COMPUTERS: 20 @ 1'-6 x 1'-6" x 1'-0"
- C. TABLES: 2 @ 3'-0" x 6'-0"
- D.DRY-ERASE BOARDS: 2 @ 5'-0" x 3'-6"
- E.PRINTERS: 2 @ 1'-9" x 1'-6" x 1'-6"
- F.STORAGE CABINETS: 4 @ 2'-0" x 2'-6"

### G. BEHAVIORAL CONDITIONS

A. NONE

- H.STRUCTURAL SYSTEMS
  - A.NONE
- I.MECHANICAL/ELECTRICAL SYSTEMS
  - A.ADJUSTABLE LIGHTING SHOULD BE PROVIDED.
  - B. ADEQUATE VENTILATION SHOULD BE PROVIDED.
  - C. TEMPERATURE CONTROL SHOULD BE PROVIDED
- J.SITE/EXTERIOR ENVIRONMENT CONDITIONS
  - A. NONE.

#### WORKSHOP

- A. QUANTITIES REQUIRED
  - A. UNIT CAPACITY: 10 PERSON MAX
  - B. NUMBER OF UNITS: 3
  - C.NET SQUARE FEET/UNIT: 1,000 S.F.
  - D. TOTAL NET AREA: 3,000 S.F.
- **B.Purposes/Functions** 
  - A.TO PROVIDE A SPACE FOR THE CREATION OF ARTWORK TO POTENTIALLY BE DISPLAYED IN THE GALLERY SPACES.
- C. ACTIVITIES
  - A. CREATING
  - B. REFLECTING
  - C. DEVELOPING
  - D. THINKING
  - E. DISCUSSING
  - F. GATHERING
  - G. SITTING
- D. SPATIAL RELATIONSHIPS
  - A. THE SOCIAL SPACE SHOULD HAVE KEY SPATIAL RELATIONSHIPS TO:
    - I. CLASSROOMS
    - II. COMPUTER LABS
    - III.EXTERIOR
    - IV. CAFE
    - **V.RESTROOMS**
    - VI. LOBBY
    - VII. ADMINISTRATIVE OFFICES
    - VIII. STORAGE
- E.SPECIAL CONSIDERATIONS
- A.SPACE SHOULD HAVE ADEQUATE AMOUNTS OF DIFFUSED NATURAL LIGHTING F.EQUIPMENT/FURNISHINGS(PER UNIT)
  - A.CHAIRS: 6 @ 3'-0" x 3'-0" x 3'-0"
  - B. TABLES: 30 @ 4'-6" X 2'-0" X 1'-6"
  - C. PORTABLE PIN-UP BOARDS: 4 @ 4'-0" x 6'-0"
- G.BEHAVIORAL CONDITIONS
  - A. NONE
- H. STRUCTURAL SYSTEMS
  - A. NONE
- I.MECHANICAL/ELECTRICAL SYSTEMS
  - A.SHOULD BE PROVIDED TO CREATE AN ENVIRONMENT THAT IS NOT HARMFUL TO ARTWORK.
- J. SITE/EXTERIOR ENVIRONMENT CONDITIONS
  - A.A STRONG CONNECTION TO THE EXTERIOR ENVIRONMENT IS DESIRABLE.

### PIN-UP/CRITIQUE SPACE

- A. QUANTITIES REQUIRED
  - A. UNIT CAPACITY: 50 PERSON MAX
  - B. NUMBER OF UNITS: I
  - C.NET SQUARE FEET/UNIT: 5,000 S.F.
  - D. TOTAL NET AREA: 5,000 S.F.
- **B. Purposes/Functions** 
  - A. TO PROVIDE A SPACE FOR THE DISPLAY AND DEVELOPMENT OF BEGINNER/
    INTERMEDIATE LEVEL GRAPHIC WORK.
- C. ACTIVITIES
  - A. RELAXING
  - B. REFLECTING
  - C. DEVELOPING
  - D. THINKING
  - E. DISCUSSING
  - F. GATHERING
  - G.SITTING
- D. SPATIAL RELATIONSHIPS
  - A. THE SOCIAL SPACE SHOULD HAVE KEY SPATIAL RELATIONSHIPS TO:
    - I. CLASSROOMS
    - II. COMPUTER LABS
    - III. EXTERIOR
    - IV. WORKSHOP
    - V. CAFE
    - VI. RESTROOMS
    - VII. ADMINISTRATIVE OFFICES
    - VIII. STORAGE
- E.SPECIAL CONSIDERATIONS
  - A.SPACE SHOULD HAVE ADEQUATE AMOUNTS OF DIFFUSE NATURAL LIGHTING
- F. EQUIPMENT/FURNISHINGS
  - A. CHAIRS: 15 @ 3'-0" X 3'-0" X 3'-0"
  - B. TABLES: 10 @ 4'-6" x 2'-0" x 1'-6"
  - c.Sofas: 10 @ 7'-8" x 3'-4" x 3'-4"
  - D. PORTABLE PIN-UP BOARDS: 10 @ 4'-0" x 6'-0"
- G. BEHAVIORAL CONDITIONS
  - A.SHOULD BE LOCATED IN AN AREA WHERE VIEW IS POSSIBLE FROM MULTIPLE DIRECTIONS
- H.STRUCTURAL SYSTEMS
  - A. NONE
- I. MECHANICAL/ELECTRICAL SYSTEMS
  - A. DIRECTIONAL LIGHTING DESIRED
  - B. MECHANICAL SYSTEM SHOULD CREATE AN ENVIRONMENT THAT IS COMFORTABLE TO SIT IN FOR LONGER PERIODS OF TIME.
- J. SITE/EXTERIOR ENVIRONMENT CONDITIONS
  - A.A STRONG CONNECTION TO THE EXTERIOR ENVIRONMENT IS DESIRABLE.

### CAFE & SEATING

A. QUANTITIES REQUIRED

A. UNIT CAPACITY: 50

PERSON MAX.

B. NUMBER OF UNITS: 1

C.NET SQUARE FEET/UNIT:

3,000 S.F.

D. TOTAL NET AREA:

3,000 s.f.

### **B. Purposes/Functions**

A. TO PROVIDE A SPACE FOR STUDENTS AND TEACHERS OF THE EDUCATIONAL FACILITY, AS WELL AS THOSE OUTSIDE OF THE FACILITY TO REFUEL.

#### C.ACTIVITIES

- A.EATING
- B. DRINKING
- C. CONVERSING
- D. SITTING
- E.PURCHASING
- F. READING

### D. SPATIAL RELATIONSHIPS

- A. THE COFFEE/SNACK SHOP SHOULD HAVE KEY SPATIAL RELATIONSHIPS TO:
  - I. CLASSROOMS
  - II. COMPUTER LABS
  - III. SOCIAL SPACE
  - IV. RESTROOMS
  - V. WORKSHOP
  - VI. GALLERY

### E.SPECIAL CONSIDERATIONS

A. TEMPERATURE SHOULD BE MAINTAINED TO PROVIDE AN ENVIRONMENT ADEQUATE FOR STORAGE AND PREPARATION OF FOOD.

### F. EQUIPMENT/FURNISHINGS

A. TABLES: 15 @ 3'-0" X 3'-0"

B.CHAIRS: 40 @ 2'-0" x 2'-0"

C.SALES COUNTER: | @ 2'-6" x 4'-0"

D.FOOD/DRINK PREPARATION COUNTER: I @ 3'-0" x 7'-0"

E.STORAGE CABINETS: 4 @ 3'-0" x 4'-0"

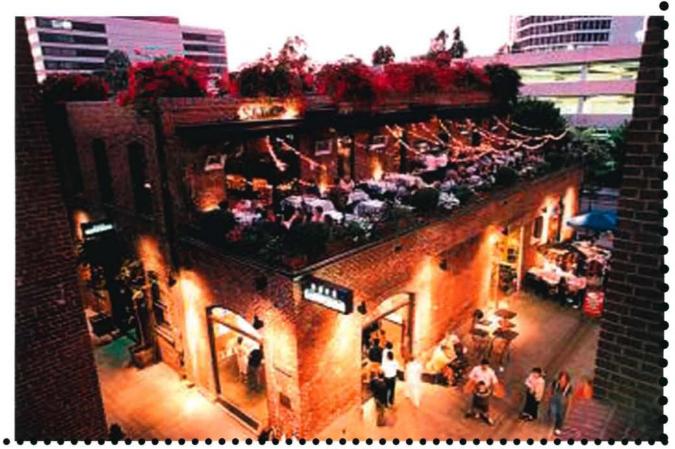
### G.BEHAVIORAL CONDITIONS

A. NONE



- H.STRUCTURAL SYSTEMS
  - A. NONE
- I. MECHANICAL/ELECTRICAL SYSTEMS
  - A. TEMPERATURE CONTROL SYSTEM SHOULD BE PROVIDED.
- J. SITE/EXTERIOR ENVIRONMENT CONDITIONS
  - A. VIEWS OF THE EXTERIOR SURROUNDINGS SHOULD BE PROVIDED FOR A WELL-LIT ENVIRONMENT.

THE CAFE/SNACK SHOP SPACE SHOULD BE ONE WHICH IS EASILY ACCESSIBLE FROM VARIOUS LOCATIONS WITHIN THE PROJECT. THE AREA SHOULD MAKE USE OF A STRONG CONNECTION TO MORE NATURAL MATERIALS IN AN URBAN SETTING, AND STRONG EMPHASIS SHOULD BE PLACED ON THE "TRANSITIONARY" SPACES DUE TO THE CONSTANT COME AND GO OF VISITORS.



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### SOCIAL SPACE/LOBBY

- A. QUANTITIES REQUIRED
  - A. UNIT CAPACITY: 75 PERSON MAX.
  - B. NUMBER OF UNITS: I
  - C.NET SQUARE FEET/UNIT: 6,000
    - S.F.
  - D. TOTAL NET AREA: 6,000 S.F.
- **B. Purposes/Functions** 
  - A.TO PROVIDE A SPACE FOR THOSE
    WHO ARE A PART OF THE
    EDUCATIONAL FACILITIES TO



B. TO PROVIDE A QUIET SPACE FOR THOSE WHO ARE A PART OF THE EDUCATIONAL FACILITIES TO RELAX AND REFLECT ON THEIR THOUGHTS.

### C.ACTIVITIES

- A. RELAXING
- B. REFLECTING
- C. DEVELOPING
- D. THINKING
- E. DISCUSSING
- F. GATHERING
- G. SITTING

#### D. SPATIAL RELATIONSHIPS

- A. THE SOCIAL SPACE SHOULD HAVE KEY SPATIAL RELATIONSHIPS TO:
  - I. CLASSROOMS
  - II. COMPUTER LABS
  - III. EXTERIOR
  - IV. WORKSHOP
  - V. CAFE
  - VI. RESTROOMS
  - VII. ADMINISTRATIVE OFFICES
  - VIII. STORAGE

#### E. SPECIAL CONSIDERATIONS

A.SPACE SHOULD HAVE ADEQUATE AMOUNTS OF NATURAL LIGHTING

### F. EQUIPMENT/FURNISHINGS

- A. CHAIRS: 15 @ 3'-0" X 3'-0" X 3'-0"
- B. TABLES: 10 @ 4'-6" x 2'-0" x 1'-6"
- c.Sofas: 10 @ 7'-8" x 3'-4" x 3'-4"

### G.BEHAVIORAL CONDITIONS

A. SHOULD SERVE AS THE HEART OF MOVEMENT THROUGHOUT THE SCHOOL

#### H.STRUCTURAL SYSTEMS

A.SHOULD BE ADEQUATE TO PROVIDE A MAX. 3 STORY OPEN HEIGHT ATRIUM

I. MECHANICAL/ELECTRICAL SYSTEMS

A. NONE

J. SITE/EXTERIOR ENVIRONMENT CONDITIONS

A.A STRONG CONNECTION TO THE EXTERIOR ENVIRONMENT IS DESIRABLE.



### ADMINISTRATIVE SPACE

### A. QUANTITIES REQUIRED

- A. UNIT CAPACITY: 15 PEOPLE PER OFFICE MAX.
- B. NUMBER OF UNITS: 1
- C.NET SQUARE FEET/UNIT: 2,400 S.F.
- D. TOTAL NET AREA: 2,400 S.F.
- B. PURPOSES/FUNCTIONS
  - A. TO PROVIDE A SPACE OF SUPPORT FOR THE EDUCATIONAL FACILITIES AND ENSURE THAT IT RUN PROPERLY.
  - B. SPACE WILL BE LEFT WIDE OPEN LEAVE ADEQUATE SPACE TO ACCOMMODATE THE OFFICE NEEDS OF THE GRAPHIC ART SCHOOL

#### C. ACTIVITIES

A. ACTIVITIES ARE THOSE TYPICAL OF AN OFFICE SETTING.

### D. SPATIAL RELATIONSHIPS

- A. THE ADMINISTRATIVE OFFICE SHOULD HAVE KEY SPATIAL RELATIONSHIPS TO:
  - I. CLASSROOMS
  - II. COMPUTER LABS
  - III. WORKSHOP
  - IV. SOCIAL SPACE
  - V. SNACK SHOP
  - VI. STORAGE
  - VII. RESTROOMS
  - VIII. PARKING

#### E.SPECIAL CONSIDERATIONS

A. HANDICAP ACCESSIBILITY SHOULD BE PROVIDED FOR THIS SPACE.

### F. EQUIPMENT/FURNISHINGS

- A.DESKS: 4 @ 2'-6" x 5'-6"
- B. CHAIRS: 8 @ 2'-2" X 2'-2"
- C.CREDENZAS: 4 @ 5'-0" X 2'-0"
- D. COMPUTERS: 4
- E. TELEPHONES: 4
- G.BEHAVIORAL CONDITIONS
  - A. NONE
- H.STRUCTURAL SYSTEMS
  - A. NONE
- I.MECHANICAL/ELECTRICAL SYSTEMS
  - A.ADJUSTABLE HEATING/COOLING SHOULD BE PROVIDED FOR THIS SPACE.
- J.SITE/EXTERIOR ENVIRONMENT CONDITIONS
  - A.A VIEW OF THE EXTERIOR ENVIRONMENT IS DESIRABLE FOR OFFICE SPACES.

#### STORAGE

- A. QUANTITIES REQUIRED
  - A. UNIT CAPACITY: 2 PERSON MAX.
  - B. NUMBER OF UNITS: I
  - C.NET SQUARE FEET/UNIT: 1,000s.F.
  - D. TOTAL NET AREA: 1,000s.f.
- **B.Purposes/Functions** 
  - A. TO PROVIDE SPACE FOR THE STORAGE OF MATERIALS TO BE USED BY THE EDUCATIONAL FACILITIES.
- C.ACTIVITIES
  - A.STORAGE
- D. SPATIAL RELATIONSHIPS
  - A. THE STORAGE ROOM SHOULD HAVE KEY SPATIAL RELATIONSHIPS TO
    - I. WORKSHOP
    - II. CLASSROOMS
    - III. COMPUTER LAB
- E.SPECIAL CONSIDERATIONS
  - A.CEILING SHOULD BE HIGH ENOUGH TO ACCOMMODATE THE STORAGE OF LARGER PIECES.
- F. EQUIPMENT/FURNISHINGS
  - A. WALL SHELVING UNITS: VARIOUS SIZES
- G.BEHAVIORAL CONDITIONS
  - A. NONE
- H.STRUCTURAL SYSTEMS
  - A.STRUCTURE SHOULD BE ABLE TO ADEQUATELY SUPPORT THE STORAGE OF LARGE MATERIALS.
- I.MECHANICAL/ELECTRICAL SYSTEMS
  - A.ADEQUATE VENTILATION AND LIGHTING SHOULD BE PROVIDED.
- J. SITE/EXTERIOR ENVIRONMENT CONDITIONS
  - A. NONE

### DISPLAY/GALLERY

### GALLERIES

- A. QUANTITIES REQUIRED
  - A. UNIT CAPACITY:
    - I. MAIN 30 PERSON PER UNIT MAX
    - II. RENTABLE 10
      PERSON PER UNIT MAX
  - B. NUMBER OF UNITS: 4
    - 1. MAIN 4
    - II. RENTABLE 6
  - C.NET SQUARE FEET/UNIT:
    - 1. MAIN 6,000 SF
    - II. RENTABLE 880 SF
  - D. TOTAL NET AREA:

24,000SF MAIN + 5,190

SF RENTABLE = 29,190 SF TOTAL

### **B.Purposes/Functions**

- A.TO PROVIDE A SPACE OF DISPLAY FOR THOSE WHO ARE A PART OF THE EDUCATIONAL FACILITIES.
- B. TO PROVIDE A SPACE THROUGH WHICH THE BUILDING'S INTERIOR CAN GROW AND CHANGE THROUGHOUT THE CYCLE OF ITS USE.
- C. TO PROVIDE A SPACE FOR PEOPLE TO CREATE MEMORIES OF ENVIRONMENT.

### C.ACTIVITIES

- A. DISPLAYING
- **B. VIEWING**
- C. GATHERING
- D. WALKING
- E.SITTING
- F. CONVERSING
- G.INFORMING
- H. EDUCATING
- I.LEARNING
- J. RESTING
- K. RELAXING

#### D. SPATIAL RELATIONSHIPS

- A. THE GALLERY SPACES SHOULD HAVE KEY SPATIAL RELATIONSHIPS TO:
  - I. CLASSROOMS
  - II. WORKSHOP
  - III.STORAGE/PREP
  - IV. THEATER
  - V. EXHIBITION
  - VI. RESTROOMS
  - VIII. EXTERIOR

#### E. SPECIAL CONSIDERATIONS

- A.LIGHT CONDITIONS SHOULD BE ADJUSTABLE TO PROVIDE FOR DIFFERING TYPES OF DISPLAY.
- B. TEMPERATURE CONDITIONS SHOULD BE ADJUSTABLE AS WELL TO PROVIDE FOR DIFFERING TYPES OF DISPLAY.
- C. HANDICAP ACCESSIBILITY SHOULD BE PROVIDED FOR THIS SPACE.
- D.DIRECT ACCESS TO THE STORAGE/PREP AREA SHOULD BE PROVIDED TO ENSURE EASE OF DISPLAY TRANSPORTATION.

### F. EQUIPMENT/FURNISHINGS

- A. MOVABLE PARTITION WALLS: 50 @ 5'-0" X 8'-0:"
- B.MOVABLE LCD DISPLAY SCREENS WITH STAND: 15 @ APPROX. SCREEN SIZE: 2'-0" x 1'-4"

### G.BEHAVIORAL CONDITIONS

A.SPACE SHOULD EXIST ON MORE THAN ONE LEVEL OF THE BUILDING TO PROVIDE NUMEROUS SPACES WITHIN THE INTERIOR THAT ARE UNDER CONSTANT CHANGE.

### H.STRUCTURAL SYSTEMS

A.STRUCTURE SHOULD BE ABLE TO PROVIDE OPEN SPANS AND HIGH CEILINGS IN THIS AREA TO ACCOMMODATE DIFFERENT SIZES OF INSTALLATIONS.

### I.MECHANICAL/ELECTRICAL SYSTEMS

- A. TEMPERATURE SYSTEM SHOULD BE ADJUSTABLE TO ACCOMMODATE DIFFERENT INSTALLATION TYPES.
- B.LIGHTING SHOULD BE ADJUSTABLE TO ACCOMMODATE DIFFERENT INSTALLATION TYPES.

### J. SITE/EXTERIOR ENVIRONMENT CONDITIONS

- A. ADEQUATE DAYLIGHTING SHOULD BE PROVIDED.
- B.GALLERY SPACE SHOULD EXTEND BEYOND THE INTERIOR OF THE BUILDING BY INCLUDING AT LEAST ONE EXTERIOR SPACE.

GALLERY SPACES SHOULD BE ABLE TO PROVIDE ADEQUATE SPACE TO ACCOMMODATE A VARIETY OF DIFFERENT DISPLAY FORMATS. USE OF NATURAL MATERIALS IS PREFERRED DUE TO THEIR ABILITY TO EXPRESS "WEAR AND TEAR" TO REFLECT THE CONSTANTLY CHANGING NATURE OF THE SPACE.



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#### STORAGE/PREP

- A. QUANTITIES REQUIRED
  - A. UNIT CAPACITY: 100 PERSON MAX.
  - B. NUMBER OF UNITS: I
  - C.NET SQUARE FEET/UNIT: 16,700 S.F.
  - D. TOTAL NET AREA: 16,700 S.F.
- **B.Purposes/Functions** 
  - A. TO PROVIDE A SPACE FOR THE STORAGE AND PREPARATION OF THOSE ITEMS WHICH
- ARE TO BE DISPLAYED EITHER IN THE GALLERY OR EXHIBITION SPACES.
- C.ACTIVITIES
  - A.STORAGE
  - B. CLEANING
  - C. MAINTENANCE
  - D. PREPARATION
- D. SPATIAL RELATIONSHIPS
  - A.STORAGE/PREP AREA SHOULD HAVE KEY SPATIAL RELATIONSHIPS TO:
    - I. WORKSHOP
    - II. MATERIAL STORAGE
    - III. GALLERY
    - IV. EXHIBITION/EVENT
    - V. THEATER
- E.SPECIAL CONSIDERATIONS
  - A. GROUND LEVEL ACCESS SHOULD BE PROVIDED FOR DEILVERY
- F. EQUIPMENT/FURNISHINGS
  - A. NONE
- G. BEHAVIORAL CONDITIONS
  - A. NONE
- H.STRUCTURAL SYSTEMS
- A.STRUCTURAL SYSTEM SHOULD BE ABLE TO ACCOMMODATE UNDERGROUND LOCATION I.MECHANICAL/ELECTRICAL SYSTEMS
  - A. TEMPERATURE SHOULD BE ADJUSTABLE TO ACCOMMODATE DIFFERENT DISPLAY FORMS
  - B. ADEQUATE VENTILATION SHOULD BE PROVIDED TO ACCOMMODATE ANY
    - CLEANING/PREPARATION FORMS THAT MAY REQUIRE SUCH VENTILATION.
- J. SITE/EXTERIOR ENVIRONMENT CONDITIONS
  - A.STORAGE/PREP AREA SHOULD HAVE CONNECTIVITY TO THE EXTERIOR TO ALLOW THE EASE OF DELIVERY OF MATERIALS AND/OR DISPLAY PIECES.

### EXHIBITION/EVENT

A. QUANTITIES REQUIRED

A. UNIT CAPACITY: 500

PERSON MAX

B. NUMBER OF UNITS: I

C.NET SQUARE FEET/UNIT:

II,000s.F.

D. TOTAL NET AREA:

II,000s.F.

#### **B.Purposes/Functions**

A.TO PROVIDE A SPACE OF DISPLAY WHICH WILL BE UNDER CONSTANT CHANGE THROUGHOUT THE CYCLE OF THE BUILDING BY MEANS OF TRAVELING DISPLAYS, LARGE EVENTS, ETC....

#### C.ACTIVITIES

- A. DISPLAYING
- **B. VIEWING**
- C. GATHERING
- D. WALKING
- E.SITTING
- F. CONVERSING
- G.INFORMING
- H. EDUCATING
- I.LEARNING
- J. RESTING
- K. RELAXING

### D. SPATIAL RELATIONSHIPS

A.EXHIBITION/EVENT SPACES SHOULD HAVE KEY SPATIAL RELATIONSHIPS TO:

- I.STORAGE/PREP
- II. GALLERY
- III. MATERIAL STORAGE
- IV. CLASSROOMS
- V. ADMINISTRATIVE OFFICES
- VI. THEATER
- VII. CONCESSION
- VIII. PARKING
- IX. TICKETING/BOX OFFICE

### E.SPECIAL CONSIDERATIONS

A. HANDICAP ACCESSIBILITY SHOULD BE PROVIDED FOR THIS SPACE.



- F. EQUIPMENT/FURNISHINGS
  - A. MOVABLE PARTITION WALLS: 50 @ 5'-0" X 8'-0"
- G.BEHAVIORAL CONDITIONS
  - A.ACOUSTICAL PERFORMANCE OF THIS SPACE SHOULD BE TAKEN INTO CONSIDERATION TO PROVIDE ADEQUATE SOUND QUALITY THROUGHOUT SPACE.
- H.STRUCTURAL SYSTEMS
  - A.STRUCTURE SHOULD BE ONE WHICH PROVIDES OPEN-SPANS AND HIGH CEILINGS.
- I. MECHANICAL/ELECTRICAL SYSTEMS
  - A.ADJUSTABLE LIGHTING SHOULD BE PROVIDED TO ACCOMMODATE DIFFERING FORMS OF DISPLAY/EVENT.
  - B.ADJUSTABLE TEMPERATURE SHOULD BE PROVIDED TO ACCOMMODATE DIFFERING FORMS OF DISPLAY/EVENT.
- J. SITE/EXTERIOR ENVIRONMENT CONDITIONS
  - A.SPACE SHOULD HAVE ADEQUATE AMOUNTS OF DAYLIGHTING.

EXHIBITION/EVENT SPACES SHOULD BE ABLE TO ACCOMMODATE DIFFERING FORKMS OF DISPLAY AND EVENTS, AND THUS SHOULD HAVE SPACES OF DIFFERENT SHAPES, SIZES, AND FORMS OF LIGHTING, SEATING, AND TEMPERATURE CONTROL.



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### THEATER

A. QUANTITIES REQUIRED

A. UNIT CAPACITY: 550

PERSON MAX

B. NUMBER OF UNITS: I

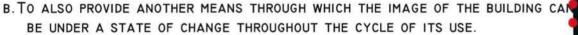
C.NET SQUARE FEET/UNIT: 5.500s.f.

D. TOTAL NET AREA: 5,500s.f.

### **B. Purposes/Functions**

A.TO PROVIDE ANOTHER
MEANS THROUGH WHICH
THOSE INVOLVED IN
THE EDUCATIONAL
FACILITIES CAN

DISPLAY THEIR IDEAS, THOUGHTS, AND WORK.



C.TO PROVIDE A MEANS THROUGH WHICH MEMORIES CAN BE CREATED, STORED, PRESERVED, AND SHARED.

### C.ACTIVITIES

- A. DISPLAYING
- B. VIEWING
- C. HEARING
- D. GATHERING
- E. CONVERSING
- F. SITTING
- G.RELAXING

### D. SPATIAL RELATIONSHIPS

- A. THE THEATER SPACE SHOULD HAVE KEY SPATIAL RELATIONSHIPS TO:
  - I. GALLERY
  - II. EXHIBITION/EVENT
  - III. CLASSROOMS
  - IV. COMPUTER LABS
  - V. CONCESSION
  - VI. TICKETING/BOX OFFICE
  - VII. EXTERIOR
  - VIII. ADMINISTRATIVE OFFICES
  - IX.STORAGE
  - X.PARKING



- E.SPECIAL CONSIDERATIONS
  - A.ADJUSTABLE LIGHTING SHOULD BE PROVIDED TO ACCOMMODATE FILM THEATER DISPLAY.
  - B. HANDICAP ACCESSIBILITY, INCLUDING SEATING, SHOULD BE PROVIDED FOR THIS SPACE.
  - C.ACOUSTICAL PERFORMANCE, INCLUDING SOUNDPROOFING, SHOULD BE CONSIDERED FOR THIS SPACE TO PROVIDE ADEQUATE SOUND QUALITY AND PREVENT NOISE POLLUTION IN ADJACENT SPACES.
- F. EQUIPMENT/FURNISHINGS
  - A. CHAIRS: 550 CHAIRS
  - B.SCREEN: I @ 50'-0" x 35'-0"
  - c.Projector: I
- G. BEHAVIORAL CONDITIONS
  - A. NONE
- H.STRUCTURAL SYSTEMS
  - A.STRUCTURE SHOULD BE ABLE TO ACCOMMODATE OPEN-SPANS AND HIGH CEILINGS.
- I.MECHANICAL/ELECTRICAL SYSTEMS
  - A.MECHANICAL SYSTEM SHOULD BE SOUNDPROOFED TO PREVENT NOISE POLLUTION IN ADJACENT SPACES.
- J. SITE/EXTERIOR ENVIRONMENT CONDITIONS
  - A. DIRECT EXIT TO EXTERIOR/PARKING AREA SHOULD BE PROVIDED.

THEATER SPACES SHOULD BE ABLE TO ACCOMMODATESEVERAL DIFFERENT FORMS OF PERFORMANCE FROM LARGE TO SMALL.



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#### CONCESSION

- A. QUANTITIES REQUIRED
  - A. UNIT CAPACITY: 2 PERSON MAX
  - B. NUMBER OF UNITS: I
  - C.NET SQUARE FEET/UNIT: 100s.F.
  - D. TOTAL NET AREA: 100S.F.
- **B.Purposes/Functions** 
  - A. TO PROVIDE SPACE FOR THE SALE OF REFRESHMENTS FOR THOSE WHO MAKE USE OF THE THEATER AND GALLERY SPACES.
- C.ACTIVITIES
  - A. SELLING
  - **B. PURCHASING**
  - C. CONSUMING
  - D. SITTING
  - E. GATHERING
  - F. PREPARING
  - G. RELAXING
  - H. REFRESHING
- D. SPATIAL RELATIONSHIPS
  - A. CONCESSION AREA SHOULD HAVE KEY SPATIAL RELATIONSHIPS TO:
    - I. THEATER
    - II. GALLERY
    - III. RESTROOMS
- E.SPECIAL CONSIDERATIONS
  - A. HANDICAP ACCESSIBILITY SHOULD BE PROVIDED FOR THIS AREA.
- F. EQUIPMENT/FURNISHINGS
  - A.SALE COUNTER: I @ 8'-0" x 2'-6"
  - B. CASH REGISTER: | @ | '-6" x | '-6" x | '-0"
- G. BEHAVIORAL CONDITIONS
  - A. NONE
- H.STRUCTURAL SYSTEMS
  - A. NONE
- I.MECHANICAL/ELECTRICAL SYSTEMS
  - A. NONE
- J. SITE/EXTERIOR ENVIRONMENT CONDITIONS
  - A. NONE

#### TICKETING/BOX OFFICE

A. QUANTITIES REQUIRED

A. UNIT CAPACITY: 2 PERSON MAX.

B. NUMBER OF UNITS: I

C.NET SQUARE FEET/UNIT: 100S.F.

D. TOTAL NET AREA: 100S.F.

**B. Purposes/Functions** 

A.PROVIDE SPACE FOR THE SALE OF TICKETS AND ADMISSION INTO THE THEATER AND GALLERY SPACES.

C. ACTIVITIES

A. SELLING

D. SPATIAL RELATIONSHIPS

A. TICKETING/BOX OFFICE SHOULD HAVE KEY SPATIAL RELATIONSHIPS TO:

I. THEATER

II. CONCESSION

III. RESTROOMS

IV. GALLERY

**V.EXTERIOR** 

VI. PARKING

E.SPECIAL CONSIDERATIONS

A. NONE

F. EQUIPMENT/FURNISHINGS

A.SALES COUNTER: | @ 8'-0" x 2'-0"

B. CASH REGISTER: 2 @ 1'-6" x 1'-6" x 1'-0"

G.BEHAVIORAL CONDITIONS

A.SHOULD BE LOCATED IN AREAS WHICH RESTRICT ENTRY TO THEATER SPACE WITHOUT FIRST PURCHASING A TICKET.

B. SHOULD BE SAFE FROM CRIMINAL ACTIVITY.

H. STRUCTURAL SYSTEMS

A. NONE

I.MECHANICAL/ELECTRICAL SYSTEMS

A. NONE

J. SITE/EXTERIOR ENVIRONMENT CONDITIONS

A. NONE

#### MECHANICAL

- A. QUANTITIES REQUIRED
  - A. UNIT CAPACITY: 2 PERSON MAX
  - B. NUMBER OF UNITS: 1
  - C.NET SQUARE FEET/UNIT: 2,000s.f.
  - D. TOTAL NET AREA: 2,000s.f.
- **B. Purposes/Functions** 
  - A. TO PROVIDE CIRCULATION AND VENTILATION TO THE ENTIRE FACILITY.
  - B. TO ENSURE THAT A COMFORTABLE ENVIRONMENT IS PROVIDED IN ANY WAY POSSIBLE FOR EACH SPACE.
- C. ACTIVITIES
  - A. HEATING
  - B. COOLING
  - C. VENTILATION
- D. SPATIAL RELATIONSHIPS
  - A. MECHANICAL ROOM SHOULD HAVE KEY SPATIAL RELATIONSHIPS TO:
    - I. EXTERIOR
    - II. STORAGE/PREP
- E.SPECIAL CONSIDERATIONS
  - A.ACCESS TO ROOM SHOULD BE LARGE ENOUGH FOR TRANSPORTATION OF LARGE EQUIPMENT.
  - B.ROOM SHOULD BE AS SOUNDPROOF AS POSSIBLE TO PREVENT NOISE POLLUTION TO ADJACENT SPACES.
- F. EQUIPMENT/FURNISHINGS
  - A. MECHANICAL EQUIPMENT: NUMBER AND SIZE TO BE DETERMINED.
- G.BEHAVIORAL CONDITIONS
  - A. NONE
- H.STRUCTURAL SYSTEMS
  - A. SHOULD BE ABLE TO SUPPORT THE LOAD OF LARGE MECHANICAL EQUIPMENT.
- I.MECHANICAL/ELECTRICAL SYSTEMS
  - A.MECHANICAL EQUIPMENT SHOULD BE LARGE ENOUGH TO PROVIDE HVAC FOR THE ENTIRE FACILITY.
- J. SITE/EXTERIOR ENVIRONMENT CONDITIONS
  - A.NONE

### EXTERIOR

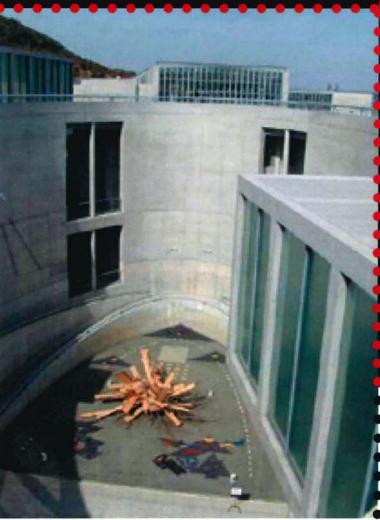
- A. QUANTITIES REQUIRED
  - A. UNIT CAPACITY: N/A
  - B. NUMBER OF UNITS: 3
  - C.NET SQUARE FEET/UNIT:
    - VARIES
  - D. TOTAL NET AREA: 27,010 S.F.
- **B. Purposes/Functions** 
  - A.TO PROVIDE SPACES
    WHICH ALLOW THE
    INHABITANTS OF
    THE BUILDING TO
    BECOME AWARE OF
    THEIR SURROUNDING
    ENVIRONMENT.
  - B.TO SUBJECT INHABITANTS
    TO THE ENVIRONMENTAL
    CONDITIONS SUCH
    AS SUN, LIGHT,
    TEMPERATURE, AND
    WIND.

### C.ACTIVITIES

- A. RELAXING
- **B.SITTING**
- C. GATHERING
- D. CONVERSING
- E.READING
- G. ABSORBING
- H. WALKING
- I. RESTING
- J. VIEWING
- D. SPATIAL RELATIONSHIPS
  - A.EXTERIOR SPACES SHOULD HAVE KEY SPATIAL RELATIONSHIPS TO:
    - I.LOFT APARTMENTS
    - II. GALLERY
    - III. EXHIBITION/EVENT
    - IV. OFFICES
    - V. CLASSROOMS
    - VI. SOCIAL SPACE

### E.SPECIAL CONSIDERATIONS

- A. SHOULD BE LOCATED AT VARYING LEVELS AND POSITIONS THROUGHOUT THE FACILITY
- B. HANDICAP ACCESSIBILITY SHOULD BE PROVIDED FOR THIS SPACE.
- C.RAILINGS SHOULD BE PROVIDED AT THE EDGES OF THE SPACE IF LOCATED ON AN UPPER FLOOR



PROGRAMMING

F.EQUIPMENT/FURNISHINGS

A.CHAIRS: 80 @ 2'-2" X

2'-2"

B. TABLES: 20 @ 4'-0" X

4'-0"

G.BEHAVIORAL CONDITIONS

A. NONE

H.STRUCTURAL SYSTEMS

A. NONE

I.MECHANICAL/ELECTRICAL

SYSTEMS

A. NONE

J. SITE/EXTERIOR ENVIRONMENT

CONDITIONS

A. NONE



EXTERIOR SPACES SHOULD PROVIDE SHELTER, AND SHOULD INCORPORATE SOME EXPRESSION OF THE IDEAS OF GROWTH OF THE SPAN OF THE USE OF THE BUILDING. THIS CAN BE DONE WITH SUCH MATERIALS SUCH AS IVY. AT NIGHT, EXTERIOR SPACES SHOULD PROVIDE DIFFERING LEVELS OF LIGHT AS WELL TO INDICATE DIFFERENT USES, WHETHER THEY BE FOR LIESURE OR DISPLAY.

#### RESTROOMS

A. QUANTITIES REQUIRED

A. UNIT CAPACITY: VARIES

B. NUMBER OF UNITS:

I.SMALL: 8
II.MEDIUM: 2

C.NET SQUARE FEET/UNIT:

I.SMALL: 225 S.F. II.MEDIUM: 240S.F.

D. TOTAL NET AREA: 1,800 S.F. SMALL + 480S.F. MEDIUM= 2,280 S.F. TOTAL

**B. Purposes/Functions** 

A. TO PROVIDE ADEQUATE RESTROOM FACILITIES FOR THE BUILDING.

C.ACTIVITIES

A. RELIEVING

B. CLEANSING

D. SPATIAL RELATIONSHIPS

A. RESTROOMS SHOULD HAVE KEY SPATIAL RELATIONSHIPS TO ALL SPACES.

E. SPECIAL CONSIDERATIONS

A. HANDICAP ACCESSIBILITY SHOULD BE PROVIDED.

F. EQUIPMENT/FURNISHINGS

A. TO BE DECIDED AFTER DESIGN OF SPACE.

G.BEHAVIORAL CONDITIONS

A. NONE

H.STRUCTURAL SYSTEMS

A. NONE

I. MECHANICAL/ELECTRICAL SYSTEMS

A.ADEQUATE VENTILATION SHOULD BE PROVIDED.

J.SITE/EXTERIOR ENVIRONMENT CONDITIONS

A. NONE

FOUNDATIONS • • •	••••	• •	• •	• •	•	• •	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
ORGANIZATION/MO	VEMEN.	т•	• •	• •	•	• •	•	•	•	•	•	• (	•	•	•	•	•	•	•	•	•	•
PENETRATION/MAT	ERIALIT	ГҮ •	••	• •	•	• •	• •	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
HIEDADCHY/ENCLO	SUDE								•										•			

THROUGHOUT THE SPRINGBOARD AND SCHEMATIC DESIGN PROCESSES, A VARIETY OF IDEAS AND ISSUES WERE EXPLORED THAT WERE DRAWN FROM THE THESIS STATEMENT. BELOW IS A LISTING AND BRIEF EXPLANATION OF EACH IDEA THAT WAS EXPLORED, AND HOW IT RELATES BACK TO THE OVERALL NOTIONS OF THE THESIS. A GREAT PORTION OF THESE EXPLORED IDEAS FOCUSED ON THE SENSUAL AND SPATIAL ASPECTS THAT OUR BODIES AND MINDS RECOGNIZE AND ASSOCIATE WITH THE PROGRAMMATIC ELEMENTS WHICH FACILITATE THE CREATION OF SHORT AND LONG TERM MEMORIES. THE PAGES FOLLOWING THE EXPLANATIONS WILL THEN EXPAND UPON THESE IDEAS BY SHOWING HOW EACH IDEA AND ISSUE WAS EXPLORED.

### LIGHT PENETRATION

- --ONE OF THE MOST IMPORTANT CHARACTERISTICS THAT CHANGES WITHIN A SPACE THROUGHOUT THE PROGRESSION OF TIME IS THE PENETRATION OF LIGHT. THIS SECTION OF THE DESIGN PROCESS FOCUSED ON THE AMOUNT OF LIGHT THAT WOULD BE LET THROUGH INTO A SPACE BASED ON ITS PROGRAMMATIC CHARACTERISTICS. A VARIETY OF STUDIES WERE EXPLORED THAT DEALT WITH ISSUES SUCH AS:
  - -- DIRECT VS. DIFFUSE PENETRATION
  - -- DIFFERENT MATERIALS AND THEIR LEVEL OF TRANSPARENCY
  - --THE TRANSITION FROM DAY TO NIGHT AND THE DIFFERENT FORMS OF LIGHT THAT ARE NECESSARY DURING THESE DIFFERENT TIMES WITHIN THE CYCLE OF A DAY

#### HIERARCHY

- --TO HELP FACILITATE THE CREATION OF THESE SHORT TERM MEMORIES BASED ON ASSOCIATION, ANOTHER IMPORTANT CHARACTERISTIC A SPACE HAS IS THE DIFFERENT LEVELS OF HIERARCHY THAT ARE APPARENT IN ITS LOCATION AND CREATION. THIS SECTION FOCUSES ON THE FOLLOWING FORMS OF HIERARCHY:
  - --PROGRAMMATIC WHERE IT MAKES THE MOST SENSE FOR A
    SPACE TO BE LOCATED TO BENEFIT ITS APPROPRIATE USE WITHIN THE
    CYCLE OF A BUILDING
  - --STRUCTURAL A STUDY OF WHAT HAPPENS WHEN CERTAIN
    MATERIALS IN THE CREATION OF A SPACE INTERSECT ONE ANOTHER,
    WHICH MATERIAL HAS PRECEDENCE OVER ANOTHER

#### ORGANIZATION

- --THIS SECTION OF THE PROCESS TIES INTO THE IDEAS OF HIERARCHY TO STUDY HOW SPACES SHOULD BE ORGANIZED IN RESPECT TO ONE ANOTHER, AS WELL AS THE LEVEL OF ORGANIZATION THAT IS NEEDED WITHIN EACH SEPARATE PROGRAMMATIC ELEMENT IN ORDER FOR IT TO FUNCTION PROPERLY IN THE CYCLE OF A BUILDING'S USE. TWO MAIN TYPES OF ORGANIZATION WERE DEFINED:
  - --RANDOM/MOVABLE/FREE THIS FORM OF ORGANIZATION EXISTS FOR THOSE SPACES THAT REQUIRE CHANGE THROUGHOUT THE CYCLE OF THE BUILDING. ALLOWING NON-FIXED OBJECTS THAT STILL ACT AS SEPARATION DEVICES CREATES THE POSSIBILITY FOR CERTAIN PROGRAMMATIC ELEMENTS TO ACCOMMODATE DIFFERENT USES OVER TIME.
  - --FIXED/PERMANENT THIS FORM OF ORGANIZATION EXISTS FOR
    THOSE SPACES THAT HAVE A MORE LONG-TERM CYCLE. THIS
    ALLOWS FOR THE BUILDING TO HAVE CERTAIN SPACES THAT ARE MORE
    CONSISTENT THROUGHOUT THE CYCLE OF THE BUILDING.

#### MOVEMENT

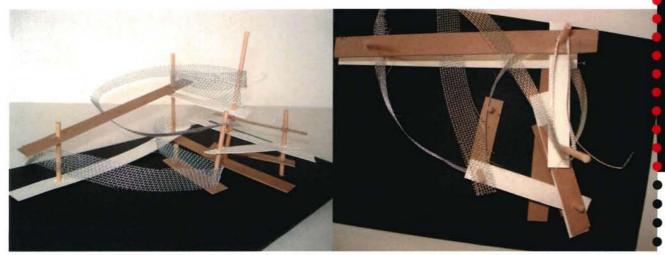
--A SERIES OF STUDIES WAS ALSO DONE TO LOOK AT THE DIFFERENT FORMS OF MOVE-MENT THAT EXIST WITHIN AND BETWEEN THESE DIFFERENT PROGRAMMATIC ELEMENTS. THE MOVEMENT OF A PERSON THROUGH AND BETWEEN SPACES IS AFFECTED BY SEVERAL OF THE OTHER STUDIES MENTIONED ABOVE SUCH AS ORGANIZATION AND HIERARCHY.

### **ENCLOSURE**

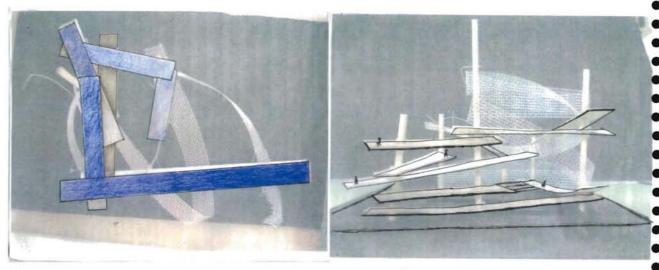
--ALSO TIED INTO THE IDEAS OF MOVEMENT, ORGANIZATION, AND HIERARCHY, IS THE DIFFERENT LEVELS OF ENCLOSURE THAT EXIST WITHIN THE DIFFERING PROGRAMMATIC ELEMENTS IN THE BUILDING.



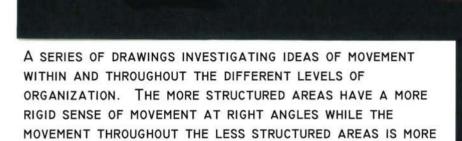
AN EARLY MODEL INVESTIGATING IDEAS OF STRUCTURED AND RANDOM ORGANIZATION, AND WHAT HAPPENS WHEN THEY MEET.



AN EARLY STUDY WHICH PULLS FROM THE SITE STUDIES ON LAYERED ORGANIZATION WITH SOME RANDOM MOVEMENT THROUGHOUT.

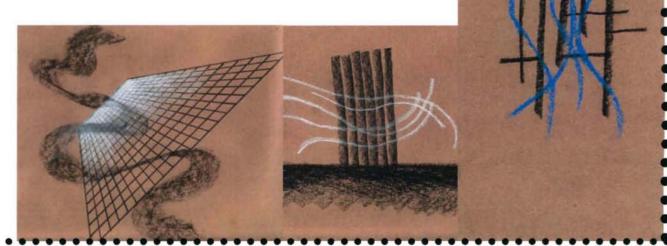


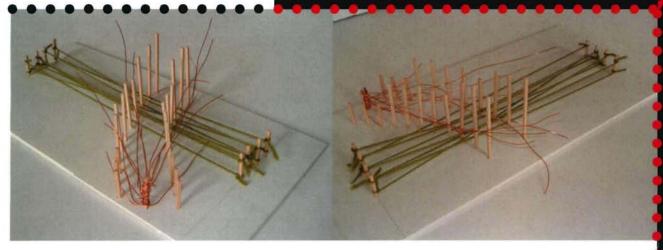
A FURTHER INVESTIGATION OF THE MODEL SHOWN ABOVE. THE IMAGE TO THE LEFT HIGHLIGHTS A CONSISTENT PATH IN PLAN, WHILE THE IMAGE TO THE RIGHT BEGINS TO SHOW HOW THESE DIFFERENT LAYERS COULD BEGIN TO CREATE FUNCTIONAL SPACES.



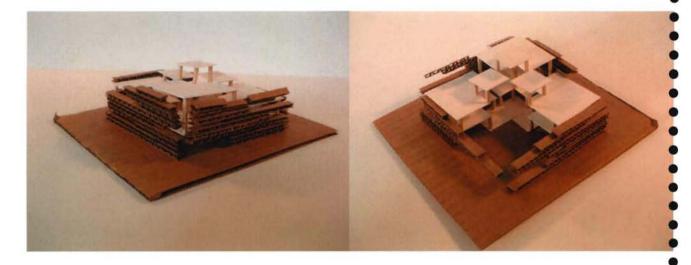
FLUID.

THIS SERIES OF DRAWINGS ALSO INVESTIGATES DIFFERENT FORMS OF VERTICAL AND HORIZONTAL MOVEMENT WITHIN AND THROUGHOUT AREAS WITH DIFFERING LEVELS OF ORGANIZATION AND/OR RIGIDITY.

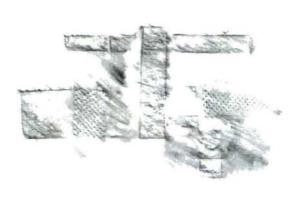




THIS STUDY FURTHER STUDIES THE IDEAS OF MOVEMENT. THE GREEN LINES OF STRING REPRESENT A MORE RIGID/DIRECT SENSE OF MOVEMENT, STARTING AND STOPPING AT THE WOOD POLES, WHILE THE COPPER LINES OF WIRE REPRESENT A MORE FREE/DIFFUSED SENSE OF MOVEMENT, WEAVING THEIR WAY IN AND OUT OF THE WOOD POLES.

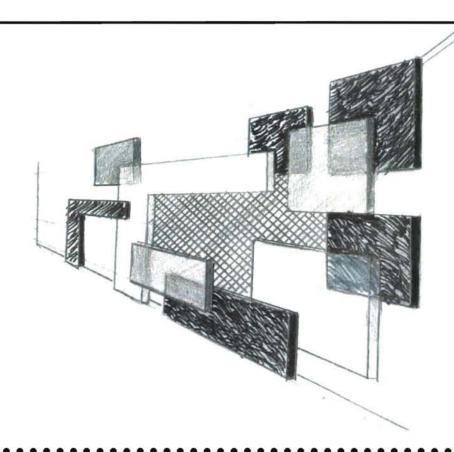


THIS MODEL IS A STUDY THAT FURTHERS THE IDEA OF STACKED ORGANIZATION, SHOWING HOW THIS FORM OF ORGANIZATION CAN CREATE A SENSE OF MULTI-LEVEL SPACE. THE CARDBOARD STRIPS ON THE EXTERIOR BEGIN TO ALSO APPLY THIS SENSE OF STACKED ORGANIZATION TO A MORE MATERIAL SENSE, SHOWING HOW A STAGGERED PARTITION WALL MAY START TO FORM AROUND THESE SPACES, CREATING UNIQUE LEVELS OF SOLID AND VOID FOR EACH SPACE.





THESE STUDIES BEGIN TO INVESTIGATE BOTH MATERIALITY/TEXTURE AND TRANSPARENCY.
THE TWO STUDIES ABOVE LOOK AT HOW SOME OF THESE DIFFERENT MATERIALS BEGIN TO
INTERSECT ONE ANOTHER AND, FROM THE RUBBING ON THE LEFT, WHAT KIND OF INFORMATION
CAN BE GAINED FROM THE TYPE OF TEXTURE ASSOCIATED WITH EACH MATERIAL. THE DRAWING BELOW ALSO BEGINS TO LOOK AT INTERSECTING MATERIALS, AS WELL AS THEIR LEVELS OF
TRANSPARENCY WHEN THEY BEGIN TO FORM A WALL.





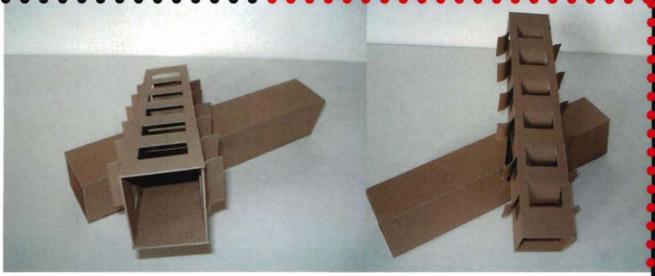
THIS SERIES OF STUDIES TAKES ANOTHER STEP TOWARD INVESTIGATING TRANSPARENCY OF MATERIALS.

THE MODEL ABOVE WAS MADE TO FIRST LOOK AT HOW THESE OVERLAPPING MATERIALS ALLOW SUNLIGHT TO FILTER THROUGH.

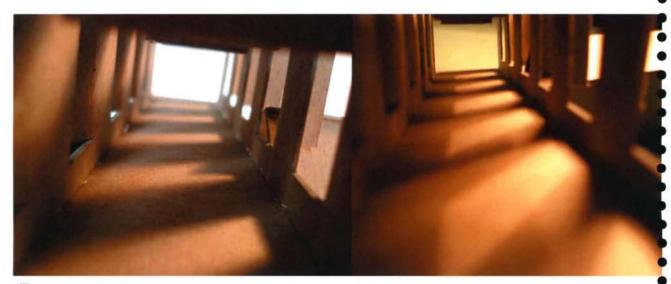
THEN THE STUDIES TO THE RIGHT WERE DONE TO SHOW HOW THESE WOULD LOOK IN A NIGHT-TIME CONDITION WITH ARTIFICIAL LIGHTING.

THE IMAGE BELOW ALSO SHOWS THE NIGHT-TIME CONDITIONS IN A MORE ABSTRACTED FORMAT THROUGH PHOTO MANIPULATION.



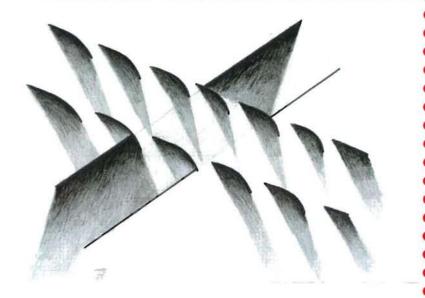


THIS MODEL BEGINS TO INVESTIGATE THE IDEAS OF DIRECT AND DIFFUSE PENETRATION OF LIGHT, SOUND, WIND, AND HUMANS. THE SOLID TUBE REPRESENTS DIRECT PENETRATION, WHERE THE PENETRATION WOULD ONLY OCCUR AT EITHER END OF THE TUBE. THE ANGLED TUBE REPRESENTS THE DIFFUSED PENETRATION WITH THE LOUVERS WHICH WOULD SPREAD OUT WHATEVER TRAVELLED THROUGH IT.

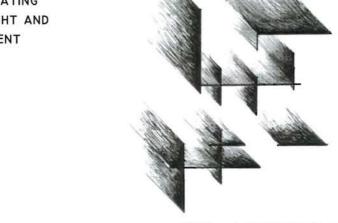


THESE IMAGES BEGIN TO SHOW WHAT IT WOULD BE LIKE TRAVELLING THROUGH THE DIFFUSE TUBE, AND THE QUALITY OF LIGHT THAT IS CREATED WITHIN IT.

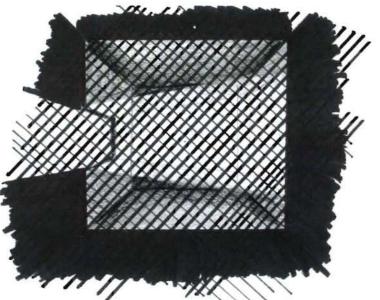
THIS DRAWING SHOWS
THE SHADOWS THAT COULD BE
CREATED WITH THE DIRECT AND
DIFFUSE WALL TYPES.



THIS DRAWING ALSO INVESTIGATES THE IDEAS OF CREATING DIFFERENT LEVELS OF LIGHT AND DARKNESS WITHIN DIFFERENT SPACES.

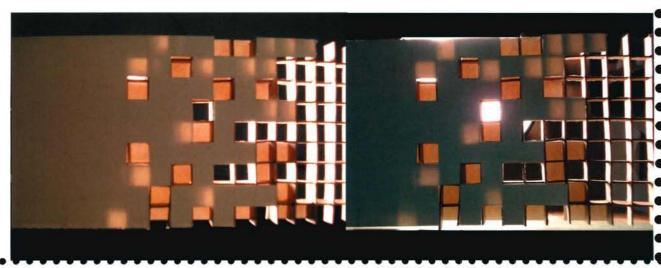


THIS DRAWING STARTS TO SHOW HOW SHADOW AND LIGHT CAN BEGIN TO CREATE SPACES THAT GENERATE CURIOSITY IN THOSE THAT ARE PASSING BY.





THIS STUDY BEGINS TO TAKE SOME OF THE PREVIOUSLY STUDIED IDEAS AND TRANSLATE THEM INTO A MORE ARCHITECTURAL EXPRESSION. THE SCREEN WALL LOOKS AT A FEW DIFFERENT IDEAS. FIRST AND FOREMOST IS THE IDEA OF CREATING A WALL THAT CAN FUNCTION STRUCTURALLY BUT NOT BE COMPLETELY SOLID, SO THAT SOME HINT OF WHAT ACTIVITIES ARE GOING ON BEYOND THE WALL CAN BE SHOWN. THIS ALSO TIES AGAIN INTO THE IDEA OF THE PENETRATION OF LIGHT, WIND, AND TEMPERATURE BETWEEN SIMILAR SPACES TO ALLOW THEM TO HAVE SIMILAR CHARACTERISTICS. THE BLEND FROM COMPLETLEY SOLID AT THE RIGHT TO VOID AT THE LEFT ALSO INCORPORATES THE IDEAS OF RANDOM/FREE ORGANIZATION. THE IMAGES BELOW SHOW HOW THIS WALL WOULD BEGIN TO LOOK IN SITUATION WHERE IT BECOMES EXPOSED TO LIGHT.



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THIS SERIES OF IMAGES WAS SHOWN IN FLIPBOOK FORMAT.

THE STUDY SHOWS THE IDEA OF USING THE SCREEN WALL AS A MEANS OF SEPARATING SPACES, YET KEEPING THEM OPEN TO ONE ANOTHER FOR PENETRATION OF WIND, SUNLIGHT, TEMPERATURE, AND SOUND.

BY STAGGERING TWO SCREEN WALLS
WITH A PATH IN BETWEEN, IT CREATES
THE OPPORTUNITY FOR A PLAY
BETWEEN SOLID AND VOID, WHILE ALSO
ALLOWING THE VIEW OF PEOPLE
PASSING BY.

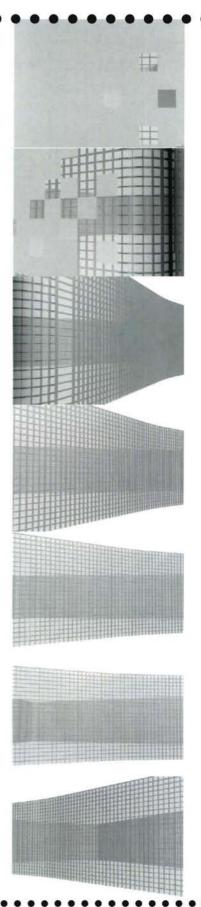


THIS SERIES OF IMAGES WAS ALSO DONE AS A FLIPBOOK.

THIS STUDY SHOWS THE SAME CIRCUMSTANCE AS THE PREVIOUS STUDY, WITH TWO OFFSET GRID WALLS, ONLY THIS ONE HAS THE VIEWER TRAVELLING THROUGH THE SPACE BETWEEN THE WALLS.

THIS COULD SERVE AS A CIRCUMSTANCE FOR CIRCULATION
BETWEEN TWO SIMILAR SPACES,
WHERE THE CHARACTERISTICS
SUCH AS LIGHT, SOUND, WIND, AND
TEMPERATURE CAN PENETRATE
THROUG THE GRID, AND VIEW CAN
BE OFFERED OF WHAT ACTIVITIES ARE TAKING PLACE IN THE
SPACES.

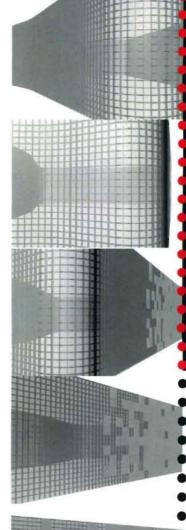




THIS WAS THE THIRD FLIPBOOK IN THE SERIES.

THIS SERIES OF IMAGES TAKES THE IDEAS OF THE GRID WALL THAT WERE PREVIOUSLY STUDIED AND APPLIES THEM TO THE EXTERIOR SHELL OF THE BUILDING. THIS CREATES A SKIN WITH A PROGRESSION FROM SOLID TO VOID AS ONE TRAVELS AROUND THE EXTERIOR.

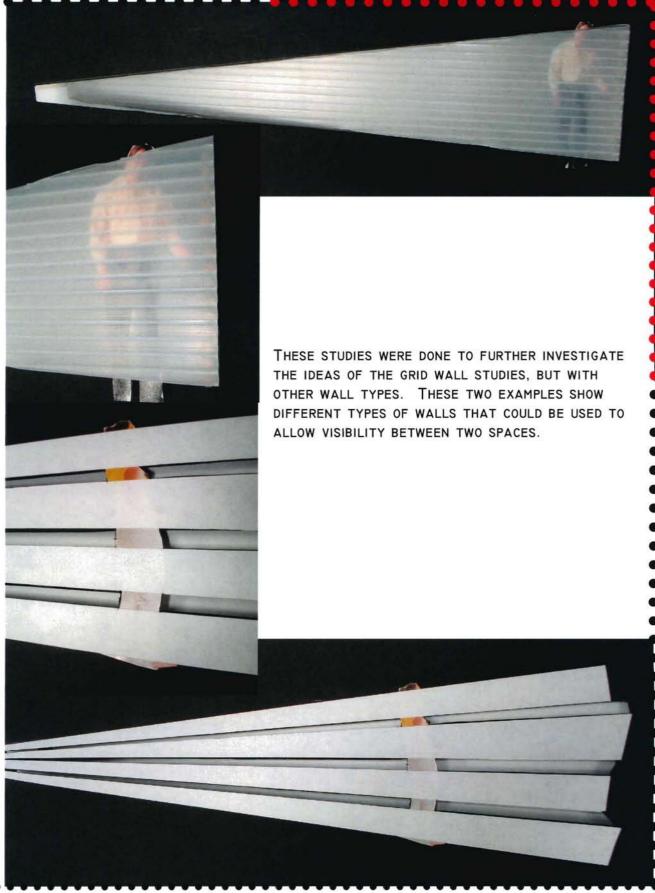
THE REASON FOR DOING SUCH A STUDY WITH A PROGRESSION FROM SOLID TO VOID IS TO ACCOMMODATE THE DIFFERING PROGRAMMATIC ELE-MENTS WHICH WOULD REQUIRE DIF-FERENT LEVELS OF VISIBILITY, SUN-LIGHT...ETC.

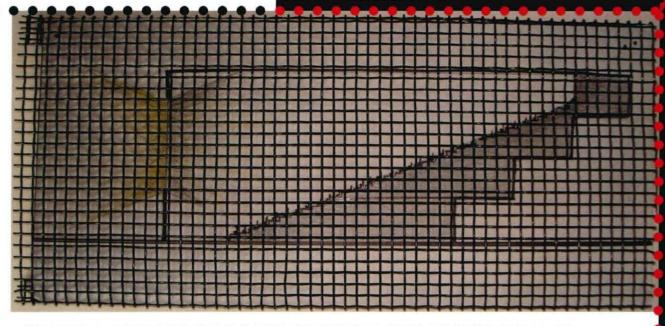






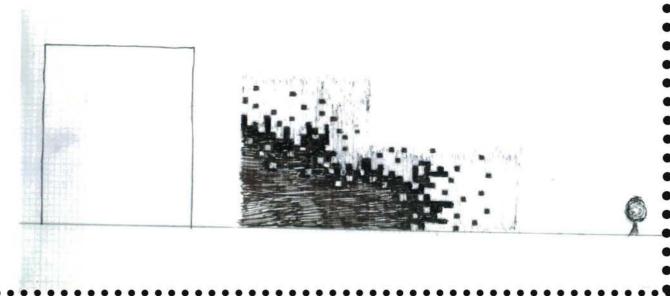






THIS WAS A STUDY DONE FOR THE THEATER SPACE TO SHOW DIFFERENT LEVELS OF TRANSPARENCY THAT COULD BE USED IN SECTION AND ELEVATION TO ALLOW A BLENDING OF THE INTERIOR AND EXTERIOR SPACES.

THIS STUDY IS AN ELEVATION STUDY DONE BASED ON THE FINAL FLIPBOOK STUDY. IT SHOWS THE BLENDING OF SOLID TO VOID AND HOW THAT STARTS TO MAKE THE EDGES OF THE BUILDING FADE INTO THE SKY.



THESE DRAWINGS DEAL WITH THE INVESTIGATION OF THE STRUCTURAL AND PROGRAMMATIC HIARARCHIES THAT WOULD BE ASSOCIATED WITH EACH SPACE. THE TOP TWO DRAWINGS SHOW HOW THE SPACES THAT HAVE A MORE "THICKER" SENSE TO THEM WOULD BE LOCATED IN AREAS WHERE THEY SERVE AS THE CORE OF THE BUILDING, WHILE THE OTHER SPACES WOULD BE LOCATED AROUND THE OUTSIDE.

THIS DRAWING BEGINS TO SHOW THE IDEA OF STRUCTURAL HIERARCHY, AND HOW THE HEAVIER AND/OR STRONGER MATERIALS WOULD TAKE PRECEDENCE OVER THE WEAKER OR THINNER MATERIALS. THE SIMPLE DIAGRAMS TO THE LEFT BEGIN TO SHOW HOW THOSE BREAKS IN MATERIAL WOULD BE EXPRESSED.



"A CLOCKWORK ARCHITECTURE" 113

THIS SECTIONAL MODEL BEGINS TO FURTHER EXPLORE THE IDEAS OF STRUCTURAL AND/OR PROGRAMMATIC HIERARCHIES. THE BLACK IN THE MIDDLE REPLRESENTS THE PROGRAM ELEMENTS THAT HAVE A STRONGER SENSE OF RIGIDITY, THUS BEING LOCATED AT THE CENTER. THE OUTER LAYERS THEN BECOME LESS RIGID AND MORE FREE/FLEXIBLE.

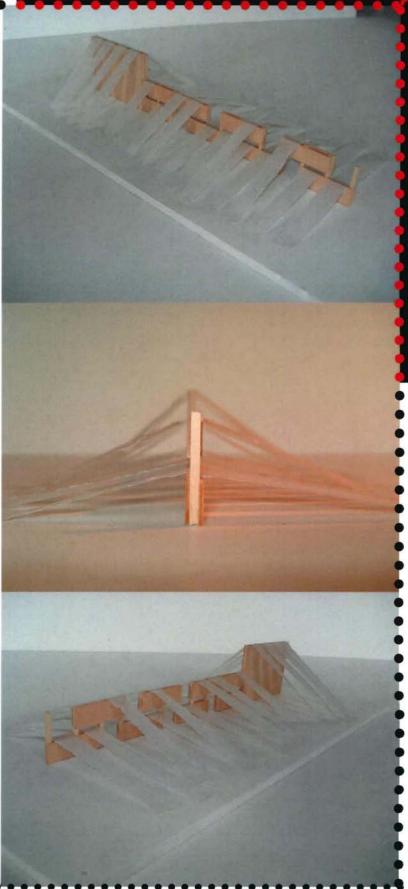


THESE IMAGES SIMPLY BEGIN TO OFFER DIFFERENT PERSPECTIVES OF THIS SECTIONAL STUDY TO SHOW THE LAYERING OF THE DIFFERENT ELEMENTS AND HOW THEY MAY BEGIN TO INFORM SPACE OR TURN INTO SOME FORM OF ARCHITECTURAL EXPRESSION.

THIS STUDY IN HIERARCHY BEGINS TO ALSO INCORPORATE ELEMENTS OF THE PENETRATION STUDIES.

THIS SHOWS HOW DIFFERENT ELEMENTS, WHETHER THEY BE ELEMENTS OF WIND, LIGHT, TEMPERATURE, OR SUN, BEGIN TO FORCE THEMSELVES AROUND THE ELEMENTS OF A WALL.

THE STRIPS OF PAPER EXPRESS HOW THESE DIFFERENT ELEMENTS WOULD FIND THE GAPS IN THE WALL, THUS GIVING THE WALL ITSELF A HIGHER LEVEL OF HIERARCHY.



"A CLOCKWORK ARCHITECTURE" 115

THIS IS A STUDY IN BOTH HIERARCHY AND ENCLOSURE THAT IS BASED OFF THE GRID-WALL CONCEPT. AN IMAGE OF THE GRID-WALL, WITH LIGHT FROM BEHIND, WAS USED TO FIND THE AREAS WHERE LIGHT WAS PENETRATING THE MOST. THE AREAS WHERE THE MOST LIGHT PENETRATED ARE EXPRESSED IN WHITE, THE NEXT LEVEL BEING BROWN, AND THEN BLACK. THE AREAS WHERE NO LIGHT GOT THROUGH WERE LEFT BLANK.

WHAT THESE IMAGES BEGIN TO SHOW ARE THE DIFFERENT LEVELS OF HIERARCHY THAT THE FORMS ARE GIVEN BASED ON THEIR HEIGHT AS WELL AS THEIR LEVEL OF EN-CLOSURE. THE AREAS WHERE THE MOST LIGHT ESCAPED THROUGH ARE OPEN ON ALL SIDES EXCEPT FOR THE TOP. THE NEXT LEVEL IS ONLY OPEN ON ONE SIDE, AND THE FINAL LEVEL IS COMPLETELY CLOSED OFF.



"A CLOCKWORK ARCHITECTURE" 116



THIS SERIES OF STUDIES INVESTIGATES
PROGRAMMATIC HIERARCHIES. THE DRAWING
ABOVE BEGINS TO LOOK AT WHERE CERTAIN
PROGRAM ELEMENTS SHOULD BE LOCATED BASED
ON THE SURROUNDING ENVIRONMENT. THE
HIGHER DENSITY AND MORE STRUCTURED PIECES
ARE LOCATED WHERE THE SURROUNDINGS ARE
BUILT UP MORE, WHILE THE LESS STRUCTURED,
LOW DENSITY ELEMENTS ARE LOCATED NEAR
THE PARK WHERE IT MAY BE MORE BENEFICIAL
TO HAVE A SENSE OF OPENNESS.

THE STUDIES TO THE RIGHT TAKE THESE IDEAS AND BEGIN TO LOOK AT THEM IN MODEL FORM. EACH OF THE MOST IMPORTANT PIECES OF THE PROGRAM ARE LOCATED IN THEIR MOST BENEFICIAL SPOT, AND THE SPACES CREATED IN-BETWEEN THESE SERVE AS THE CIRCULATION SPACES AS WELL AS THOSE PROGRAMMATIC ELEMENTS THAT ARE THE LEAST STRUCTURED, AS THEY CAN SIMPLY FORM AROUND EVERYTHING ELSE.



"A CLOCKWORK ARCHITECTURE" 117

SITE MODELS ••••••••••••••••

SECTION/ELEVATION . . .

FLOORPLANS • • • • •





THE NEXT SERIES OF STUDIES BEGIN TO TAKE THESE IDEAS OF HIERARCHY
AND PLACE THEM INTO THE CONTEXT OF THE SITE.

THIS MODEL STARTS TO SHOW HOW THE IMPORTANT CORNERS OF THE SITE COULD START TO BE COME ANCHORS OF THE BUILDING BY LOCATING THE IMPORTANT PIECES IN THOSE SPOTS.

THIS MODEL ALSO BEGINS TO ADDRESS THE CURVE OF THE PEOPLE MOVER TRACK, BY SHOWING A PIECE OF THE MODEL WHICH FOLLOWS THAT SAME CURVE.



"A CLOCKWORK ARCHITECTURE" 119 •



THIS MODEL FURTHERS THE IDEAS OF HIERARCHY, AS WELL AS LOCATION.

THE MODEL STARTS TO ALSO ADDRESS THE IDEA OF HOW TO LINK THE TWO SIDES OF THE SITE TOGETHER THROUGH THE OBSTACLE OF THE DETROIT PEOPLE MOVER TRACK.

THE LARGE FREE-STANDING PIECE BEGINS TO ADDRESS HOW
IT MAY BE POSSIBLE FOR THE BUILDING TO FOLLOW
THE STREET-WALL ALONG WASHINGTON BLVD WHILE
STILL MAINTAINING A LOWER PROFILE.



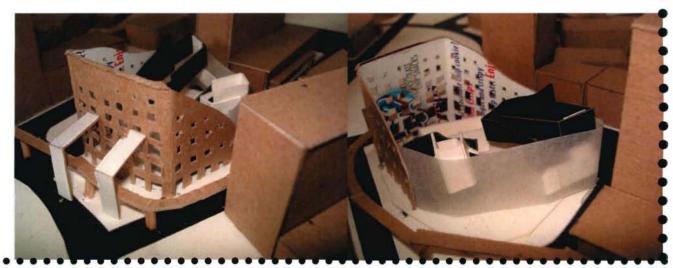
"A CLOCKWORK ARCHITECTURE" 120



THIS MODEL BEGINS TO INCORPORATE SOME OF THE EARLY STUDIES ON TRANSPARENCY. IT SHOWS THE BUILDING WITH TWO DIFFERENT FACES.

THE FIRST FACE, ALONG WASHINGTON BLVD. AND GRAND CIRCUS PARK,
TAKES THE FORM OF A GRID-WALL WITH VARYING LEVELS OF PENETRATION. THIS ALLOWS THE
BUILDING TO CLOSE ITSELF OFF A LITTLE MORE FROM THE PARK IN ORDER TO
CREATE ITS OWN INTERIOR PUBLIC SPACE.

THE SECOND FACE, ALONG THE BACK EDGES OF THE SITE, TAKES THE FORM OF
A TRANSLUCENT WALL. THIS ALSO ALLOWS THE BUILDING TO CLOSE ITSELF
OFF A LITTLE FROM THE BACK EDGES OF ITS SURROUNDINGS, WHILE THE
TRANSULCENT SKIN SHOWS HINTS OF WHAT ACTIVITIES ARE GOING ON IN THE INTERIOR.





THIS LAST MODEL IN THE SERIES TAKES SEVERAL DIFFERENT CONCEPTS FROM THE PREVIOUS INVESTIVATIONS AND INCORPORATES THEM INTO ONE.

THE PROGRAMMATIC ELEMENTS WERE ALL LOCATED BASED ON HIERARCHY AND BENEFICIAL LOCATION.

THE MATERIAL USED FOR EACH PIECE ALSO CORRESPONDS TO ITS ASSOCIATED LEVEL OF TRANSPARENCY AND PENETRATION.

THE ATRIUM SPACE BEGINS TO FORM ITSELF AROUND THOSE PIECES WHICH HAVE HIGHER HIERARCHY, WHILE ITS ROUNDED SIDE ADDRESSES THE CURVE OF THE PEOPLE MOVER TRACK.

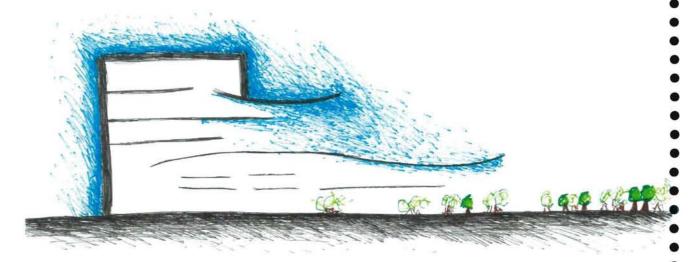


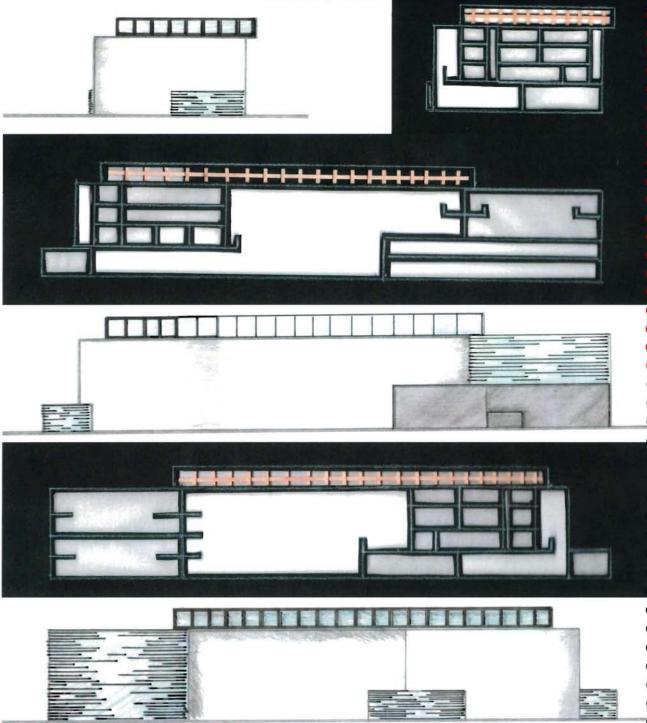
"A CLOCKWORK ARCHITECTURE" 122



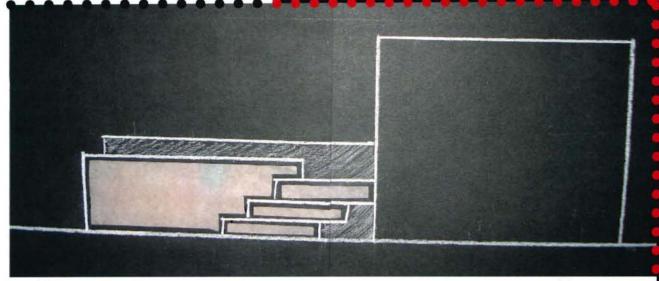
THESE SECTIONAL STUDIES INCORPORATE THE IDEAS OF HIERARCHY AS WELL AS THE CYCLE BETWEEN DAY AND NIGHT. THE IMAGES SHOW HOW DURING THE DAY(LEFT) CERTAIN PROGRAMMATIC ELEMENTS STAND OUT MORE THAN OTHERS. THEN, AS IT SHIFTS FROM DAY TO NIGHT(RIGHT), AND THE LIGHTING SHIFTS FROM NATURAL TO ARTIFICIAL, DIFFERENT PROGRAMMATIC ELEMENTS STAND OUT.

THIS SECTIONAL STUDY BEGINS TO SHOW THE DIFFERENCES IN THE THICKNESS OF STRUCTURE THAT EXISTS FOR DIFFERENT AREAS OF THE BUILDING. IT ALSO BEGINS TO INVESTIGATE THE IDEAS OF ALLOWING THE ENVIRONMENT TO BLEED INTO THE BUILDING. THIS SHOWS HOW THE NATURAL ENVIRONMENTS AND BUILT ENVIRONMENTS CAN BEGIN TO COEXIST TO HELP INFORM THE PROGRESSION OF TIME.

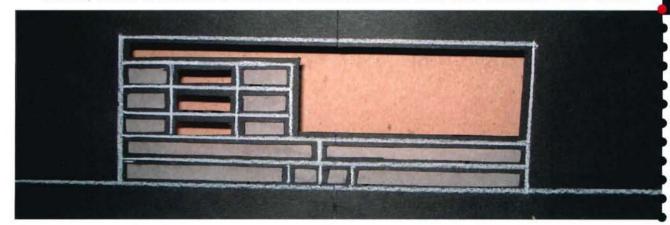




THIS IS A SERIES OF CORRESPONDING SECTION AND ELEVATION STUDIES BASED ON IDEAS OF MATERIAL OGRANIZATION AS WELL AS PENETRATION. IN THE SECTIONAL STUDIES, THE AMOUNT OF COVERAGE THE AREA BETWEEN THE CUT-LINES HAS CORRESPONDS TO THE AMOUNT OF PENETRATION THAT WOULD BE PRESENT IN THAT PARTICULAR AREA. THE ELEVATION STUDIES BEGIN TO SHOW THE LEVEL OF ORGANIZATION THAT THE MATERIALS COVERING THAT AREA WILL HAVE.

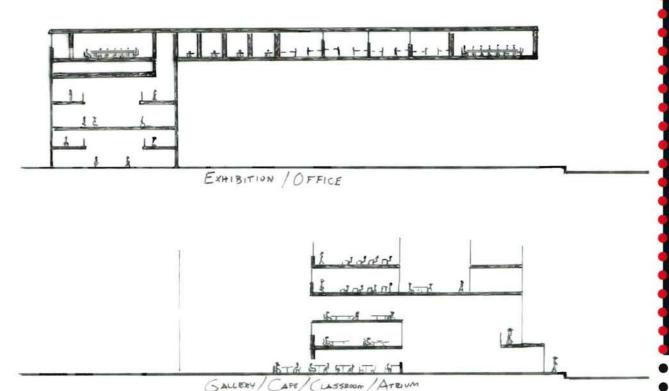


THIS IS THE SECOND ITERATION OF THE SECTIONAL STUDIES ON PENETRATION. THE IMAGE ABOVE SHOWS THE COVERAGE FOR THE THEATER AREAS, INDICATED BY THE TRANSLUCENT MATERIAL. THE IMAGE BELOW INDICATES THE EXHIBITION SPACES ON THE LOWER FLOORS AS WELL AS THE CLASSROOMS ON THE UPPER FLOORS. THE CLEAR AREA INDICATES ATRIUM SPACES, WHICH HAVE A FULL LEVEL OF PENETRATION AS THEY ARE THE MOST OPEN SPACE.



THE IMAGE BELOW ALSO SHOWS THE ATRIUM SPACE AND HOW IT FLOWS THROUGHOUT THE BUILDING. THE EXHIBITION SPACES ARE SHOWN ON THE LOWER TWO FLOORS, WITH THE CLASSROOMS AGAIN BEING INDICATED ON THE TOP FLOORS, ALONG WITH A SMALL ADMINISTRATIVE WING, AND SOME OPEN SOCIAL SPACES SCATTERED THROUGHOUT.





THIS SECTIONAL STUDY BEGINS TO SHOW THE CONDITIONS FOR DIFFERENT CORRESPONDING OR RELATED PROGRAM ELEMENTS.

THE TOP STUDY SHOWS THE RELATIONSHIP BETWEEN THE EXHIBITION SPACES AND THE OFFICES. THE OFFICES WOULD BE PLACED UP HIGH DUE TO THE NEED FOR PRIVACY, WHILE A CONNECTION WOULD BE NECESSARY TO THE EXHIBITION/EVENT SPACES, PARTICULARLY BY MEANS OF LARGE CONFERENCE SPACES.

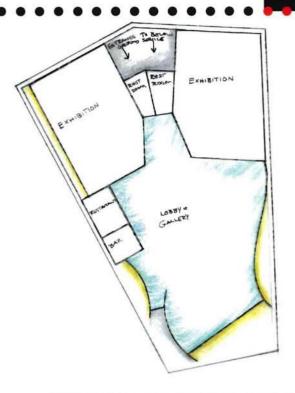
THE LOWER STUDY SHOWS THE RELATIONSHIP BETWEEN THE GALLERY, CAFE, CLASSROOMS, AND ATRIUM SPACE. THE CLASSROOMS ARE SCATTERED THROUGHOUT, WITH SOME PRIVATE SOCIAL SPACES FOR STUDENTS TO STUDY, WHILE OTHER SOCIAL SPACES RELATE DIRECTLY TO THE LARGER ATRIUM SPACE. CERTAIN CLASSROOMS ARE GIVEN A HIGHER LEVEL OF ENCLOSURE WHILE OTHERS REMAIN SLIGHTLY OPEN. THE CAFE SPACE THEN RELATES DIRECTLY TO THE ATRIUM/GALLERY SPACES.

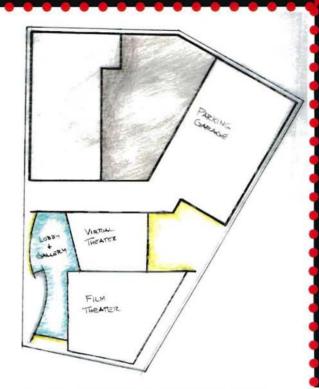
THIS PERSPECTIVE STUDY BEGINS TO LOOK AT A ONE OF THE PIECES OF THE BUILDING IN A MORE ABSTRACTED FORM.

THE TOP IMAGE TO THE RIGHT FOCUSES ON AN AREA WHICH SHOWS HOW SOME OF THESE DIFFERENT MATERIALS WILL BEGIN TO OVERLAP WHEN VIEWED IN PERSPECTIVE. IT HIGHLIGHTS THE DIFFERENCE IN MATERIAL ORGANIZATION BASED ON DIFFERENT PROGRAMMATIC ELEMENTS.

THE LOWER IMAGE TO THE RIGHT BEGINS
TO SHOW HOW THOSE ON THE INTERIOR
OF THE BUILDING WILL BE VIEWED
BY THOSE ON THE EXTERIOR OF THE
BUILDING.





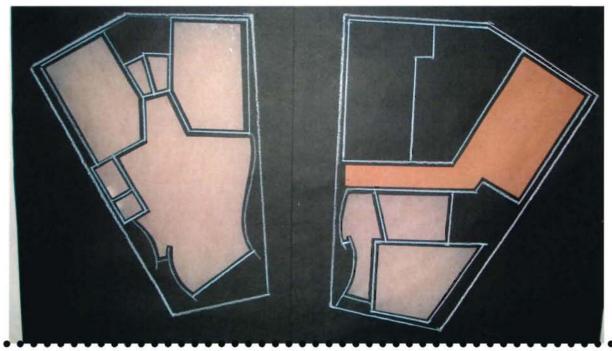


THIS SERIES OF FLOOR PLAN STUDIES BEGINS TO TAKE EVERYTHING THAT HAS BEEN INVESTIGATED TO THIS POINT AND BEGIN TO FORM AN ARCHITECTURAL EXPRESSION.

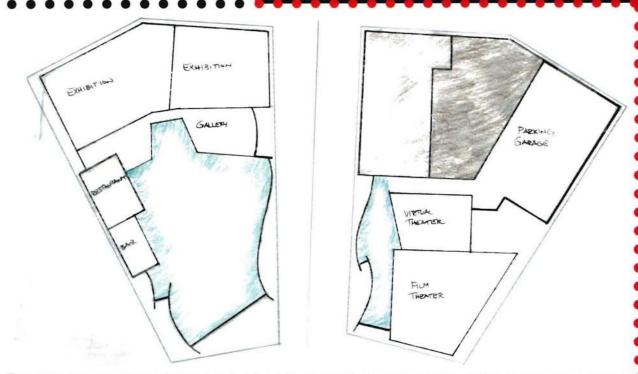
THE FIRST FLOOR INCLUDES THE LOBBY/GALLERY/ATRIUM SPACE, EXHIBITION, RESTROOMS, AND RESTAURANTS ON THE FIRST SITE, AND ANOTHER LOBBY/GALLERY SPACE AS WELL AS TWO THEATERES ON THE SECOND SITE, WITH A PARKING GARAGE.

THE FLOOR PLAN STUDIES YOU WILL SEE AT THE BOTTOM OF THE NEXT PAGES INCORPORATE THE SAME IDEAS AS THE PREVIOUSLY SHOWN SECTIONAL STUDIES BASED ON PENETRATION.

THE FLOOR PLANS BELOW COINCIDE WITH THE PLANS SHOWN ABOVE BY FLOOR.

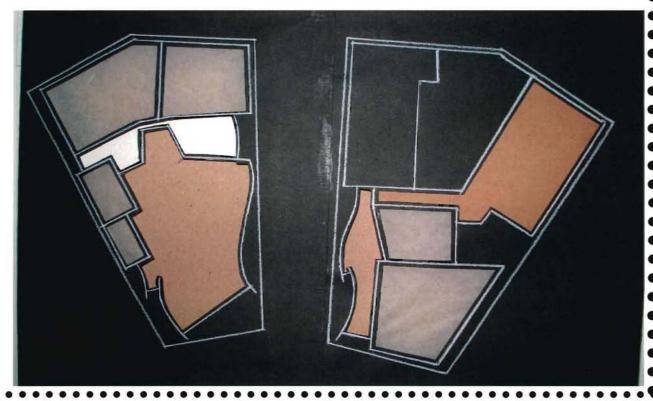


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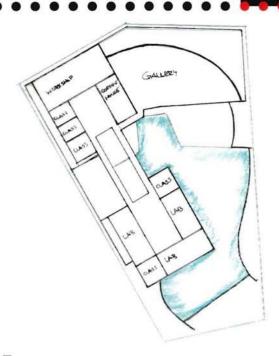


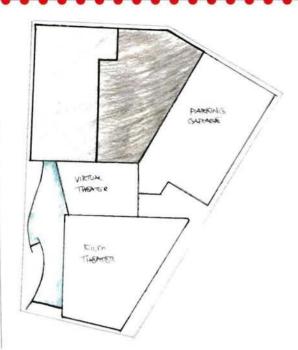
THE SECOND FLOOR CONTINUES THE GALLERY SPACES ON TOP OF THE FIRST FLOOR EXHIBITION SPACES, WHICH ALSO CONTINUE TO THE SECOND FLOOR AS WELL. RESTAURANT SPACES ALSO CONTINUE TO THE SECOND FLOOR.

THE SECOND PIECE OF THE SITE THEN CONTINUES UP ANOTHER LEVEL WITH MORE PARKING, AND THE SECOND FLOORS TO THE THEATER SPACES.



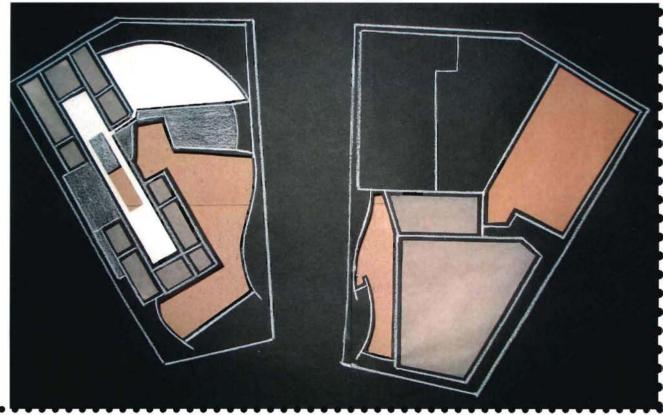
"A CLOCKWORK ARCHITECTURE" 129 •



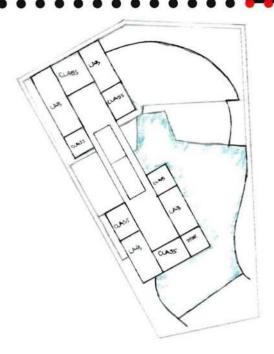


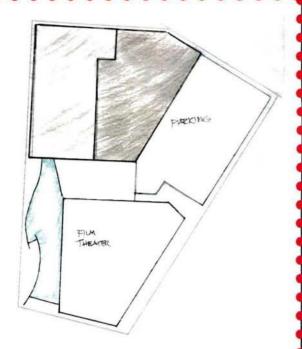
THE THIRD FLOOR TAKES YOU ON ANOTHER LEVEL OF GALLERY SPACES, WHICH THEN LEADS YOU OVER TO THE BEGINNING OF THE CLASSROOM WHICH IS CENTERED AROUND ITS OWN MINIATURE ATRIUM SPACE.

THE SECOND PIECE OF THE SITE THEN FEATURES THE FINAL FLOOR OF THE VIRTUAL THEATER, AND THE THIRD FLOOR OF THE FILM THEATER, WITH THE ATRIUM SPACE AND PARKING CONTINUING UPWARD.



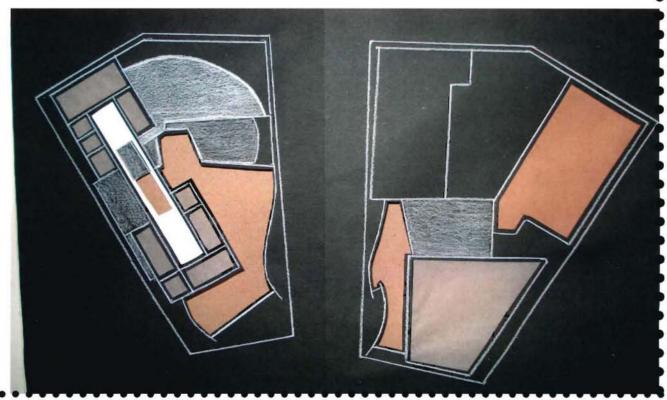
"A CLOCKWORK ARCHITECTURE" 130 •



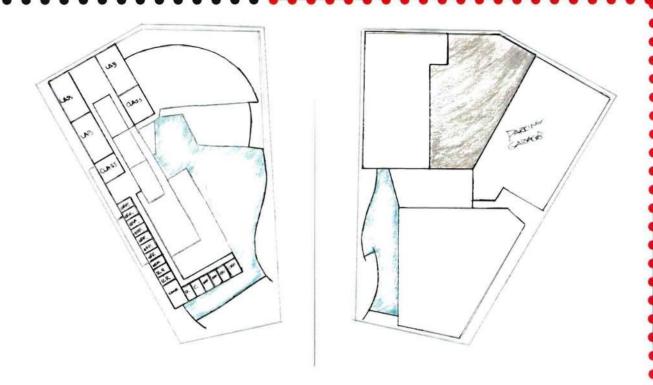


THE FOURTH FLOOR CONTAINS THE SECOND LEVEL OF THE EDUCATIONAL FACILITIES, AS WELL AS A CONTINUATION OF THE ATRIUM SPACE.

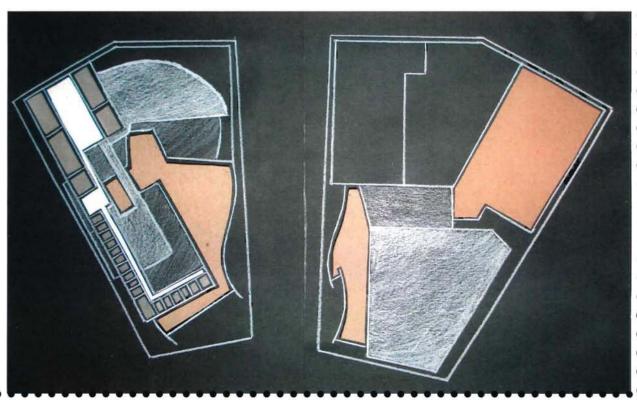
THE SECOND PIECE OF THE SITE CONTAINS THE FINAL FLOOR OF BOTH THE PARKING AS WELL AS THE FILM THEATER.



"A CLOCKWORK ARCHITECTURE" 131 •



THE FIFTH AND FINAL FLOOR CONTAINS THE THIRD LEVEL OF THE EDUCATIONAL FACILITLES, WHICH THEN TAKE YOU INTO THE ADMINISTRATIVE WING.



"A CLOCKWORK ARCHITECTURE" 132 •

INTRODUCTION •••••••••••••••••••••••
COMFORT ADJUSTMENT ••••••••••••••••••
SUN STUDIES •••••••••••••••••••••••
SHADOW STUDIES ••••••••••••••••
SECTIONAL STUDIES ••••••••••••••••••
MASSING STUDIES ••••••••••••••••••
LOFT DEVELOPMENT •••••••••••••••••
STRUCTURE/SECTION ••••••••••••••••
NATURAL ELEMENTS •••••••••••••••••
FACADE DEVELOPMENT ••••••••••••••••
DESIGN DEVELOPMENT 1 • • • • • • • • • • • • • • • • • •
DESIGN DEVELOPMENT 2 • • • • • • • • • • • • • • • • • •

AT THE CONCLUSION OF THE SCHEMATIC DESIGN PHASE, A SLIGHT SHIFT IN THE DIRECTION OF THE THESIS INVESTIGATION OCCURRED. THE EARLY STUDIES IN THE SPRINGBOARD AND SCHEMATIC DESIGN PHASE WERE PARTICULARLY DRIVEN BY THE NOTIONS OF HIERARCHY, ORGANIZATION, ENCLOSURE, AND PENETRATION. EACH OF THESE ELEMENTS WERE CHARACTERISTICS WHICH WOULD BECOME ASSOCIATED WITH THE PARTICULAR PROGRAM SPACES IN ORDER TO ENHANCE THE CREATION AND PROGRESSION OF MEMORY.

AFTER RETHINKING THE SPIRIT OF THE INVESTIGATION, THE SITE, AND THE PROGRAM, IT WAS DECIDED TO SHIFT THE STUDIES TOWARD A MORE NATURAL EXPRESSION OF HOW ARCHITECTURE CAN RELATE TO AND ACKNOWLEDGE THE PROGRESSION OF TIME, WHILE STILL KEEPING IN MIND THOSE PREVIOUSLY INVESTIGATED TOPICS OF HIERARCHY, ORGANIZATION, ENCLOSURE, AND PENETRATION. BY FOCUSING MORE ON THE NATURAL CYCLES SUCH AS THE PATH OF THE SUN, SEASONAL CHANGES, AND THE DAY-NIGHT SHIFT, IT WOULD ALLOW THE PROJECT TO MOVE IN A DIRECTION WHICH WOULD PROGRESSIVELY PUT ONE MORE IN TUNE WITH WHERE THEY EXIST THROUGHOUT THE MANY SCALES OF TIME AND PLACE.

ANOTHER CHANGE THAT WILL BE NOTICED IS IN THE DEVELOPMENT OF THE SITE ITSELF.

PREVIOUSLY, THE INVESTIGATIONS LOOKED AT PIECES OF THE SITE ON BOTH SIDES OF THE
PEOPLE MOVER. HOWEVER, AFTER SOME CAREFUL CONSIDERATION, PARTICULARLY WITH THE
SIZE OF THE PROGRAM, IT WAS DECIDED THAT IT WOULD BE MORE BENEFICIAL TO ONLY DEVELOP THE LARGER PIECE OF THE SITE.

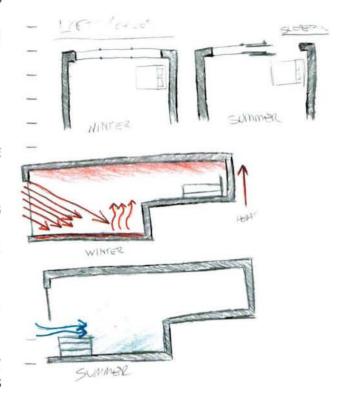
YOU WILL SEE AS THIS SECTION BEGINS TO MOVE FORWARD EXACTLY HOW ARCHITECTURE CAN BEGIN TO TAKE SHAPE AND RELATE DIRECTLY TO ITS SURROUNDING ENVIRONMENT AND THE CHANGES WHICH IT UNDERGOES ON A REGULAR BASIS. AMONG THE TOPICS STUDIED IN THIS SECTION ARE:

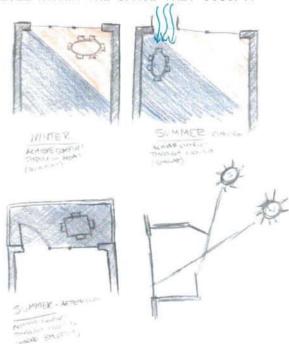
- -SHADOW PATTERNS: STUDIES IN BOTH PLAN AND SECTION WHICH INVESTIGATE THE EXTENT TO WHICH THE SURROUNDING ENVIRONMENT AFFECTS THE SITE BY CASTING SHADOWS ON IT THROUGHOUT DAILY AND SEASONAL CYCLES.
- -SUNLIGHT/TEMPERATURE: STUDIES IN PLAN AND SECTION WHICH FOLLOW THE SPIRIT OF THE SHADOW PATTERN STUDIES TO INVESTIGATE HOW THE RESOURCE OF THE SUN CAN BE USED FOR HEATING AND LIGHT PURPOSES AT DESIRABLE TIMES OF DAY AND YEAR.
- -COMFORT ADJUSTMENT: STUDIES WHICH INVESTIGATE THE MANNER THROUGH WHICH WE ADJUST OUR LOCATION IN PARTICULAR SPACES TO MAXIMIZE COMFORT IN TUNE WITH THE SEASONAL CHANGES OF OUR SURROUNDING ENVIRONMENT
- -NATURAL ELEMENTS: STUDIES WHICH BEGIN TO INVESTIGATE HOW NATURAL ELEMENTS SUCH AS GREEN SPACES AND PLANTS CAN BE INCORPORATED INTO DESIGN TO SERVE VARIOUS FUNCTIONS.
- -OTHER VARIOUS STUDIES SUCH AS PLAN, SECTION, AND STRUCTURAL ORGANIZATION

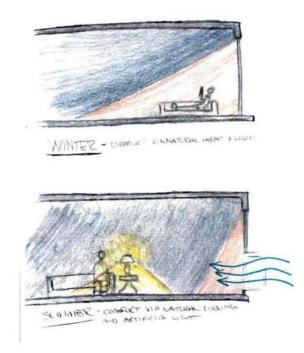
THE EARLY BUILDING DESIGN PHASE
STARTED OFF WITH A SERIES OF PLAN AND
SECTION STUDIES AND EXAMPLES OF THE
HUMAN TENDANCY TO MAKE ADJUSTMENTS
TO A SPACE BASED ON THE LEVEL OF
COMFORT, AND IN TUNE WITH THE
SEASONS.

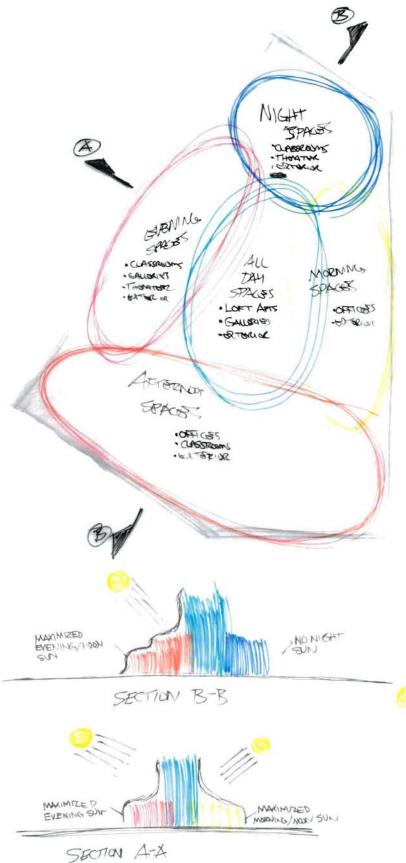
EACH SET OF STUDIES FOCUSES ON THE BASIC NOTION THAT, IN ORDER TO ACHIEVE COMFORT IN A SPACE, ONE WOULD MOST LIKELY LOCATE THEMSELVES IN DIRECT SUNLIGHT IN COLDER MONTHS FOR HEATING PURPOSES, AND THEN RELOCATE THEMSELVES TO COOLER SHADED SPOTS IN THE WARMER MONTHS.

WHAT CAN BE DRAWN FROM THESE STUDIES RELATES DIRECTLY TO THE LOFT
APARTMENT SECTION OF THE PROGRAM,
BUT CAN BE APPLIED THROUGHOUT. WHAT
IS NEEDED THEN, ARE A SERIES OF SPACES
THAT ARE FLEXIBLE AND ADJUSTABLE SO
THAT ONE CAN MAXMIMZE THE COMFORT
LEVEL WITHIN THE SPACE THEY OCCUPY.









FOLLOWING THE COMFRT
ADJUSTMENT STUDIES WAS A
SERIES OF STUDIES WHICH
BEGAN TO LOOK AT THE BIGGER
PICTURE OF PLANNING AND HOW
THE BUILDING COULD BEGIN TO
RESPOND TO ITS SURROUNDINGS.

THE SUN WAS CHOSEN AS A PRIMARY DEVICE THAT WOULD DRIVE MUCH OF THE DESIGN DECISIONS FROM THE BEGINNING. THE REASON FOR CHOOSING THE SUN WAS DUE TO ITS LEVEL OF CONSISTANCY OF BOTH LONG AND SHORT TERM CYCLES, AND IT BEING THE SOURCE FOR NATURAL SUNLIGHT AND TEMPERATURE IN ANY PARTICULAR AREA. BY FOCUSING ON THE SUN AND MAXIMIZING ITS USE THROUGHOUT THE DESIGN, ONE WILL BECOME MORE AWARE OF WHERE THEY EXIST IN TIME AND PLACE.

THESE STUDIES BEGAN TO TAKE
PROGRAMMATIC ELEMENTS AND
RELATE THEM TO WHAT TIME OF
DAY THEY WOULD BE MOST
EXPERIENCED, AND THEN FUTHER
EXPLORING THE SECTIONAL
QUALITIES OF WHERE THE
SPACES WOULD BE LOCATED ON
THE SITE AND IN RELATION TO
THE SUN AT DIFFERING TIMES OF
DAY.

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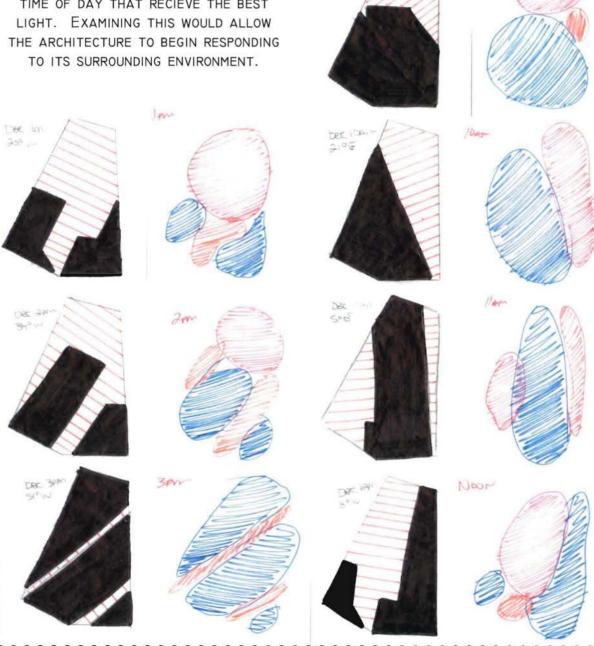
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IN ORDER TO MAXIMIZE COMFORT AND THE USE OF THE SUN, IT WOULD BE BENEFICIAL TO LOCATE THE SPOTS ON THE SITE WHICH RECIEVE ADEQUTE SUNLIGHT DURING THE WINTER FOR HEATING PURPOSES.

THIS SERIES OF STUDIES LOOKS AT THE WAY IN WHICH SHADOWS ARE CAST ONTO THE SITE FROM SURROUNDING BUILDINGS, AND THEN LOCATES THE AREAS AT EACH TIME OF DAY THAT RECIEVE THE BEST LIGHT. EXAMINING THIS WOULD ALLOW THE ARCHITECTURE TO BEGIN RESPONDING TO ITS SURROUNDING ENVIRONMENT.



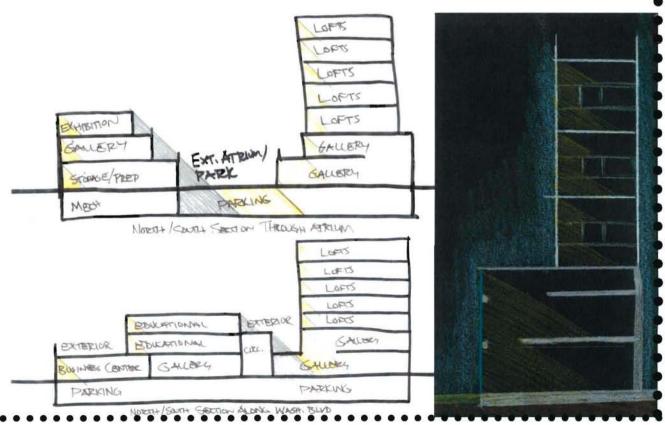


ANOTHER ITEM THAT WAS TAKEN INTO CONSIDERATION WITH THE SHADOW STUDIES WAS THE ANGLE AT WHICH THE SHADOWS WERE BEING CAST ONTO THE SITE AT EACH TIME OF DAY. BY EXAMINING THESE ANGLES, IT COULD BE POSSIBLE TO FIND THE PERPINDICULAR ANGLE AT WHICH A WALL COULD BE PLACED TO MAXMIMZE THE AMOUNT OF SUN BEING CAPTURED AT THAT PARTICULAR TIME OF DAY.

THE STUDIES ABOVE BEGIN TO COMBINE DIFFERENT TIMES OF DAY IN 4 HOUR INCREMENTS BASED ON THE PREVIOUS SHADOW STUDIES. THE MODELS BEGIN TO SHOW HOW WALLS CAN BE PLACED ADJACENT TO EACH OTHER SO THAT THEY ARE PROPERLY ORIENTED TO CATCH THE SUN'S RAYS AT 2 DIFFERENT TIME OF DAY. ONE ISSUE WITH THIS STUDY, HOWEVER, IS THAT BY COMBINING THE SHADOW PATTERNS FOR TWO DIFFERENT TIMES OF DAY, THE AMOUNT OF SUN ACTUALLY FALLING ON THE SITE IS LIMITED DUE TO THE OVERLAP IN SHADOWS.

THESE SECTIONAL STUDIES BEGIN TO EXAMINE THE IDEA OF SUN PENETRATION AND HOW IT AFFECTS THE PLACEMENT OF FORMS ON MY SITE. THE DARKER IMAGE SHOWS HOW CREATING THINGS SUCH AS ATRIUM SPACES THAT ARE OPEN TO THE FLOORS ABOVE AND BELOW CAN ALLOW SUNLIGHT TO PENETRATE DEEPER INTO A SPACE, MAXIMIZING THE AMOUNT OF SUNLIGHT IN THAT SPACE.

THE TWO LIGHTER SECTIONS BEGIN TO STUDY BASIC MASSING FORMS IN SECTION. THEY BEGIN TO EXAMINE HOW IT MAY BE MOST BENEFICIAL TO LOCATE THE BULK OF THE HEIGHT ALONG THE EDGE FACING GRAND CIRCUS PARK. THIS IS BECAUSE IT IS THE NORTHERN-MOST SECTION OF MY SITE, AND THEREFORE WILL NOT PREVENT ANY OTHER SPACES WITHIN THE PROGRAM FROM RECIEVING ADEQUATE SUNLIGHT AND HEAT.



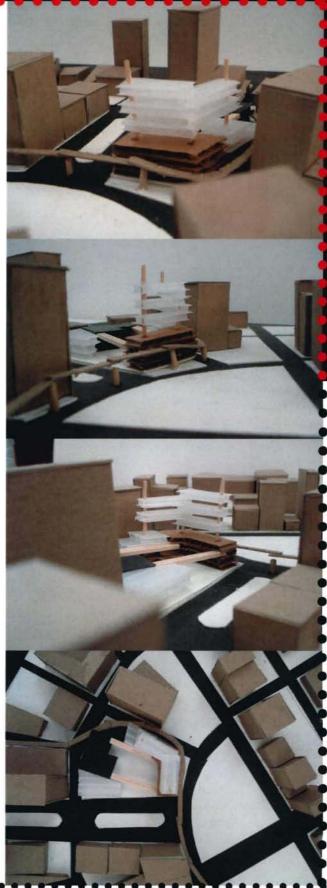
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THIS STUDY MODEL TAKES IDEAS FROM THE PREVIOUS FEW STUDIES AND BEGINS TO INCORPORATE THEM INTO THE OVERALL COMPOSITION OF A BUILDING.

THE MATERIALS USED IN THE MODEL, AS WAS DONE IN THE SPRINGBOARD/SCHEMATIC DESIGN PHASE, WERE INTENDED TO EXPRESS THE DIFFERENT LEVELS OF TRANSPARENCY THAT WILL BE APPARENT THROUGHOUT THE BUILDING.

THIS MODEL ALSO BEGINS TO DEAL WITH IS-SUES SUCH AS HEIGHT AS WELL AS THE LAY-ERING OF SPACES ON TOP OF ONE ANOTHER, SHOWING WHERE PRIMARY ADJACENCIES MAY BE.

THE BLACK SPACE INDICATES THE FILM THE-ATER. THE BROWN SHOWS WHERE GALLERY, EXHIBITION, AND OFFICE SPACES WOULD BE, AND THE TRANSLUCENT MATERIAL INDICATES THE GRAPHIC ART SCHOOL AS WELL AS THE LOFT APARTMENT COMPLEX.

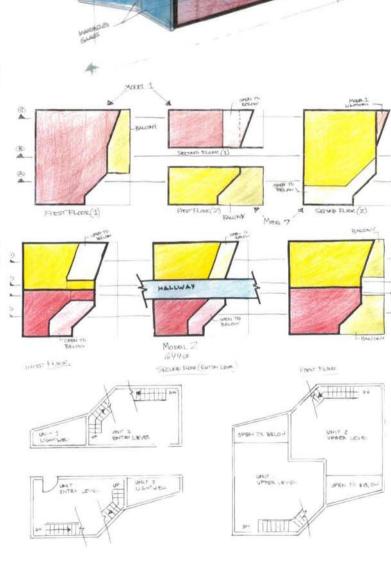


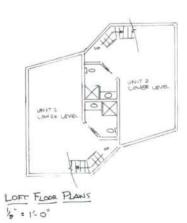
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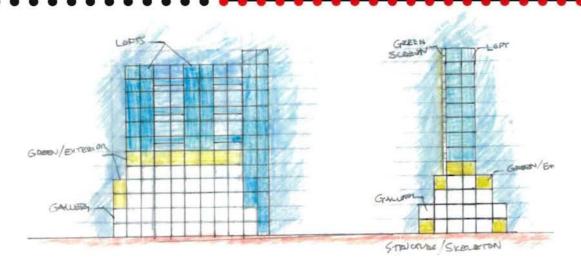
ONE OF THE NEXT PHASES WAS TO BEGIN DEVELOPING THE LOFT APARTMENT SPACE. THIS SPACE WAS IMPORTANT TO DESIGN EARLY ON BECAUSE IT IS WHERE THE MORE CONSISTANT CYCLE OF LIV-ING/DWELLING TAKES PLACE.

THE MAIN IDEA BEHIND THE DESIGN FOR THE APARTMENTS WAS TO PROVIDE A SPACE WITH ADEQUATE ROOM FOR COMFORT ADJUSTMENT AS STUDIED BEFORE. THE BASIC FORM OF A CUBE WAS CHOSEN TO HOUSE TWO LOFT UNITS. CERTAIN PIECES OF THE CUBE WERE SLICED AWAY FOR BETTER SOLAR ORIENTATION, AND A LIGHTWELL WAS PROVIDED IN BOTH SPACES FOR SUFFICIENT LIGHTING.

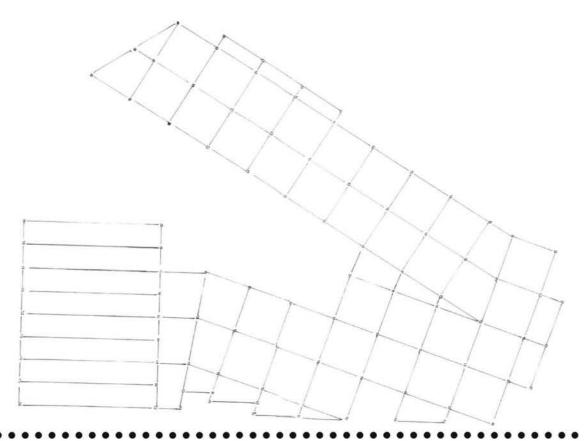
ENTRY TO THE UNITS OCCURRED
ON THE MIDDLE LEVEL WHERE THE
HALLWAY CUT DIRECTLY DOWN THE 2
CENTER OF THE CUBE.







AFTER DECIDING ON THE USE OF THE CUBE AS A PRIMARY SHAPE IN DEVELOPING THE LOFT APARTMENTS, IT BECAME SIMPLE TO BEGIN IMAGINING HOW THAT MAY BE CARRIED THROUGHOUT THE ENTIRE STRUCTURE OF THE BUILDING. A SIMPLE GRID SYSTEM WAS DEVELOPED FOR THE STRUCTURE UTILIZING STANDARD COLUMN AND BEAM CONSTRUCTION. THE FRAMING PLAN FOR THE BUILDING BEGAN TO LOOK SIMILAR TO THAT WHICH IS INDICATED BELOW.



AS MENTIONED PREVIOUSLY IN THE PRECEDENT STUDY SECTION, ANOTHER ELEMENT THAT WAS EXAMINED WAS HOW TO INCORPORATE THE

USE OF NATURAL ELEMENTS INTO THE DESIGN OF THE BUILDING.

OPPORTUNITY WAS SEEN TO BRING
NATURAL ELEMENTS INTO THE
PICTURE AS A MEANS OF PROVIDING SUMMER SHADE IN THOSE AREAS
WHICH IT WOULD BE NEEDED.

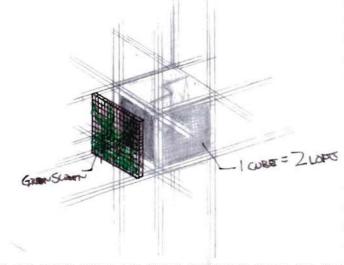
THESE STUDIES BEGIN TO SHOW HOW THE GREEN SCREEN STRUCTURE COULD BE INCORPORATED INTO THE BUILDING'S DESIGN, AND HOW IT COULD ACT AS A SUMMER SHADING DEVICE WHEN PLACED OVER AREAS WITH LARGE EXPANSES OF GLASS.

THIS IDEA WOULD ALLOW TWO THINGS TO OCCUR. FIRST, THROUGH THE USE OF NATURAL PLANT LIFE, VISITORS TO THE BUILDING WOULD BECOME AWARE OF THE LIFE-DEATH CYCLE OF THE PLANTS. SECONDLY, THE LIFE-DEATH CYCLE OF THE PLANTS WOULD BECOME DIRECTLY LINKED TO THE CYCLE OF WINTER SUNLIGHT-SUMMER SHADE.

## BUILDING DESIGN







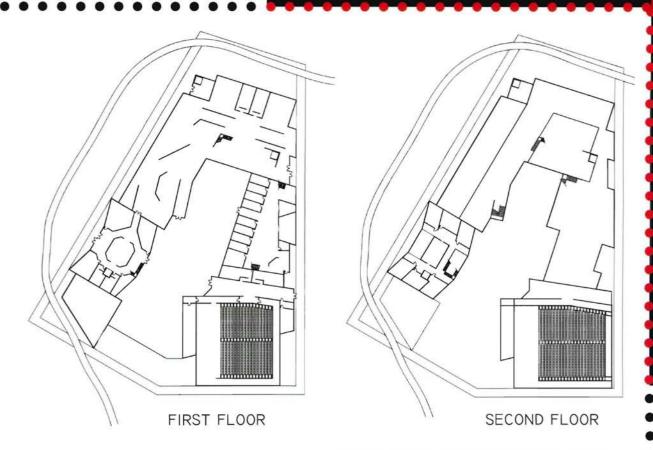


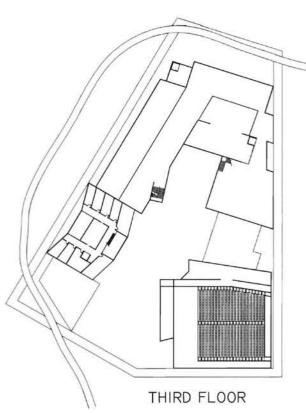


THESE 3D MODELING STUDIES BEGIN TO SHOW THE DEVELOPMENT OF THE DIFFERENT BUILDING 
FACADES. CONSIDERATION WAS TAKEN WHEN DEVELOPING THE FACADES OF THE BUILDING TO 
PROVIDE A VARIETY OF SURFACES WHICH ARE PUSHED IN, PULLED OUT, AND ANGLED TO EMPHASIZE THE SHADOWS THAT THEY CREATE. BY CREATING THESE DIFFERENT SHADOW PATTERNS, 
PEOPLE WHO PASS BY THE BUILDING WOULD BECOME MORE AWARE OF THE MOVING PATH OF THE 
SUN AT DIFFERENT TIMES OF DAY. THESE STUDIES THEN HELPED CONTRIBUTE TO THE DEVEL
OPMENT OF THE FLOOR PLANS.

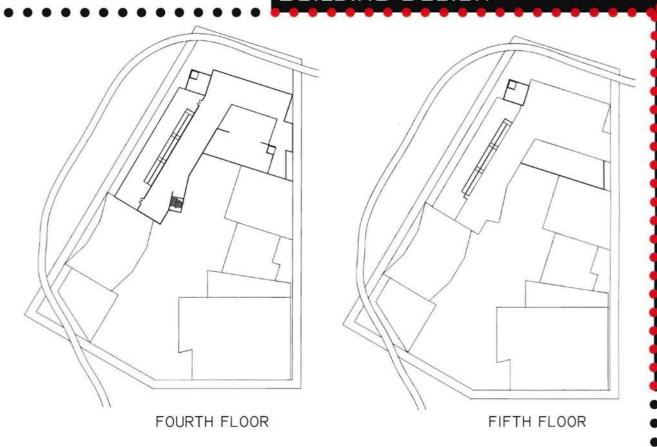




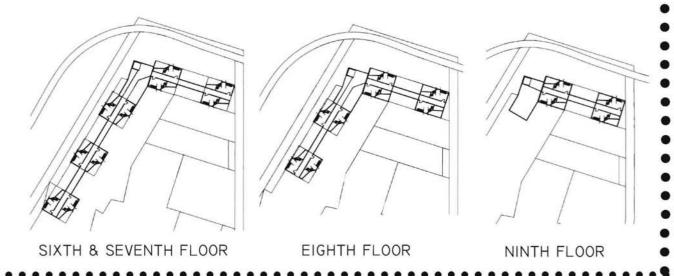




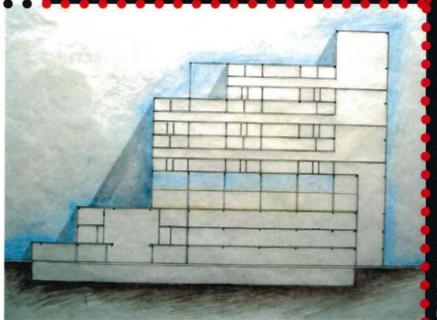
THIS PLANNING EXERCISE WAS THE FIRST ATTEMPT AT A FULL FLOOR PLAN. THE GALLERY SPACES ARE LOCATED AT THE FAR NORTH END OF THE SITE. ALONG BAGLEY AVE, THE GALLERY CONNECTS TO THE GRAPHIC ART SCHOOL, AND THE DELIVERY/RECIEVING AREA IS LOCATED JUST SOUTH OF THE SCHOOL. ALONG THE WASHINGTON BLVD FRONT, THE SMALL BUSINESS CENTER SITS BELOW THE TWO STORY EXHIBITION SPACE. A FILM THEATER WITH LOBBY IS LOCATED AT THE SOUTH END. GALLERY SPACES CONTINUE UP ALONG THE SECOND, THIRD, AND FOURTH FLOORS, CONNECTING TO THE EXHIBITION SPACES ON LEVELS TWO AND THREE. THE PARK AT THE CENTER OF THE SPACE ALLOWS USERS ACCESS TO A NATURAL GREEN SETTING, AND SERVES AS A TRANSITION BETWEEN DIFFERENT PRO-GRAM ELEMENTS.



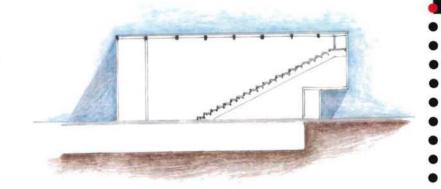
THE FOURTH FLOOR SIMPLY CONTAINS A CONTINUATION OF THE GALLERY SPACES UPWARD, AND AN EXTERIOR SPACE IS LOCATED DIRECTLY OUTSIDE OF THE GALLERY. THE FIFTH FLOOR ACTS AS A BUFFER ZONE BETWEEN THE GALLERY SPACES ON LEVEL FOUR AND THE LOFT SPACES WHICH BEGIN ON LEVEL SIX. THE FIFTH FLOOR SERVES AS A CONTINUATION OF THE EXTERIOR SPACE ON THE FOURHT FLOOR. FROM THE SIXTH FLOOR AND UP TO THE TOP LEVEL, THE LOFT APARTMENTS CONTINUE IN TOWERS. THE HALLWAYS THAT CONNECT THE LOFT APARTMENTS EXPOSE THEMSELVES AT INTERVALS TO MAKE PEOPLE IN THE SURROUNDING AREAS AWARE OF THE MOVEMENT THAT OCCURS THROUGHOUT THE DAY.



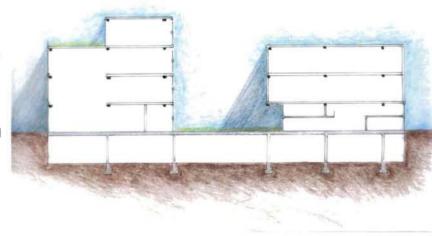
THIS SECTION IS CUT
THROUGH A LARGE PORTION OF THE BUILDING. THE
HIGH END SHOWS THE LOFT
APARTMENTS ABOVE THE
GALLERY AND EXTERIOR
SPACES. THE LOWER END
OF THE SECTION SHOWS THE
SCHOOL CENTERED AROUND
AN ATRIUM SPACE.



THIS SECTONS IS CUT THROUGH THE THEATER SPACE TO SHOW THE STEPPED SEATING AND THE STRUC-TURE FOR THE SPACE.



THIS SECTION IS CUT
THROUGH THE GALLERY
SPACES, THE EXTEIROR PARK
SPACE LOCATED AT THE
CENTER OF THE SITE, AS
WELL AS THE SMALL BUSINESS CENTER AND EXHIBITION
SPACES.





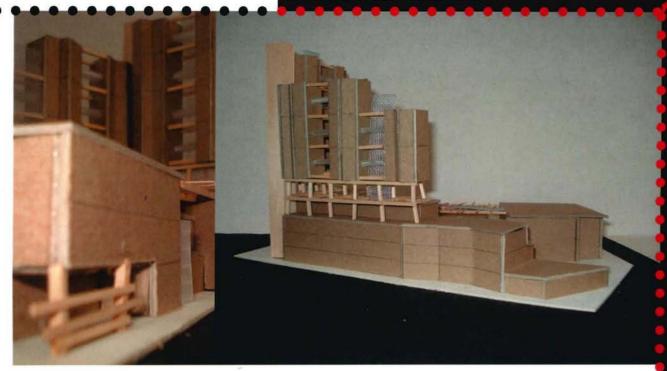
THE SITE PLAN BEGINS TO SHOW HOW THE BUILDING IS ORIENTED WITHIN ITS CONTEXT. THE GREEN SPACES SCATTERED THROUGHOUT THE PROJECT SERVE AS A COMPLIMENT TO THE NEARBY GRAND CIRCUS PARK.



THE TOP IMAGE SHOWS THE BUILDING IN ELEVATION ALONG WASHINGTON BLVD. THE FACADE HAS BEEN PUSHED IN AND PULLED OUT IN CERTAIN PLACES TO CREATE DIFFERING SHADOW PATTERNS. THE HEIGHT OF THE LOFT APARTMENTS WAS PLACED ALONG THE GRAND CIRCUS PARK EDGE TO ALLOW MAXIMUM SUNLIGHT FROM THE SOUTH. THE IMAGE BELOW SHOWS THE ELEVATION ALONG GRAND CIRCUS PARK, AS WELL AS THE FRONTAGE ALONG BAGLEY AVE. ALONG BAGLEY, THE LOFTS BEGIN TO STEP DOWN TO BRING THE BUILDING BACK DOWN TO THE HUMAN SCALE. THE OPEN AREAS BETWEEN LOFT TOWERS SERVE AS OPENINGS WHERE THE HALLWAYS EXPOSE THEMSELVES, ALLOWING LIGHT TO PASS THROUGH AND LIGHTENING THE FEEL OF THE LOFTS.



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THE MAIN TOP IMAGE SHOWS A BETTER VIEW OF THE BAGLEY AVE ELEVATION. THE AREA WHERE THE STRUCTURE STARTS TO EXPOSE ITSELF IS THE PARK LEVELS ON THE FOURTH AND FIFTH FLOORS. THE IMAGES BELOW SHOW A FEW OTHER VIEW OF THE BUILDING.

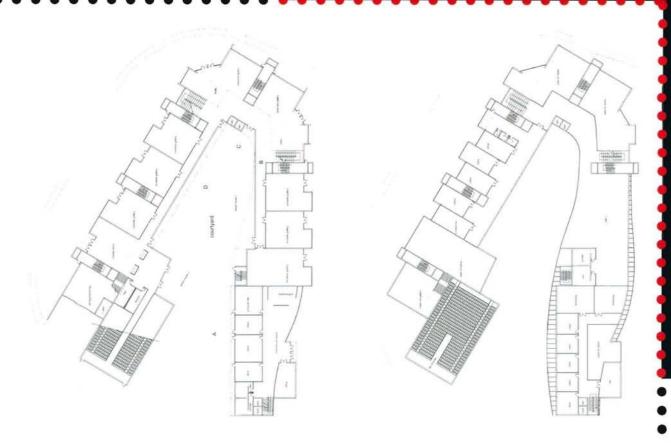


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AFTER PHASE I OF THE DESIGN DEVELOPMENT, A FEW THINGS WERE TAKEN INTO CONSIDERATION FOR ALTERING THE DESIGN. THE FEEDBACK GIVEN IN THE CRITIQUE FOCUSED ON A FEW MAIN POINTS:

- --THE OVERALL THESIS WAS VIEWED AS BEING AN INTERESTING TOPIC FOR DEVELOPMENT.
- --THE OVERALL BUILDING FORM WAS VIEWED AS BEING A COMBINATION OF SEPARATE PARTS RATHER THAN ONE WHOLE BUILDING COMPOSITION.
- --THE MANNER IN WHICH THE BUILDING ADDRESSED GRAND CIRCUS PARK WAS SUGGESTED FOR RECONSIDERATION. IT WAS SUGGESTED THAT MORE IMPORTANCE BE PLACED ON THAT ELEVATION SINCE THE PARK IS ONE OF THE MAIN FEATURES IN THE AREA.
- --THE CIRCULATION FOR THE LOFT APARTMENTS SEEMED TO BE INEFFICIENT, ESPECIALLY WHEN IT CAME TO EGRESS CONSIDERATIONS. WHILE THE WAY IN WHICH THEY WERE CONFIGURED IN PHASE I ALLOWED FOR MORE LIGHT PENETRATION, THERE WAS ONLY ONE MAJOR ROUTE OF VERTICAL CIRCULATION, WHICH SEEMED OUT OF PLACE IN THE OVERALL BUILDING COMPOSITION.
- --THE LOFT APARTMENTS THEMSELVES WERE SUGGESTED FOR SOME RECONFIGURATION.
  WHILE IT WAS GOOD THAT THEY WERE DESIGNED TO ACCOMMODATE FOR THE CHANGING SEASONS. THE THREE-STORY NATURE OF THEM SEEMED TO BE A LITTLE INCONVENIENT.
- --THE MANNER IN WHICH THE BUILDING ADDRESSED THE CENTRAL COURTYARD WAS ALSO SUGGESTED FOR RECONSIDERATION. MORE DETAIL AND FORM ARTICULATION WAS NEEDED SINCE THE COURTYARD IS AN IMPORTANT PIECE OF THE DESIGN.
- --THE DETAILS THAT WERE SHOWN THROUGHOUT PARTS OF THE BUILDING WERE SAID TO BE DONE QUITE WELL, AND ENCOURAGED TO BE CONTINUED THROUGHOUT.

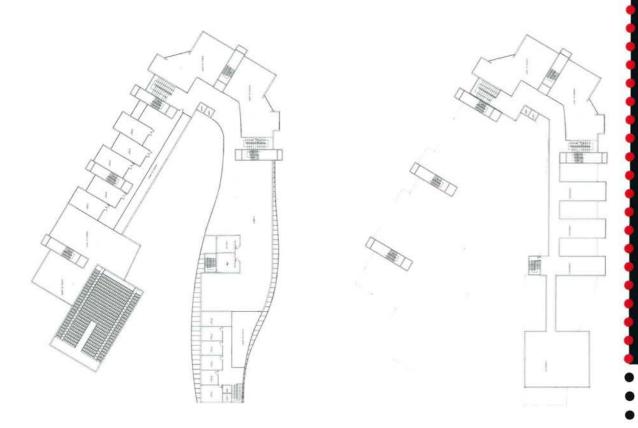
THE FOLLOWING IS THE PHASE 2 DESIGN DEVELOPMENT WHICH WAS A RESPONSE TO THE COMMENTS ENUMERATED ABOVE.



GROUND FLOOR

SECOND FLOOR

IN THE SECOND PHASE OF DESIGN DEVELOPMENT, THE FLOOR PLAN CONFIGURATION CHANGED QUITE A BIT. THE GRAPHIC ART SCHOOL WAS MOVED TO THE WASHINGTON BLVD SIDE OF THE PLAN AND THE THEATER MOVED TO THE BACK CORNER ALONG BAGLEY. THIS SWITCH WAS MADE BECUASE OF SUNLIGHT REQUIREMENTS. A THEATER DOESN'T NEED AS MUCH SUNLIGHT AS A GRAPHIC ART SCHOOL, AND THE WASHINGTON BLVD SIDE OF THE BUILD-ING RECIEVES MORE SUNLIGHT. THE GRAPHIC ART SCHOOL IS ATTACHED TO THE GAL-LERY SPACES, AND CONTINUES UP THE FIRST THREE FLOORS. THE ENTRY TO THE SCHOOL PUNCHES THROUGH A CURVING GLASS FACADE WHICH IS COVERED BY A HORIZONTAL LOUVER SYSTEM. ON THE GROUND FLOOR, RENTABLE GALLERY SPACES CONTINUE ALONG BOTH THE WASHINGTON AND BAGLEY FACADES TO BE USED BY THE RESIDENTS OF THE LOFT APART-MENTS. THE FIRST FLOOR ALSO CONTAINS THE RECIEVING AREA FOR THE BELOW-GRADE STORAGE. ABOVE THE STORAGE ON THE SECOND LEVEL IS THE VIDEO ART GALLERY, WHICH IS ATTACHED TO THE THEATER LOBBY BY A LARGE STAIRCASE. THE GROUND FLOOR ALSO HAS THE ENTRIES FOR THE LOFT APARTMENT CIRCULATION TOWERS, WHICH CONSIST OF 5 TOWERS SPACED REGULARLY ALONG THE PLAN. EACH TOWER CONTAINS AN ELEVATOR, STAIRWAY, AND MECHANICAL CHASE.

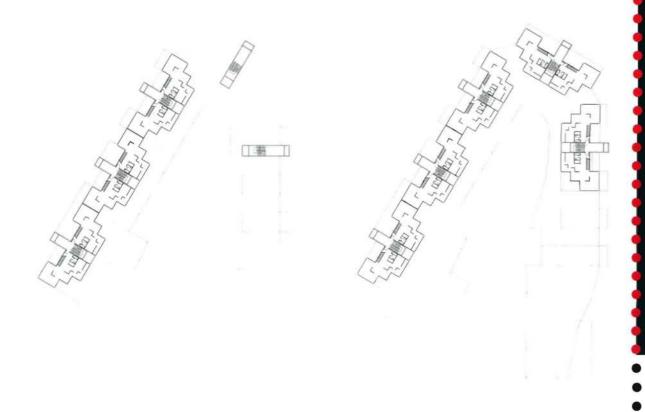


THE THIRD FLOOR CONTAINS THE FINAL FLOOR OF THE GRAPHIC ART SCHOOL, AND ALSO CONTAINS MORE GALLERY SPACES, SOME OF WHICH OVERLOOK THE LOBBY AS WELL AS THE SCHOOL.

THE IDEA BEHIND THESE OVERLOOKING SPACES IS TAKEN FROM THE PRECEDENT STUDY OF THE MIT MEDIA LAB EXPANSION WHICH WAS DISCUSSED EARLIER, WHERE SPACES ARE CENTERED AROUND OPEN ATRIUMS TO CREATE AWARENESS AND INTERACTION BETWEEN DIFFERENT PROGRAMMATIC ELEMENTS. THE GALLERY SPACES CONTINUE ACROSS THE LOBBY AREA TO THE SMALL BUSINESS CENTER, WHERE OFFICES ALTERNATE IN PATTERN WITH THE RENTABLE GALLERIES BELOW. THE FOURTH FLOOR CONTAINS ANOTHER GALLERY OVERLOOKING THE LOBBY, WHICH ALSO SERVES AS THE ENTRY TO THE EXHIBITION/EVENT SPACE, CONFIGURED AS BOXES CONNECTED BY A LONG HALLWAY. THESE BOXES ALIGN TO THE RENTABLE GALLERY SPACES AND SCHOOL ENTRY WHICH ARE ON THE GROUND FLOOR.

THIRD FLOOR

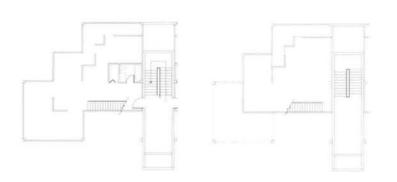
FOURTH FLOOR

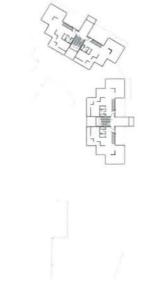


#### FIFTH AND SIXTH FLOORS

SEVENTH AND EIGHTH FLOORS

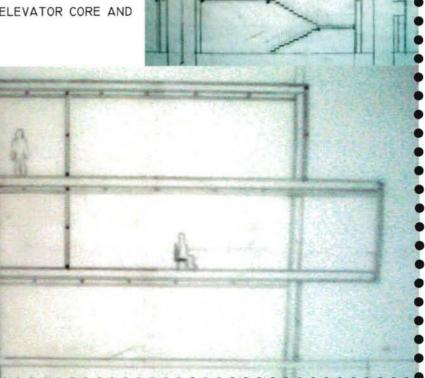
THE REMAINING FLOORS CONTAIN THE LOFT APARTMENT TOWERS. AS MENTIONED BEFORE, EACH TOWER
IS CENTERED AROUND A VERTICAL CIRCULATION SHAFT.
A MORE DETAILED DESCRIPTION OF THE LOFT CONFIGURATIONS BELOW IS GIVEN IN THE FINAL BUILDING
DESIGN SECTION TO FOLLOW.



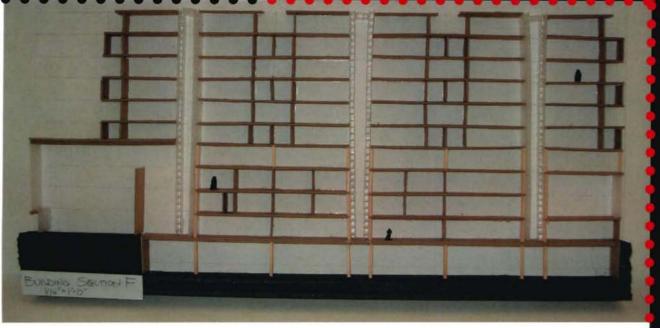


NINTH FLOOR

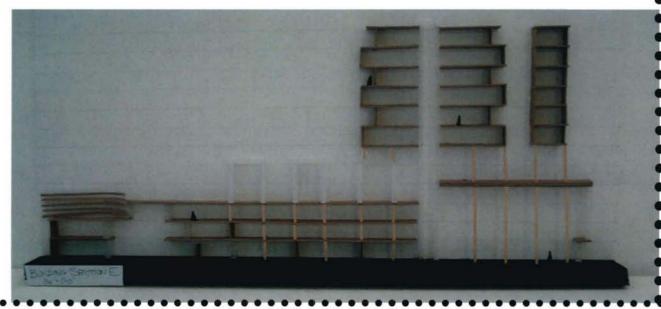
THESE SECTIONS WERE TAKEN AT VARIOUS PLACES
THROUGHOUT THE PLANS ON THE PREVIOUS PAGES.
THE TOP TWO SECTIONS, ALONG WITH THE BOTTOM
BEGIN TO SHOW THE OVERLOOKING AREAS WHICH
WERE INFLUENCED BY THE MIT MEDIA LAB
PRECEDENT STUDY. THE TOP LEFT SECTION OCCURS
IN THE SCHOOL ATRIUM, WHILE THE TOP RIGHT IS
THROUGH THE LOBBY AND GALLERIES. THE BOTTOM
IMAGE OCCURS IN THE AREAS OF THE SMALL
BUSINESS CENTER AND RENTABLE GALLERIES.
THE SECTION AT THE LEFT IS A DETAIL OF THE
LOFT CIRCULATION TOWERS, SHOWING MECHANICAL SPACES, AS WELL AS THE ELEVATOR CORE AND
STAIRS.



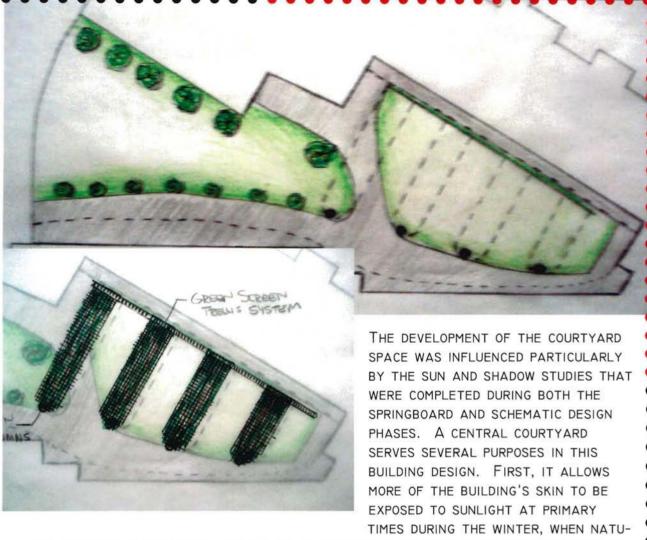
SECTIONS



THE SECTION MODELS SHOWN HERE BEGIN TO FURTHER THE INFORMATION SHOWN IN THE SECTIONS ON THE PREVIOUS PAGES. AGAIN, YOU BEGIN TO SEE THE AREAS IN WHICH THE OVERLOOKING OR "AWARENESS" BEGIN TO OCCUR. THESE MODELS ALSO BEGIN TO BETTER INDICATE THE VOLUME OF CERTAIN SPACES AS THEY COMPARE TO OTHERS, AND HOW THE STRUCTURE BEGINS TO WORK ITS WAY INTO THE DESIGN AS WELL. THE VERTICALITY OF THE LOFT CIRCULATION TOWERS IS ALSO EXPRESSED IN THESE MODELS.



#### Building Design



RAL HEATING IS DESIRABLE. SECONDLY, IT CREATES A PRIVATE SPACE FOR PEOPLE TO BE COME MORE EXPOSED TO THE SURROUNDING ENVIRONMENT, WITHOUT THE NOISY DISTRACTIONS OF GRAND CIRCUS PARK.

THE LARGER IMAGE ABOVE BEGINS TO LAYOUT THE OVERALL COURTYARD, AS WELL AS THE GROUND LEVEL ARTICULATION OF OVERHANDS AND COLUMNS THAT OCCUR THROUGHOUT THE SPACE. THE SMALLER IMAGE TO THE LEFT SHOWS THE USEAGE OF THE GREENSCREEN TRELLIS SYSTEM THAT WAS STUDIED EARLIER AS A MEANS OF PROVIDING SHADE AT INTERVALS THROUGHOUT THE COURTYARD SPACE. THESE OVERHANGING TRELLISES WOULD BE FED PLANTLIFE VIA PLANTER COLUMNS WHICH SUPPORT THE ENTIRE SYSTEM.





THESE EXTERIOR RENDERINGS BEGIN TO ARTICULATE THE EXTERIOR FORM OF THE BUILDING.
THE IMAGE ABOVE SHOWS HOW THE SPACES ALONG THE GROUND FLOOR CREATE A SENSE OF HUMAN SCALE ALONG THE MAIN FACADE OF THE BUILDING. THE EXHIBITION SPACES ABOVE MIMIC THE FORMS BELOW, BUT ALSO INCORPORATE GLASS TO DIFFERENTIATE THEMSELVES FROM WHAT IS AT THE GROUND LEVEL. HERE YOU ALSO BEGIN TO SEE THE CURVING GLASS FACADE WHICH IS COVERED ON THE SECOND AND THIRD FLOORS BY THE LOUVER SYSTEM, WHILE LEAVING THE GROUND FLOOR GLASS OPEN TO AGAIN EMPHASIZE THE HUMAN SCALE, ALLOWING PEOPLE TO GLANCE INSIDE.

THE BOTTOM LEFT IMAGE SHOWS A VIEW FROM GRAND CIRCUS PARK. THE LOFT TOWERS ARE RAISED AT THE CORNER OF PARK AND WASHINGTON BY ONE LOFT UNIT TO EMPHASIZE THE IMPORTANCE OF THAT CORNER OVER THE BAGLEY FACADE.

THE BOTTOM RIGHT IMAGE SHOWS THE ARTICULATION OF THE BUILDING FORM IN THE COURTYARD SPACE, WHICH INCLUDES A VARIETY OF SOLID AND VOID SPACES, AND DIFFERING LEVELS OF TRANSPARENCY.



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THESE DETAIL MODELS BEGIN TO ELABORATE ON SOME OF THE SPACES IN THE PROGRAM.
THE TWO RIGHT IMAGES SHOW A MODEL WHICH WAS BUILT OF THE THEATER LOBBY. IT BEGINS TO INDICATE HOW THE BUSINESS CENTER ON THE SECOND AND THIRD FLOORS OVERLOOKS THE LOBBY, CREATING A SENSE OF AWARENESS BETWEEN THE TWO AREAS WHICH WOULD NORMALLY NOT BE LOCATED NEAR ONE ANOTHER. THE STAIRWAY SHOWN LEADS UP TO THE VIDEO ART GALLERY WHICH IS LOCATED ON TOP OF THE STORAGE DELIVERY.

THE IMAGES BELOW SHOW THE FIRST STAGE
OF DEVELOPMENT FOR THE RENTABLE GALLERY SPACES. THESE SPACES ARE INTENDED
TO HAVE A "STOREFRONT" TYPE RELATIONSHIP TO THE EXTERIOR SINCE THE BUILDING
IS LOCATED IN A DOWNTOWN URBAN SETTING.
ON THE INTERIOR FACE, TRANSLUCENT MATERIAL IS PRIMARILY USED TO CREATE A SENSE
OF CURIOSITY AS PEOPLE PASS BY BOTH ON
THE INSIDE OF THE GALLERIES AS WELL AS
THE INTERIOR HALLWAYS ON WHICH THEY ARE
LOCATED. THE TRANSLUCENT MATERIAL ALSO
SERVES THE PURPOSE OF DIFFUSING LIGHT FOR
THE GALLERIES.





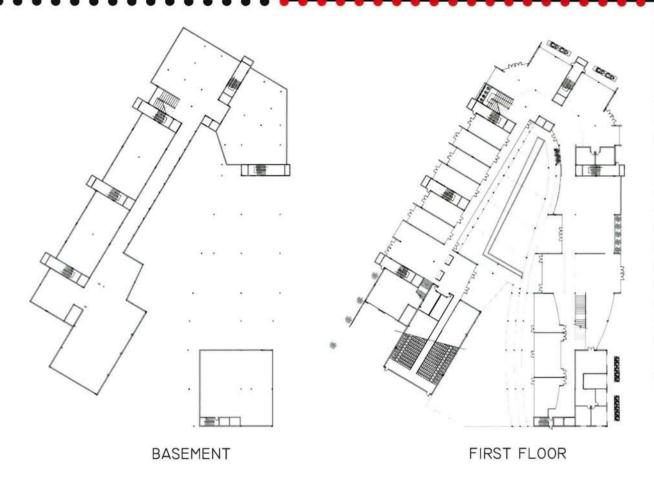
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LONGITUDINAL SECTIONS ••••••••••••••••••••••••••••••••••••
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LOFT CONFIGURATION ••••••••••••••••••••••••••••••••••••
COURTYARD/SITE PLAN ************************************
ELEVATIONS
EXTERIOR RENDERINGS ••••••••••••••••••••••••••••••••••••
FINAL MODEL
CONCLUSION

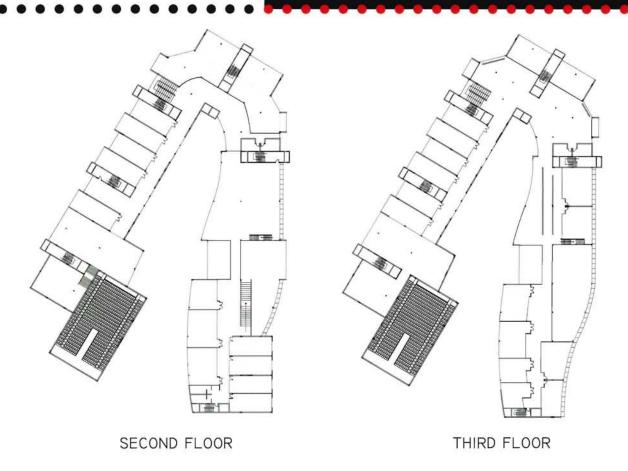
AT THE END OF THE SECOND PHASE OF DESIGN DEVELOPMENT, THERE WERE STILL A FEW ISSUES WHICH REMAINED UNSOLVED. THROUGH PRESENTATION AND CRITIQUE, THE FOLLOWING CONCLUSIONS WERE REACHED:

- --THE OVERALL BUILDING FORM NEEDED TO STILL BE TWEAKED IN A FEW MAJOR WAYS. THE FORM OF THE EXHIBITION/EVENT SPACE WAS STILL UNRESOLVED, AS IT CREATED CONFUSION IN WHICH OTHER PROGRAMMATIC FUNCTIONS IT RELATED TO THROUGH ITS AESTHETIC EXPRESSION.
- --THE "AWARENESS" SPACES, OR SPACES WHERE ONE FUNCTION OVERLOOKED THE OTHER, WERE VIEWED AS BEING FITTING FOR THIS TYPE OF PROJECT, BUT STILL NEEDED TO BE TWEAKED A LITTLE IN THEIR DESIGN.
- --THE STRONG SUGGESTION WAS MADE TO FOCUS THE DESIGN AND PRESENTATION EFFORTS ON THOSE PROGAM ELEMENTS, SUCH AS THE LOFT APARTMENTS AND GRAPHIC ART SCHOOL, WHICH HAD ELEMENTS OF THE PROGRESSION OF TIME BUILT INTO THEM MORE STRONGLY.
- --QUESTION WAS STILL GIVEN TO THE DESIGN OF THE COURTYARD SPACE. THE WAY IN WHICH THE BUILDING ADDRESSED THE COURTYARD AT THE END OF DESIGN DEVELOPMENT 2 WAS STILL NOT TO ITS FULL POTENTIAL.

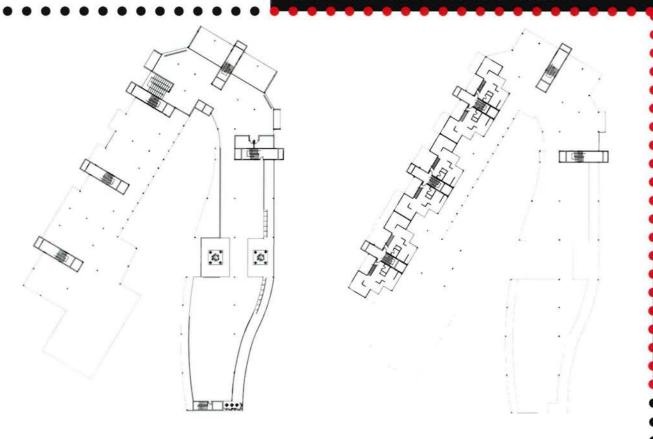
THE FINAL BUILDING DESIGN WAS AN ATTEMPT TO RESOLVE THESE ISSUES, ALONG WITH A FEW OTHER MINOR REMAINING ISSUES. ALL DRAWINGS AND MODELS WHICH FOLLOW ARE FINAL MATERIALS.



THESE ARE THE FINAL FLOOR PLANS. THE BASEMENT LEVEL CONTAINS THE MAIN MECHANICAL AND STORAGE/PREPARATION AREAS, ACCESSED AT THE GROUND LEVEL BY A DELIVERY BAY. THE GROUND LEVEL, BEGINNING ALONG WASHINGTON BLVD CONTAINS THE GRAPHIC ART SCHOOL. THIS IS ACCESSED BY AN ENTRY LOBBY DIRECTLY OFF WASHINGTON. THE SCHOOL IS CONNECTED TO THE GALLERY SPACES BY A COMMON AREA CONTAINING A CAFE, SEATING, AND RESTROOMS. CONTINUING THROUGH THE GALLERIES, A HALLWAY LEADS YOU PAST THE RENTABLE GALLERY SPACES, AND INTO THE THEATER LOBBY. ON THE EXTERIOR, THE LOFT CIRCULATION TOWERS REACH THE GROUND FLOOR, AND JUST AS IN PREVIOUS DESIGN PHASES, CONTAIN AN ELEVATOR, STAIRWAY, AND MECHANICAL CHASES. THE GROUND FLOOR ALSO CONTAINS THE CENTRAL COURTYARD, WHICH WILL BE DISCUSSED MORE IN DEPTH IN LATER SECTIONS.



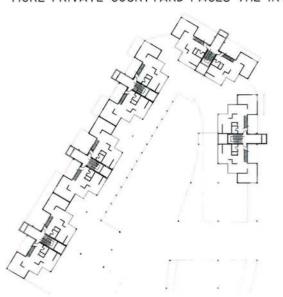
CONTINUING TO THE SECOND FLOOR, ONE REACHES THE SECOND, OR INTERMEDIATE DESIGN LEVEL OF THE SCHOOL, COMPLETE WITH CLASSROOMS, LABS, AND A CRITIQUE SPACE. THE SECOND LEVEL OF THE GALLERIES AS WELL AS THE BEGINNING OF THE SMALL BUSINESS CENTER ARE ALSO CONTAINED ON THE SECOND LEVEL. THE THIRD LEVEL CONTINUES THE SCHOOL UPWARD TO THE ADVANCED DESIGN LEVEL, WHICH CONTAINS STUDIO AND OFFICE SPACES FOR THE UPPER LEVEL STUDENTS AS WELL AS PROFESSORS. THIS IS CONNECTED TO THE GALLERIES, AND THROUGH TO THE TOP LEVEL OF THE BUSINESS CENTER AS WELL. THIS ALLOWS SPACES FOR THOSE UPPER LEVEL STUDENTS WHO WISH TO CONTINUE THEIR PRACTICE BEYOND SCHOOLING AND INTO THE BUSINESS WORLD, WHILE ALSO HAVING THEIR WORK PUT ON DISPLAY IN THE GALLERY SPACES THEMSELVES.



#### FOURTH FLOOR

#### FIFTH FLOOR

THE FOURTH LEVEL CONTAINS THE 2 STORY EXHIBITION/EVENT SPACE, WHICH CAN BE USED BY THE SCHOOL OR GALLERY SPACES FOR TRAVELLING EXHIBITS, OR RENTED OUT BY THE PUBLIC FOR LARGE EVENTS. THIS SPACE HAS TWO DIFFERENT ROOFTOP COURTYARDS AS WELL, A LARGER. MORE PUBLIC COURTARD FRONTS WASHINGTON BLVD, WHILE THE SMALLER AND MORE PRIVATE COURTYARD FACES THE INTERIOR CENTRAL COURTYARD SPACE TO CREATE TWO



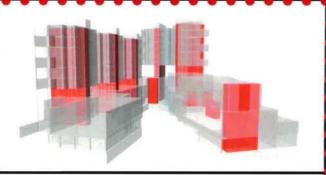
SIXTH AND SEVENTH FLOORS

UNIQUE EXPERIENCES. FROM THE FIFTH FLOOR AND UP, THE LOFT APARTMENTS ARE ARRANGED IN 5 TOWERS. THE LOFT CONFIGURATION WILL BE DISCUSSED IN GREATER DEPTH IN LATER SECTIONS

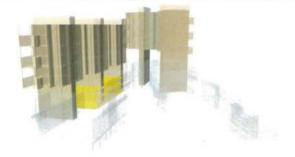


EIGHTH FLOOR

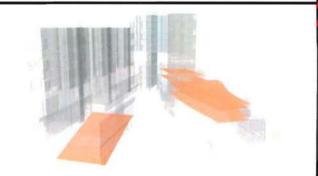
THIS DIAGRAM INDICATES THE AREAS WHERE VERTICAL CIRCULATION OCCURS. THE VARIETY OF LOCATIONS CREATES A CONSTANT SENSE OF MOVEMENT THROUGHOUT THE BUILDING.



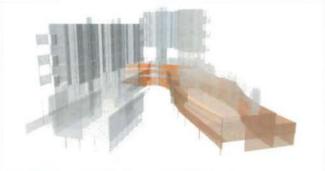
THIS DIAGRAM INDICATES THE SPACES WHICH ARE PRIMARILY SUSTAINED BY THE LOFT APARTMENTS. THE SPACES, INDICATED IN THE YELLOW, ARE THE BUSINESS CENTER AND THE RENTABLE GALLERIES.



THIS DIAGRAM INDICATES THOSE SPACES WHICH ARE VARIABLY SUSTAINED. BOTH THE EXHIBITION/EVENT SPACE, AS WELL AS THE THEATER, ARE SPACES WHICH CAN BE USED BOTH BY THE SCHOOL AND GALLERY FACILITIES, AS WELL AS RENTED OUT BY THE PUBLIC.

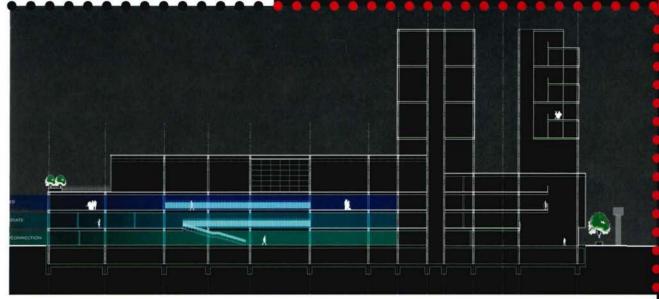


THIS DIAGRAM INDICATES THE SPACES
THAT ARE SUSTAINED BY THE GRAPHIC ART
SCHOOL. THE GALLERY SPACES, INDICATED
IN ORANGE, DISPLAY THE WORK THAT IS
CREATED BY STUDENTS IN THE SCHOOL,
INDICATED IN BROWN.



SUPPORT IS A VERY IMPORTANT PIECE TO ANY BUILDING. THIS DIAGRAM INDICATES THOSE SPACES, INDICATED IN BLUE, SUCH AS MECHANICAL AND STORAGE/PREP SPACES, THAT SERVE AS THE SUPPORT FOR THE BUILDING

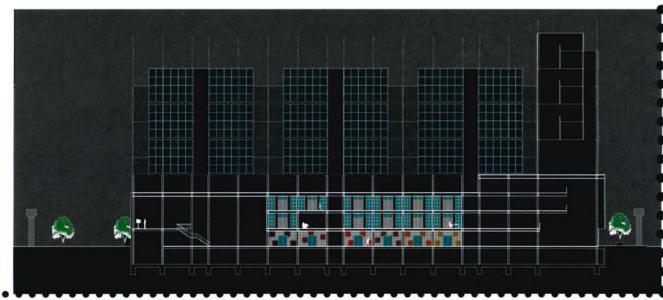


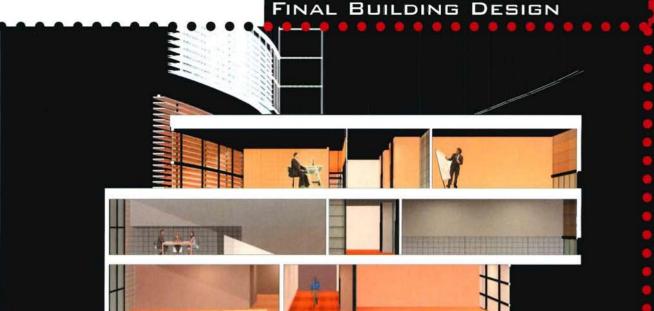


THESE SECTIONS BEGIN TO INDICATE SOME OF THE SAME CHARACTERISTICS OF THE SECTION-MODELS THAT WERE COMPLETED IN THE DESIGN DEVELOPMENT PHASE. YOU CAN BEGIN TO SEE HOW THE STRUCTURE WORKS ITS WAY INTO THE BUILDING, AS WELL AS THOSE SPACES WHICH BEGIN TO OVERLOOK THE OTHERS.

THE TOP SECTION FURTHER SHOWS THE DIFFERENT LEVELS OF THE SCHOOL, INDICATED BY
THE DIFFERENT SHADES OF BLUE. THE BOTTOM LEVEL IS THE SUPPORT AND BEGINNER DESIGN
LEVEL, THE MIDDLE LEVEL IS FOR INTERMEDIATE DESIGN, AND THE TOP LEVEL IS FOR
ADVANCED DESIGN.

THE BOTTOM SECTION PRIMARILY SHOWS THE LOBBY SPACES IN BOTH THE GALLERY AT THE RIGHT END, AND THE THEATER AT THE LEFT END. IN BETWEEN, THE RENTABLE GALLERY SPACES AND SMALL BUSINESS CENTER ARE SANDWICHED, EACH LOCATED ALONG A LONG HALLWAY.





THESE SECTION-PERSPECTIVES BEGIN TO INDICATE THE BUILDING'S TRANSFORMATION BETWEEN DAY AND NIGHT ON THE INTERIOR. A PRIMARY FOCUS IS ON THE SECOND FLOOR OF THIS SECTION. ON THE LEFT SIDE OF THE HALLWAY, THE DAYTIME PROVIDES NATURAL LIGHTING THROUGH A LARGE GLASS WINDOW, MAKING THAT SIDE OF THE ROOM MORE SUITABLE FOR USE. AS IT TRANSITIONS TO NIGHT, DIRECTIONAL LIGHTING ILLUMINATES THE MORE INTERIOR SIDE OF THE ROOM, SHIFTING THE ACTIVITY IN THOSE SPACES. ON BOTH SIDES OF THE HALLWAY, CLASSROOMS MAKE USE OF KALWALL BETWEEN THE SPACES. THIS PROVIDES TRANSLUCENCY WHICH CREATES A SENSE OF AWARENESS OF WHAT IS OCCURRING ON THE OTHER SIDE OF THE WALL.



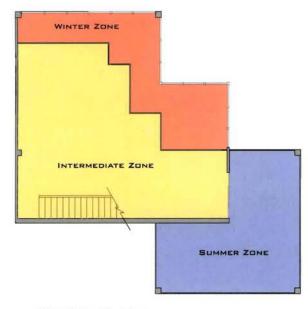


THIS SECTION-PERSPECTIVE, IS TAKEN THROUGH THE LOBBY OF THE GRAPHIC ART SCHOOL. ALL OF THE PRIMARY CIRCULATION SPACES, BOTH VERTICAL AND HORIZONTAL, ARE LOCATED ADJACENT TO THE LOBBY TO CREATE A CENTER OF MOVEMENT. TRANSLUCENT GLASS PANELS USED ON THE TALL RAILINGS BEGIN TO ALTER AND/OR DISTORT THE MOVEMENT THAT OCCURS ALONG THE HORIZONTAL PATHS. THE STAIRWAY SHOWN IS THAT WHICH SERVES AS THE OPEN TRANSITION FROM THE LOWER BEGINNER DESIGN LEVEL TO THE SECOND FLOOR OF INTERMEDIATE DESIGN. YOU CAN SEE HERE HOW THE SPACE'S CHARACTERISTICS BEGIN TO CHANGE AS THE SPACE TRANSITIONS FROM NIGHT TO DAY. ALSO SHOWN HERE IS A VIEW OF THE CURVING LOUVER SYSTEM WHICH COVERS THE MAIN GLASS FACADE OF THE SCHOOL TO PROVIDE DIFFUSE LIGHT ON THE UPPER LEVELS.





FIRST FLOOR



SECOND FLOOR

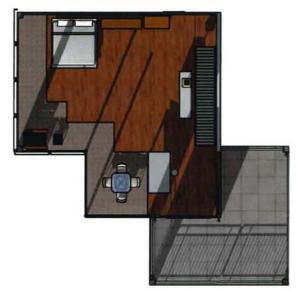
THIS LOFT CONFIGURATION HAS STAYED FAIRLY CONSISTANT SINCE THE DESIGN DEVELOPMENT PHASE 2 SECTION.

INSPIRATION FOR THE LOFT DESIGN WAS DRAWN FROM THE BOOK RITUAL HOUSE WRITTEN BY RALPH KNOWLES. THIS BOOK HAS INFLUENCED THE DESIGN IDEAS SINCE THE EARLY BUILDING DESIGN PHASE, WITH THE COMFORT ADJUSTMENT DIAGRAMS. IN THE BOOK, KNOWLES DISCUSSES HOW WE MAKE RITUAL ADJUSTMENTS TO OUR LIVING SPACES IN TUNE WITH THE CHANGING SEASONS TO MAXIMIZE OUR COMFORT LEVEL DURING THAT PARTICULAR SEASON. HE REFERENCE FROM PERSONAL EXPERIENCE OF THE SHIFTING OF HIS FAMILY'S DINNER TABLE FROM AN INTERIOR SPACE IN DIRECT SUNLIGHT DURING WINTER MONTHS, WHEN NATURAL HEATING IS BENEFICIAL, TO AN EXTERIOR PATIO SPACE IN THE SHADE OF A TREE IN THE SUMMER MONTHS.

EACH LOFT APARTMENT IS APPROXIMIATELY 1,900 SQUARE FEET, AND IS CONFIGURED IN THREE DIFFERENT ZONES:

THE INTERMEDIATE ZONE, SHOWN IN YELLOW, IS THE AREA WHICH CONTAINS ALL OF THE CORE FUNCTIONS. THE ENTRY AND VERTICAL CIRCULATION, ALONG WITH THE KITCHEN, BATHROOM, AND STORAGE, ARE ALL LOCATED IN THIS ZONE, WHICH IS LOCATED IN THE CENTRAL AREAS OF BOTH THE FIRST AND SECOND FLOORS.





THE WINTER ZONE IS LOCATED IN THOSE AREAS WHICH PRIMARILY FACE SOUTH. THIS LOCATION, COUPLED WITH EXPANSIVE TWO STORY GLASS AND THERMAL MASS HEATING AND FLOORS, ALLOWS FOR MAXIMUM NATURAL HEAT GAIN. THE AREA IMMEDIATELY ON THE INTERIOR OF THE GLASS, AS SEEN BELOW IN THE IMAGE, IS OPEN TO THE SECOND FLOOR AS WELL, ALLOWING SPACE FOR THE HEAT TO RISE AND WARM THE SECOND LEVEL. PLANS ABOVE AND SECTIONS BELOW SHOW HOW THE SPACE COULD BE CONFIGURED FOR THE WINTER MONTHS.







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THE SUMMER ZONE IS LOCATED IN THE AREAS WHICH RECIEVE THE LEAST AMOUNT OF DIRECT SUNLIGHT, AS EXPLORED IN THE EARLY SCHEMATIC AND BUILDING DESIGN PHASES. THE SUMMER ZONE INCLUDES TRANSLUCENT MATERIALS, WHICH CREATES A DIFFUSE LIGHT AND ALLOWS FOR LOW DIRECT HEAT GAIN. DURING THE SUMMER MONTHS, A TRELLIS SYSTEM WHICH COVERS THE EXPANSIVE SOUTH-FACING GLASS PROVIDES A SURFACE ON WHICH CLIMBING PLANTS CAN GROW. THIS SYSETM, FED BY A PLANTER BOX AT THE BOTTOM OF THE TRELLIS, PROVIDES NATURAL SHADE IN THOSE AREAS WHICH RECIEVE HIGH SUNLIGHT. THE PLANS ABOVE AND SECTIONS BELOW SHOW HOW THE LOFT CAN BE CONFIGURED FOR THE SUMMER MONTHS. THE SUMMER ZONE ALSO INCLUDES A SECOND LEVEL BALCONY SPACE WHICH IS WELL SHADED BY THE UNITS ABOVE.







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THESE IMAGES DETAIL THE DESIGN OF THE COURTYARD SPACE. AS MENTIONED BEFORE, THE COURTYARD SERVES A FEW MAJOR PURPOSES. FIRST, IT IS OPEN-ENDED, AND ANGLED ACCORDINGLY TO ALLOW MORE OF THE BUILDING'S SKIN TO BE EXPOSED TO SUNLIGHT. THIS WILL ALLOW FOR MAXIMUM NATURAL LIGHTING, AS WELL AS NATURAL HEATING DURING WINTER MONTHS WHEN IT IS BENEFICIAL. AT THE GROUND LEVEL, A SERIES OF OVERHANGING SPACES PROVIDES SHADED AREAS WHERE THE ENTRY AND EXIT TO THE COURTYARD OCCUR. THE GREEN SCREEN TRELLIS SYSTEM IS INCORPORATED HERE AS WELL TO PROVIDE SHADE WHEN THE PLANT-LIFE IS IN ITS GROWTH PHASE. THIS SPACE ALSO PROVIDES A SPACE FOR THOSE WHO USE THE BUILDING TO BECOME AWARE OF THE NATURAL CYCLES OF THEIR ENVIRONMENT IN A MORE PEACEFUL, PRIVATE SETTING TO CONTRAST THE NOISY DISTRACTION OF GRAND CIRCUS PARK.



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THE SITE PLAN SHOWN ABOVE INDICATES HOW THE BUILDING BEGINS TO RELATE TO ITS SURROUNDINGS.

THE LOFT APARTMENTS OFFER VIEWS IN VARIOUS DIRECTIONS INCLUDING THE PARK, WOODWARD AVE, COMERICA PARK, FORD FIELD, AND THE REMAINDER OF THE SURROUNDINGS.

THIS ALSO SHOWS HOW THE COURTYARD CONTINUES THE USE OF GREEN SPACE THROUGHOUT THE AREA.

THIS THESIS PROJECT FILLS IN A MAJOR GAP WHICH EXISTS IN THE WALL WHICH SURROUNDS THE PARK. A WALL WHICH GIVES GRAND CIRCUS PARK ITS CHARACTERISTIC UNIQUENESS.



WASHINGTON ELEVATION

BAGLEY ELEVATION

THESE ELEVATIONS ARE ALSO AN INDICATION OF HOW THE BUILDING BEGINS TO RELATE TO ITS SURROUNDINGS. AS SEEN IN ALL THREE ELEVATIONS, THE LOFT APARTMENT TOWERS ALONG WASHINGTON AND PARK ARE TAKEN ONE UNIT HIGHER THAN THOSE ALONG BAGLEY TO EMPHASIZE THE IMPORTANCE OF THE CORNER. THE BAGLEY TOWERS ARE THEN KEPT AT A LOWER HEIGHT TO MIRROR THAT OF THE UNITED ARTIST BUILDING ACROSS THE STREET. CONTINUING DOWN WASHINGTON, THE FACADE STAYS AT A HEIGHT NO HIGHER THAN 5 STORIES TO MIMIC THE REMAINDER OF WHAT EXISTS ACROSS THE STREET.

#### PARK ELEVATION

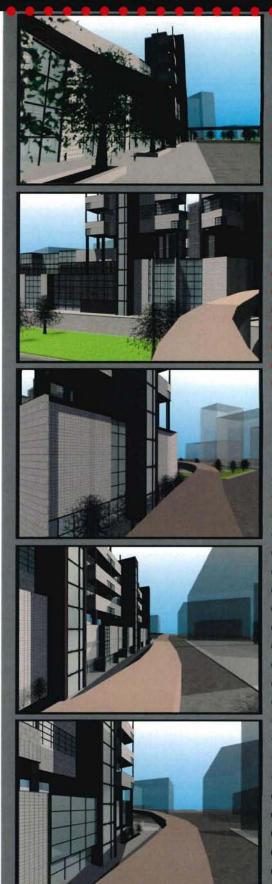


"A CLOCKWORK ARCHITECTURE" 174

GIVEN ITS LOCATION, THE BUILDING IS IN AN AREA WHICH HAS A CONSIDERABLE AMOUNT OF NIGHT-TIME ACTIVITY. THE LOCATION OF THE NEARBY COMERICA PARK, FORD FIELD, FOX AND STATE THEATERS, DETROIT OPERA, AND VARIOUS NEARBY RESTAURANTS AND BARS ALL SERVE AS POTENTIAL FUEL FOR ACTIVITY AT NIGHT.

GIVEN THOSE CONDITIONS, CONSIDEARATION WAS GIVEN TO THE WAY THE BUILDING COULD POTEN-TIALLY CHANGE AS TIME PROGRESSED FROM DAY TO NIGHT.

DURING THE DAYTIME, AS SEEN IN THE RENDERINGS TO THE RIGHT, THE MAJORITY OF THE WHITE MATERIALS, WHICH ARE A COMBINATION OF METAL PANELING AND KALWALL, APPEAR TO THE SAME. THIS IS POSSIBLE BECUASE THE LIGHT REFLECTS OFF THE KALWALL FROM THE EXTERIOR, WHILE PROVIDING A DIFFUSE LIGHT ON THE INTERIOR.



AS TIME PROGRESSES FROM DAY TO NIGHT, THE BUILDING BEGINS TO CHANGE THE WAY IT IS PERCIEVED.

ARTIFICIAL LIGHTING KICKS IN, AND THE KALWALL WHICH ONCE WAS VIEWED AS SIMILAR TO THE METAL PANELING NOW BEGINS TO SHOW ITS TRUE PROPERTIES.

ITS TRANSLUCENCY NOW ALLOWS GLIMPSES OF THE MOVEMENT AND ACTIVITY THAT IS OCCURRING ON THE INTERIOR OF THE BUILDING TO ALL FORMS OF TRAVELLERS.

THE GLASS AT THE GROUND LEVEL ALSO ILLUMI-NATES THE SPACES FROM WITHIN, OFFERING FOOT TRAVELLERS FULL VIEW OF THE MOVEMENT AND ACTIVITY ON THE INTERIOR SPACES.

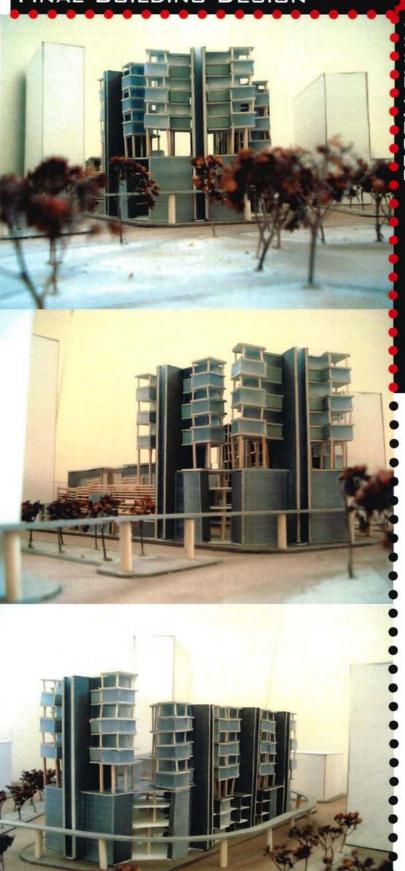


"A CLOCKWORK ARCHITECTURE" 176 •

THESE IMAGES OF THE FINAL BUILDING MODEL FURTHER INDICATE HOW THE BUILDING BEGINS TO RESPOND TO ITS SURROUNDINGS. THE TOP IMAGE IS A VEW FROM GRAND CIRCUS PARK.
YOU CAN SEE HOW THE LOFT APARTMENT TOWERS ARE RAISED ABOVE THE LOBBY TO ALLOW SOME SUNLIGHT AND WIND TO FILTER THROOGH.

THE MIDDLE IMAGE BEGINS TO SHOW THE BUILDING AS IT TURNS DOWN WASHINGTON BLVD. THE DETROIT PEOPLE MOVER TRACK ALSO MAKES ITS WAY PAST THE BUILDING IN THIS IMAGE AS WELL. HERE YOU CAN SEE A VIEW OF HOW THE LOBBY BEGINS TO FRONT THE PARK WITH ITS TRANSLUCENT WALLS. THE AREA OF ENTRY IS DESIGNATED BY CLEAR GLASS TO CONTRAST THE TRANSLUCENCY OF THE REMAINING SURFACES.

THIS BOTTOM IMAGE SHOWS
THE BAGLEY FACADE. THE
PEOPLE MOVER TRACK WRAPS
ITS WAY AROUND THE BUILDING,
AND INSTANCES OF GLASS AND
KALWALL OFFER TRAVELLERS A
GLIMPSE OF THE ACTIVITY ON
THE INTERIOR. THE LOFT TOWERS DOWN THIS FACADE MIRROR
THE HEIGHT AND LOCATION OF
THE UNITED ARTIST BUILDING
ACROSS THE STREET, WHICH HAS
POTENTIAL FOR DEVELOPMENT.



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THE TOP IMAGE HERE SHOWS A VIEW OF THE WASHINGTON BLVD FACADE, LOOK-ING AT THE SCHOOL AS WELL AS THE EXHIBITION/EVENT SPACES. YOU CAN SEE THE WINDOWS THAT PROVIDE SUN-LIGHT FOR THE CLASSROOMS WHICH WERE DEISGNED FOR USE AT TWO DIFFERENT TIMES OF DAY, AS WELL AS THE LOUVER SYSTEM WHICH COVERS A GOOD PORTION OF THE SCHOOL'S REMAINING GLASS.

THE MIDDLE IMAGE OFFERS ANOTHER VIEW OF THE COURTYARD SPACE. ONCE AGAIN, IT IS OPEN TO RECIEVE THE MAXIMUM AMOUNT OF NOON SUNLIGHT IN BOTH SUMMER, WHEN THE COURTYARD IS BEST USED, AS WELL AS IN THE WINTER WHEN NATURAL HEATING IS BENEFICIAL. EACH LOFT APARTMENT ALSO HAS VIEW OF THE COURTYARD SPACE.

THIS BOTTOM IMAGE IS A CLOSE-UP OF SOME OF THE LOFT APARTMENTS. IT SHOWS THE AREAS OF GLASS WHICH FACE PRIMARILY IN THE DIRECTIONS WHICH RECIEVE MOST SUNLIGHT DURING THE WINTER MONTHS FOR NATURAL HEATING. YOU CAN ALSO SEE HERE HOW THE STRUCTURE WORKS ITS WAY THROUGHOUT THE LOFTS, AND HOW THE TRANSLUCENCY OF MATERIALS ALLOWS SOME LIGHT PENETRATION THROUGH THE APARTMENTS.





"A CLOCKWORK ARCHITECTURE" 178

THROUGHOUT THIS ENTIRE DESIGN PROCESS, A GREAT DEAL OF INFORMATION HAS BEEN GATHERED, ANALYZED, STUDIED, AND EXPLORED. IDEAS WERE TESTED, ALTERED, DISCARDED, RETHOUGHT, AND TESTED AGAIN AND AGAIN. THE THESIS POSITION WAS CONSTANTLY QUESTIONED BY ALL OF THESE DIFFERENT INVESTIGATIONS, AND UPON EDITING, WAS THROWN RIGHT BACK INTO QUESTIONING ONCE AGAIN. ALL OF THIS WAS DONE TO GET REACH THIS POINT OF DEPARTURE AT WHICH A BUILDING PROPOSAL HAS BEEN REACHED.

THE FINAL RESULT OF THIS PROCESS, IN MY BELIEF, PROVIDES AN EXCELLENT METHOD OF ANSWERING THE THESIS QUESTION IN SEVERAL WAYS. WHAT STARTED OUT AS A QUESTIONING OF THE RELATIONSHIP BETWEEN ARCHITECTURE AND TIME, RESULTED IN A THOROUGH EXPLORATION ON THE TOPICS MOVEMENT, DEVELOPMENT, GROWTH, CHANGE, CYCLE, RITUAL, AND ADJUSTMENT.

FROM THE SCHOOL, WHICH FOCUSES ON THE MENTAL DEVELOPMENT AND GROWTH OF THE INDIVIDUAL AND THEIR WORK AS WELL AS THEIR UPWARD MOVEMENT THROUGH THE EDUCATION PROCESS, TO THE GALLERY SPACES WHICH PROVIDE A FOCUS ON THE CHANGING NATURE OF THAT WORK WHICH IS CREATED, WE BEGIN TO SEE HOW ONE PROGRAM ELEMENT CAN AFFECT THE IMAGE OF ANOTHER. THE RENTABLE GALLERY SPACES, AS WELL AS THE SMALL BUSINESS CENTER, PROVIDE A GLIMPSE INTO THOSE SPACES WHICH SEEK TO ENCOURAGE ONE TO PUSH THEMSELVES AND THEIR PASSIONS TO THE LIMIT. THE EXHIBITION/EVENT SPACE, AS WELL AS THE THEATER, EXTEND THEMSELVES OUT TO THE PUBLIC AND INVITE THEM TO BECOME A PART OF THAT WHICH FUELS THE LIFE OF THE BUILDING AS WELL. FINALLY, THE LOFT APARTMENTS PROVIDE THAT SPACE IN WHICH LIFE ITSELF TAKES PLACE, AND IN WHICH OUR SPACES CHANGE JUST AS OFTEN AS DO THE SEASONS. IN ITS WHOLE, THE THESIS PROPOSAL PROGRESSIVELY CHANGES IMAGE FROM DAY TO NIGHT AS IT ILLUMINATES ITSELF FROM WITHIN, AS WELL AS SEASONALLY WITH THE GROWTH AND REGROWTH OF PLANT LIFE PROVIDED BY THE SCATTERED TRELLIS SYSTEM.

ALL IN ALL, THIS PROPOSAL PROVIDES AN INSTANCE OF BUILT ENVIRONMENT AS UNIQUE AS ITS SITE LOCATION. WITH THE FORM OF THE BUILDING TAILORED TO THE CYCLES OF DOWNTOWN DETROIT'S HISTORIC GRAND CIRCUS PARK DISTRICT, ONCE CAN CERTAINLY BECOME FULLY AWARE OF THAT WHICH MAKES THIS UNIQUELY DIVERSE ENVIRONMENT RICH WITH EXPERIENCE. THE PROPOSED BUILDING TAKES ITS PLACE IN THAT EMPTY GAP WHICH BRINGS TO CLOSE THE WALL WHICH ONCE SURROUNDED THIS PARK YEARS AGO.

OF COURSE, IT WOULD NOT BE RIGHT IF ONE WERE TO BRING THIS THOROUGH PROCESS TO A CLOSE WITHOUT THROWING INTO QUESTION THAT WHICH HE HAS CREATED, BECUASE THERE IS ALWAYS ROOM FOR MORE DEVELOPMENT. UPON COMPLETING THE FINAL PRESENTATION AND CRITIQUE, SEVERAL QUESTIONS OR "WHAT-IF" SCENARIOS WERE BROUGHT ABOUT WHICH MAY HAVE BEEN ABLE TO FURTHER PROGRESS THIS PROPOSAL HAD ITS DEVELOPMENT CONTINUED.

THE LARGEST QUESTION OR "WHAT-IF" SCENARIO MAY HAVE PROVIDED A SOMEWHAT DIFFERENT RESULT TO THE THESIS PROPOSAL. THE CURRENT PROJECT, STANDING AT NEARLY 250,000 SQUARE FEET, IS ONE THAT IS QUITE COMPLEX. IT MAY HAVE BEEN POSSIBLE THAT WITH SO MANY DIFFERENT PROGRAMMATIC ELEMENTS, SOME DISTRACTION MAY HAVE BEEN CREATED WHEN IT CAME TO MAKING SOME DECISIONS. WHAT WAS THROWN INTO QUESTION WAS HOW THE THESIS PROJECT MAY HAVE DEVELOPED WITH A SMALLER, SIMPLER PROGRAM. BY PERHAPS SIMPLIFYING THE PROGRAM DOWN TO THE SCHOOL AND THE LOFT APARTMENTS, AND MAYBE SOME MINOR SUPPORT ELEMENTS, IT MAY ALLOW FOR A FURTHER DEVELOPED PROJECT.

ANOTHER AREA OF QUESTIONING IS THE NEGLECTED ROOFTOP AREA WHICH IS LOCATED BENEATH THE LOFT APARTMENTS ABOVE THE REST OF THE PROPOSAL CREATED A UNIQUE SPACE WHICH IS FULL OF POTENTIAL. BY LOCATING ACTIVITIES UP THERE SUCH AS RECREATION AND LEISURE, SPACE IS PROVIDED FOR THOSE WHO INHABIT THE LOFT APARTMENTS TO FURTHER ENJOY THEIR SURROUNDINGS IN A PRIVATE ENVIRONMENT.

SOME OTHER MINOR QUESTIONS INCLUDED:

- --LACK OF PARKING PROVIDED FOR LOFT APARTMENT INHABITANTS
- --SIZE OF THE CLASSROOMS IN THE SCHOOL WHICH WERE DESIGNED FOR USE AT TWO TIMES OF DAY
- --ARTICULATION OF THE BUILDING ALONG THE EDGE OF THE COURTYARD

AT THE END OF THIS PROCESS, I FIND MYSELF HAVING ACCOMPLISHED A GREAT AMOUNT OF REWARDING WORK. HAD THIS PROCESS BEEN LONGER, SOME OF THE ABOVE QUESTIONS WOULD HAVE BEEN ABLE TO BE FULLY CONSIDERED, MAKING THIS PROJECT EVEN MORE DEVELOPED THAN THE STATE IN WHICH IT ALREADY EXISTS.

#### ENDNOTES

#### PRECEDENT STUDIES:

- I. ART+COM, "THE SCIENCE OF ALIENS." <u>ART+COM</u>. 16 SEPT 2006 <http://www.artcom. DE/INDEX.PHP?OPTION=COM\_ACPROJECTS&PAGE=6&ID=43&ITEMID=144&DETAILS=0&LANG=EN>.
- 2. TU DELFT. "DELFT ELECTRICAL ENGINEERING STUDENTS CREATE THE WORLDS LARGEST 3D DISPLAY." TU DELFT. 20 APR 2006. 2I SEPT 2006 <a href="https://www.tudelft.nl/live/pag">https://www.tudelft.nl/live/pag</a> INA.JSP?ID=83989EIE-76c2-474D-BF6D-95cIF882ID7I&LANG=EN>.
- 3. UVA. "UNITEDVISUALARTISTS: MIRROR." <u>UNITEDVISUALARTISTS</u>. AUG 2005. 21 SEPT 2006 <a href="http://www.uva.co.uk/index.php/2005/08/02/mirror/">http://www.uva.co.uk/index.php/2005/08/02/mirror/</a>.
- 4. PETER BLUNDELL JONES. "ALIEN ENCOUNTER: CLAD IN A PULSATING SKIN, GRAZ'S NEW KUNSTHAUS IS A SPUNKY MODERN INTERLOPER THAT ADDS BOTH LIFE TO THE CITY AND TO ITS HISTORIC FABRIC." ARCHITECTURAL REVIEW MARCH(2004): P.44-54.
- 5. Kunsthaus, Graz. "Kunsthaus Graz, BIX Facade." 16 Sept 2006 <a href="http://www.kunsthausgraz.steiermark.at/cms/beitrag/10200952/4975814/">http://www.kunsthausgraz.steiermark.at/cms/beitrag/10200952/4975814/</a>.
- Jones P.48.

#### THESIS PAPER:

- I. PALLASMAA, JUHANI. THE EYES OF THE SKIN: ARCHITECTURE AND THE SENSES. CHICHESTER, ENG: JOHN WILEY AND SONS LTD., 2005. P.II
- 2. Bloomer, Kent, and Charles Moore. <u>Body, Memory, and Architecture</u>. London: Yale University Press, 1977. p.1
- 3. BLOOMER P.44.
- 4. PALLASMAA P.30.
- 5. QUOTED IN PALLASMAA P.10.
- 6. PALLASMAA P.10.
- 7. BLOOMER P.49.
- 8. PALLASMAA P. 49.
- 9. PALLASMAA P. 52.
- 10. PALLASMAA P. 54.

#### **ENDNOTES**

- II. HOPKIN, MICHAEL. "LINK PROVEN BETWEEN SENSES AND MEMORY." BIOED ONLINE 31 MAY 2004 9 JAN 2007 <a href="http://www.bioedonline.org/news/news.cfm?art=985">http://www.bioedonline.org/news/news.cfm?art=985</a>.
- 12. QUOTED IN PALLASMAA P. 59.
- 13. PALLASMAA P. 59.
- 14. QUOTED IN PALLASMAA P. 41-42.
- 15. PALLASMAA P. 58.
- 16. Malnar, Joy Monice, and Frank Vodvarka. <u>Sensory Design</u>. Minneapolis: University of Minnesota Press, 2004. p. 104-105
- 17. PALLASMAA P.56.
- 18. PALLASMAA P. 31-32.
- 19. PALLASMAA. P. 32.
- 20. MALNAR P. 119.
- 21. QUOTED IN MALNAR P. 237.
- 22. MALNAR P. 57
- 23. PALLASMAA P. 72
- 24. MILLER, GEORGE. "THE MAGICAL NUMBER SEVEN, PLUS OR MINUS TWO: SOME LIMITS ON OUR CAPACITY FOR PROCESSING INFORMATION." PSYCHOLOGICAL REVIEW 63(1956): 81-97.
- 25. MALNAR P. 21.
- 26. QUOTED IN MALNAR P. 22.
- 27. QUOTED IN MALNAR P. 234-236.
- 28. KNOWLES, RALPH. RITUAL HOUSE. WASHINGTON D.C.: ISLAND PRESS, 2006. P. XVI
- 29. KNOWLES P. 84
- 30. KNOWLES P. II
- 31. KNOWLES P. 127

#### ANNOTATED BIBLIOGRAPHY

ABEL, CHRIS. ARCHITECTURE, TECHNOLOGY AND POCESS. BURLINGTON, MA: ARCHITECTURAL PRESS, 2004.

ART+COM. "THE SCIENCE OF ALIENS." <u>ART+COM</u>. 16 SEPT 2006 <a href="http://www.artcom.de/index.php?option=com\_acprojects&page=6&id=43&Itemid=144&details=0&lang=en">http://www.artcom.de/index.php?option=com\_acprojects&page=6&id=43&Itemid=144&details=0&lang=en</a>.

BLOOMER, KENT, AND CHARLES MOORE. <u>BODY, MEMORY, AND ARCHITECTURE</u>. LONDON: YALE UNIVERSITY PRESS, 1977.

BOUMAN, OLE. "ARCHITECTURE, LIQUID, GAS." ARCHITECTURAL DESIGN 75(2005):

BROWNELL, BLAINE. TRANSMATERIAL: A CATALOG OF MATERIALS THAT REDEFINE OUR PHYSICAL ENVIRONMENT. NEW YORK, NY: PRINCETON ARCHITECTURAL PRESS, 2006.

BULLIVANT, LUCY. "BIX MATRIX: REALITIES:UNITED KUNSTHAUS GRAZ AUSTRIA." ARCHITECTURAL DESIGN 75(2005): 82-85.

BULLIVANT, LUCY. "BUILDING AS INTERFACE." ARCHITECTURAL DESIGN 75(2005):30-37

BULLIVANT, LUCY. "INDUCTION HOUSE." ARCHITECTURAL DESIGN 75(2005):97-98

BULLIVANT, LUCY. "INTELLIGENT WORKSPACES: CROSSING THE THRESHOLD." ARCHITECTURAL DESIGN 75(2005): 38-44.

BULLIVANT, LUCY. "INTERACTIVE DESIGN AS URBAN EVENT: CHRISTIAN MOELLER." ARCHITECTURAL DESIGN 75(2005): 62-67.

BULLIVANT, LUCY. "MEDIA HOUSE PROJECT: THE HOUSE IS THE COMPUTER, THE STRUCTURE IS THE NETWORK." ARCHITECTURAL DESIGN 75(2005)

BULLIVANT, LUCY. "THERE HAS ALWAYS BEEN A RELATIONSHIP BETWEEN DESIGN AND TECHNOLOGY: RON ARAD ON INTERACTIVITY AND LOW-RES DESIGN." <u>ARCHITECTURAL DESIGN</u> 75(2005):54-61

DYSON, FRANCES. "'SPACE,' 'BEING,' AND OTHER FICTIONS IN THE DOMAIN OF THE VIRTUAL." THE VIRTUAL DIMENSION: ARCHITECTURE, REPRESENTAION, AND CRASH CULTURE. Ed. John Beckman. New York, NY: PRINCETON ARCHITECTURAL PRESS, 1998.

FEAR, BOB. "ANODYNE." ARCHITECTURAL DESIGN 71(2001)

FEAR, BOB. "SCI-ARC ENTERPRISE." ARCHITECTURAL DESIGN 71(2001)

GREENSCREEN. <a href="http://www.greenscreen.com">http://www.greenscreen.com</a>

HOPKIN, MICHAEL. "LINK PROVEN BETWEEN SENSES AND MEMORY." BIOED ONLINE 31 MAY 2004 9 JAN 2007 <a href="http://www.bioedonline.org/news/news.cfm?art=985">http://www.bioedonline.org/news/news.cfm?art=985</a>.

#### ANNOTATED BIBLIOGRAPHY

JONES, PETER BLUNDELL. "ALIEN ENCOUNTER: CLAD IN A PULSATING SKIN, GRAZ'S NEW KUNSTHAUS IS A SPUNKY MODERN INTERLOPER THAT ADDS BOTH LIFE TO THE CITY AND TO ITS HISTORIC FABRIC." ARCHITECTURAL REVIEW MARCH(2004): 44-54.

KNOWLES, RALPH L. RITUAL HOUSE. WASHINGTON D.C.: ISLAND PRESS. 2006.

KUNSTHAUS, GRAZ. "LIGHT FANTASTIC: THE FLANK OF THE GRAZ KUNSTHAUS HAS BECOME A GIANT ILLUMINATED SCREEN USING SIMPLE, READILY AVAILABLE TECHNOLOGY." ARCHITECTURAL REVIEW MARCH(2004): 38-39.

KUNSTHAUS, GRAZ. "KUNSTHAUS GRAZ, BIX FACADE." 16 SEPT 2006 <a href="http://www.kunsthausgraz.steiermark.at/cms/beitrag/10200952/4975814/">http://www.kunsthausgraz.steiermark.at/cms/beitrag/10200952/4975814/</a>.

KUNSHTAUS, GRAZ. "KUNSTHAUS GRAZ, TECHNICAL INFORMATION." KUNSTHAUS GRAZ. 20 SEPT 2006 <a href="http://www.kunsthausgraz.steiermark.at/cms/beitrag/10201246/4938834">http://www.kunsthausgraz.steiermark.at/cms/beitrag/10201246/4938834</a>.

LEACH, NEAL, DAVID TURNBULL, AND CHRIS WILLIAMS. DIGITAL TECTONICS. WEST SUSSEX, UK: WILEY-ACADEMY, 2004.

LUBELL, SAM. "DIGITAL PRACTICE." ARCHITECTURAL RECORD MAY(2003): 177-78.

MALNAR, JOY MONICE, AND FRANK VODVARKA. <u>SENSORY DESIGN</u>. MINNEAPOLIS: UNIVERSITY OF MINNESOTA PRESS, 2004.

MILLER, GEORGE. "THE MAGICAL NUMBER SEVEN, PLUS OR MINUS TWO: SOME LIMITS ON OUR CAPACITY FOR PROCESSING INFORMATION." PSYCHOLOGICAL REVIEW 63(1956): 81-97.

MITCHELL, WILLIAM. "ANTITECTONICS: THE POETICS OF VIRTUALITY." THE VIRTUAL DIMENSION: ARCHITECTURE, REPRESENATION, AND CRASH CULTURE. Ed. John Beckman. New York, NY: PRINCETON ARCHITECTURAL PRESS, 1998.

MITCHELL, WILLIAM. CITY OF BITS: SPACE, PLACE, AND THE INFOBAHN. CAMBRIDGE, MA: MIT PRESS, 1995.

MITCHELL, WILLIAM. E-TOPIA. CAMBRIDGE, MA: MIT PRESS, 2000.

MORAVEC, HANS. "THE SENSES HAVE NO FUTURE." THE VIRTUAL DIMENSION: ARCHITECTURE, REPRESENATION, AND CRASH CULTURE. Ed. John Beckman. New York, NY: PRINCETON ARCHITECTURAL PRESS, 1998.

MOSTAFAVI, MOSHEN AND DAVID LEATHERBARROW. ON WEATHERING: THE LIFE OF BUILDINGS IN TIME. CAMBRIDGE, MA: MIT PRESS, 1993.

PALLASMAA, JUHANI. THE EYES OF THE SKIN: ARCHITECTURE AND THE SENSES. CHICHESTER, ENG: JOHN WILEY AND SONS LTD., 2005.

SPILLER, NEIL. "TOWARDS AN ANIMATED ARCHITECTURE, AGAINST ARCHITECTURAL ANIMATION." ARCHITECTURAL DESIGN 71(2001):

#### ANNOTATED BIBLIOGRAPHY

TU DELFT. "DELFT ELECTRICAL ENGINEERING STUDENTS CREATE THE WORLDS LARGEST 3D DISPLAY ."

TU DELFT. 20 APR 2006. 2I SEPT 2006 <a href="http://www.tudelft.nl/live/pagina.jsp?id=83989ele-76c">http://www.tudelft.nl/live/pagina.jsp?id=83989ele-76c</a>
2-474D-BF6D-95clF882Id7l&Lang=EN>.

UVA. "UNITEDVISUALARTISTS: MIRROR." <u>UNITEDVISUALARTISTS</u>. AUG 2005. 21 SEPT 2006 <a href="http://www.uva.co.uk/index.php/2005/08/02/mirror/">http://www.uva.co.uk/index.php/2005/08/02/mirror/</a>.

ZELLNER, PETER. HYBRID SPACE: NEW FORMS IN DIGITAL ARCHITECTURE. NEW YORK, NY: THAMES & HUDSON, LONDON, ENG.