Architectural design tools in practice

Erzsébet Szeréna Zoltán

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Pécs

2020

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A Architectural design tools in practice. tananyag az EFOP-3.4.3-16-2016-00005 azonosító számú,
„Korszerű egyetem a modern városban: Értékközpontúság, nyitottság és befogadó szemlélet egy 21. századi felsőoktatási modellben” című projekt keretében valósul meg.

EFOP-3.4.3-16-2016-00005 Korszerű egyetem a modern városban:
Értékközpontúság, nyitottság és befogadó szemlélet
egy 21. századi felsőoktatási modellben

ARCHITECTURAL DESIGN TOOLS IN PRACTICE

_UNIVERSITY OF PÉCS
_FACULTY OF ENGINEERING AND INFORMATION TECHNOLOGY
_HUNGARY

ARCHITECTURAL DESIGN TOOLS IN PRACTICE
ACADEMIC BOOK

WRITTEN BY
DR. ERZSÉBET SZERÉNA ZOLTÁN

LECTOR
DR. DONÁT RÉTFALVI

GRAPHICS CREDITED TO
GUANGRUI WANG

EDITED BY
DR. ERZSÉBET SZERÉNA ZOLTÁN

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DR ERZSÉBET SZERÉNA ZOLTÁN

ASSOCIATE PROFESSOR

00 _PREFACE

01 _INTRODUCTION

THIS STUDY MATERIAL PROVIDES AN INSIGHT INTO WITCH'S BREW OF ARCHITECTURE. EXAMPLES OF CONTEMPORARY ARCHITECTURAL WORKS CAN GIVE AN INSIGHT INTO THE AESTHETICS AND THE FUNCTIONAL AND STRUCTURAL ROLES OF ARCHITECTURE. PRIMARY DESIGN TOOLS OF ARCHITECTURE ARE ANALYZED: THE INTERRELATIONS BETWEEN ARCHITECTURE AND THE ENVIRONMENT BY DISCUSSING AESTHETICS, FUNCTIONALITY, AND PHILOSOPHY. AFTER LOOKING AT SCALE, SIZE, OR PROPORTION IN ARCHITECTURE, SEVERAL BUILDINGS' ANALYSIS SHOWS HOW THESE ARCHITECTURAL TOOLS CAN EXPRESS AND EMPHASIZE THE CONCEPT. THE AIM IS TO POINT OUT THE COMPLEXITY AND BEAUTY OF DESIGN AND TRAIN THE EYE TO LOOK AND THINK ABOUT BUILDINGS IN A SPECIFIC, ARCHITECTURAL WAY. WE EXPLORE PRINCIPLES OF DESIGN AND COMPOSITION THROUGH THE FORMAL, SPATIAL, AND GEOMETRIC SYSTEMS OF ARCHITECTURE.

THE DESIGN PROCESS METHODOLOGY WILL BE STUDIED TOGETHER WITH ESSENTIAL FACTORS DETERMINING A FUTURE BUILDING'S LOCATION AND GEOMETRY BY INTRODUCING COMMON AND ARCHITECTURAL DESIGN PROBLEMS.

WHILE READING, YOU WILL RECOGNIZE A CONNECTION BETWEEN THE TEXT, WHICH IS EXPLANATORY, AND THE DRAWINGS, WHICH ARE THE PRINCIPAL MEDIUM OF ANALYSIS. SOME PICTURES ARE DIAGRAMS OF PARTICULAR ELEMENTS OR IDEAS, BUT MANY ARE PLANS OR SECTIONS THAT ILLUSTRATE THE DISCUSSED THEMES AND BUILDINGS.

02 _METHODOLOGY

WE THINK OF A HOUSE AS AN ARRANGEMENT OF SPACES ENCLOSED BY SURFACES OF VARIOUS FUNCTIONS. BEYOND THAT, WE NEED ARCHITECTURAL STRATEGIES TO CREATE VALUABLE SURROUNDINGS.
WITH THE PRESENTATION OF ELEMENTS AND CONCEPTS IN ARCHITECTURAL DESIGN, THE AIM IS TO HELP UPCOMING ARCHITECTS TO LEARN THE LANGUAGE OF ARCHITECTURE. IT WILL DESCRIBE IDEAS FOR USE IN THE ACTIVE DESIGN PROCESS. UNDERLYING PATTERNS REVEAL THE ORGANIZATIONAL STRATEGIES THAT LIE BENEATH THE SUPERFICIAL APPEARANCES OF BUILDINGS, WHICH RESULTS IN THE POETIC AND PHILOSOPHICAL POTENTIAL OF ARCHITECTURE.

ASPECTS OF THE COMPLEXITY IN ARCHITECTURE

TO UNDERSTAND THE NATURE OF ARCHITECTURE AND ITS PURPOSE CAN BE A GOOD START. BEFORE WE GET TO THE ‚HOW?', WE LOOK AT BRIEFLY THE ‚WHAT IS ARCHITECTURE?' AND ‚WHY DO WE DO IT?'. ARCHITECTURE IS A HUMAN ACTIVITY THAT ROOTS IN THE ANCIENT DRIVE OF SEARCHING FOR SHELTER. ARCHITECTURE, ON THE OTHER HAND, IS OFTEN COMPARED WITH OTHER FORMS OF ART. ARCHITECTURE ANALOG TO SCULPTURE DEALS WITH THE THREE-DIMENSIONAL COMPOSITION OF FORMS IN SPACE. THE APPLICATION OF AESTHETIC CONSIDERATIONS ONTO THE FORM

OF BUILDINGS CAN BE SEEN AS THE ART OF MAKING BUILDINGS BEAUTIFUL. THE ARRANGEMENT OF ELEMENTS INTO A BUILDING CAN BE SEEN AS ART, JUST AS ADDING A POETIC MEANING TO BUILDINGS. THE ASPIRATION OF TRYING TO ORDER THE BUILDINGS ACCORDING TO SOME SYSTEM OF ART—LIKE CLASSICISM, FUNCTIONALISM, POST-MODERNISM, SHOWS THE RELATEDNESS TO ART. CONTEMPORARY ARCHITECTURE REJECTS TRADITIONAL SYSTEMIZATION: IT WOULD BE HARD TO ASSIGN TODAY'S ARCHITECTURE INTO REGIONALISM, GLOBALISM, MODERNISM, OR ORGANIC ARCHITECTURE.

LET'S JUST ASSUME THAT ‚ARCHITECTURE IS THE DESIGN OF BUILDINGS'

ARCHITECTURE IS A CONCEPTUAL ORGANIZATION, WHICH HAS INTELLECTUAL STRUCTURE. LEARNING TO DO ARCHITECTURE CAN SEEM TO BE LIKE LEARNING TO USE LANGUAGE. LIKE LANGUAGE, ARCHITECTURE HAS ITS PATTERNS AND ARRANGEMENTS, IN DIFFERENT COMBINATIONS AND COMPOSITIONS AS CIRCUMSTANCES SUGGEST. ARCHITECTURE IS ALSO UNIQUE, THOUGH, AS IT IS PARTICIPATED IN BY MORE THAN JUST THE INDIVIDUAL. FOR INSTANCE, LOOKING AT A BUILDING, THERE WILL BE PLACES PROPOSED BY THE DESIGNER AND PLACES CREATED BY THE USERS (THESE MAY OR MAY NOT MATCH, DEPENDING ON HOW THE USERS ADOPT THE SPACE). A PAINTING OR A SCULPTURE MAY BE SAID TO BE THE INTELLECTUAL PROPERTY OF ONE MIND; ARCHITECTURE RESULTS FROM CONTRIBUTIONS.

ARCHITECTURE AND ART

THE OTHER DIFFERENCE IS THAT ARCHITECTURE PROCESSES ARE OPERATED IN A REAL-WORLD USING THE CHARACTERISTICS OF GRAVITY, THE GROUND AND THE SKY, SOLID AND VOID, THE PROGRESS OF TIME, AND SO ON. ARCHITECTURE IS OPERATED BY AND FOR PEOPLE WHO HAVE NEEDS AND DESIRES, BELIEFS, AND ASPIRATIONS. PEOPLE HAVE AESTHETIC SENSIBILITIES AFFECTED BY WARMTH, TOUCH, ODOR, SOUND, AND VISUAL STIMULI. THEY DO THINGS, AND THOSE ACTIVITIES HAVE PRACTICAL REQUIREMENTS. THEY SEE MEANING AND SIGNIFICANCE IN THE WORLD AROUND

_THE ENTRANCE OF IUAV TOLENTINI
BY CARLO SCARPA

THEM. THAT IS WHY EMPATHY IS NECESSARY FOR ARCHITECTURE, TOO.
JUST AS THE WORLD'S LANGUAGES HAVE THEIR COMMON CHARACTERISTICS—A VOCABULARY, GRAMMATICAL STRUCTURES, ETC.—SO DOES ARCHITECTURE HAVE ITS PATTERNS, TOOLS, ELEMENTS, AND STRUCTURES (BOTH PHYSICAL AND INTELLECTUAL). THOUGH NOT AS OPEN TO THE IMAGINATION AS OTHER ARTS, ARCHITECTURE HAS FEWER LIMITS THEN LANGUAGES. THE LIMITATIONS OF A FRAME DO NOT CONSTRAIN ARCHITECTURE, NOR IS IT CONFINED TO ONE SENSE, AS PAINTING DOES NOT HAVE TO TAKE GRAVITY INTO ACCOUNT, FOR INSTANCE, AND MUSIC IS SOLELY AURAL. WHILE MUSIC, PAINTING, AND SCULPTURE EXIST SEPARATELY FROM LIFE, IN A PARTICULAR ZONE, THE ARCHITECTURE INCORPORATES LIFE. PEOPLE AND THEIR ACTIVITIES ARE ESSENTIAL PARTS OF ARCHITECTURE; THEY MAKE PLACES TO DO THE THINGS THEY DO IN LIFE—PLACES TO EAT, SLEEP, SHOP, WORSHIP, ARGUE, LEARN, STORE, ETC. HOW PEOPLE ORGANIZE THEIR PLACES IS RELATED TO THEIR WORLD VIEW. AS WORLD VIEWS ARE PERSONALIZED AND DIFFERENT, THE ARCHITECTURE VARIES AT THE PERSONAL LEVEL, AT THE SOCIAL AND CULTURAL LEVEL, AND BETWEEN DIFFERENT SUB-CULTURES.

ARCHITECTURE IN OUR LIVES

WE GROW UP SURROUNDED BY PRODUCTS OF ARCHITECTURE - ROOMS, GARDENS, SHOPS, SCHOOLS, CITIES. THEY FRAME OUR LIVES, BUT WE TREAT THEM AS PART OF THE GIVEN WORLD. WE ACCEPT WITHOUT THOUGHT THAT A WALL STOPS US FROM MOVING FROM ONE LOCATION TO ANOTHER WHILE AN OPEN DOORWAY LETS US THROUGH. WE KNOW THAT OUR HOME PROTECTS US PHYSICALLY AND PSYCHOLOGICALLY BUT DO NOT THINK CONSCIOUSLY ABOUT HOW. WE CAN LEARN A GREAT DEAL ABOUT THE WORKINGS AND POWERS OF ARCHITECTURE THROUGH ANALYZING EXAMPLES.

INGREDIENTS OF ARCHITECTURE

WE CANNOT LEARN A LANGUAGE, RIDE A BICYCLE, OR PLAY THE PIANO, MERELY BY READING HOW TO DO IT OR EVEN FOLLOWING DIAGRAMMATIC INSTRUCTIONS. WE HAVE TO PRACTICE BEFORE BECOMING FLUENT OR PROFICIENT. IT IS THE SAME WITH ARCHITECTURE: THE MORE YOU PRACTICE, THE MORE ADEPT YOUR BRAIN BECOMES, AND THE MORE YOU DISCOVER WHAT YOU CAN DO WITH IT. LANGUAGE, MATHEMATICS, MUSIC, AND ARCHITECTURE ARE DIFFERENT MODES OF THOUGHT AND CREATIVITY, BUT AT THE SAME TIME, THEY ARE ANALOGOUS. THEY ARE ALL MEDIA THROUGH WHICH WE MAKE SENSE OF THE WORLD. THEY ALL REQUIRE INTELLECTUAL PRACTICE TO ATTAIN FLUENCY AND PROFICIENCY. LANGUAGE WORKS WITH WORDS AND CONCEPTS; MATHEMATICS WITH NUMBERS, MEASUREMENT, AND CALCULATION; MUSIC WITH STRUCTURED SOUNDS, TIME, AND EMOTIONS. ARCHITECTURE WORKS WITH THE GROUND, SPACE, MATERIAL, LIGHT.

STUDIES AND THE REAL LIFE

IN ARCHITECTURE SCHOOLS, GENERALLY, THE NORM IS TO SET PROJECTS WHERE STUDENTS HAVE TO DESIGN A PARTICULAR BUILDING TYPE, A WORK OF ARCHITECTURE ACCORDING TO A SPECIFIED BRIEF (PROGRAM): A SCHOOL, A THEATRE, A MUSEUM, A HOUSE, ETC. THE ‚REAL WORLD' SITUATION IS MODELED THIS WAY, WHERE ARCHITECTS ARE COMMISSIONED TO DESIGN BUILDINGS WITH A PREDETERMINED BRIEF. IT ALSO REFLECTS ON THE VIEW THAT ARCHITECTURE DERIVES PRIMARILY FROM FUNCTION. ARCHITECTURE, THOUGH, CONSISTS OF MORE THAN JUST FUNCTION. IT IS A RICH AND VARIED ‚LANGUAGE' THAT HAS WIDESCALE DIMENSIONS. THAT IS WHY THERE IS NO INTENTION TO PERSUADE YOU TO DESIGN IN ANY PARTICULAR WAY IN THE ARCHITECTURE COURSES, JUST TRYING TO HELP YOU BECOME AWARE OF THE VARIED SCOPES OF ARCHITECTURE THROUGH EXPLORATION AND EXPERIMENT. THERE ARE NO RIGHT ANSWERS IN ARCHITECTURE (THOUGH IT IS ARGUABLE THAT THERE ARE MANY ‚WRONG' ONES). DOING ARCHITECTURE IS NOT LIKE DOING SUMS. ARCHITECTURE IS A SUBTLE AND COMPLEX ART. IT NEEDS DEDICATION AND INVOLVES PAIN. BEING ABLE ‚TO ARCHITECT' IS NOT A CAPACITY THAT CAN BE DEVELOPED QUICKLY AND EFFICIENTLY TO SOPHISTICATED LEVELS.

_15TH INTERNATIONAL ARCHITECTURE EXHIBITION
VENICE 2016

LEARNING TO „ARCHITECT"

LEARNING TO DO ARCHITECTURE INVOLVES A PARTICULAR KIND OF LEARNING. IT IS NOT A MATTER OF UNDERSTANDING THE FACTS OF HISTORY - NOR IS IT ABOUT LEARNING A SPECIFIC METHOD TO FOLLOW TO PRODUCE A PREDICTABLE OUTCOME - AS ONE MIGHT FOLLOW A RECIPE TO CREATE A PARTICULAR DISH, OR A FORMULA TO MAKE A SPECIFIC CALCULATION. LEARNING TO DO ARCHITECTURE IS MORE LIKE LEARNING A LANGUAGE - ALLOWING ONE'S MIND (INTELLECT AND IMAGINATION) TO EXPERIENCE WHAT IT CAN DO WITH A PARTICULAR MEDIUM. LEARNING TO DO ARCHITECTURE IS NOT A MATTER OF FOLLOWING INSTRUCTIONS. EVEN THOUGH IT WOULD BE POSSIBLE TO OFFER EDUCATION TO PRODUCE SPECIFIC KINDS OF ARCHITECTURE, SUCH A METHOD WOULD DIMINISH THE CONTRIBUTION YOUR OWN IMAGINATION MIGHT MAKE.

PROACTIVE EDUCATION AND TRAINING

BEFORE YOU WONDER, WHAT A BUILDING SHOULD BE MADE OF OR WILL LOOK LIKE, IT IS WORTH CONSIDERING HOW THE USE OF A WALL, A DOORWAY, A WINDOW, A ROOF CAN MODIFY THE ORIGINAL IDEA. COMPOSITION, DIRECTION, CONTEXT, INGENUITY, INVENTION ARE ALL INVOLVED IN ARCHITECTURE, REPRESENTING THE MAJORITY OF THE CHALLENGES. IT WOULD BE LIKE TRYING TO PRODUCE ARCHITECTURAL POEMS, TAKING JOY IN THE MIND'S CREATIVE CAPACITY. FIRST, TRY TO FILL YOUR IMAGINATION WITH WHAT OTHERS HAVE DONE. BE FARSIGHTED, PROLIFIC, AND GENEROUS WITH IDEAS. TRY TO UNDERSTAND THE CULTURAL AND PHYSICAL CONDITIONS IN WHICH YOU ARE WORKING. THINK THINGS THROUGH RIGOROUSLY. CARE AND CONSIDER PRESENTING YOUR IDEAS TO OTHERS. SELF-CRITICAL REFLECTION AND WILLINGNESS TO REDO WORK OVER AND OVER AGAIN UNTIL IT IS RIGHT ARE A NECESSITY.

THE ROLE OF EXPERIENCE

EXPERIENCE HAS KIND OF A MECHANIZING EFFECT: ONCE WE HAVE SEEN SOMETHING DONE IN A CERTAIN WAY, OR DONE IT OURSELVES, THE EXPERIENCE IS IMPRINTED IN OUR MINDS AND BLOCK OUT OTHER ALTERNATIVES.
IF WE WANT TO BE CREATIVE, WE SHOULD DEVELOP NOVEL SOLUTIONS TO PROBLEMS BASED ON WHAT ALREADY HAD BEEN THOUGHT AND IS WELL UNDERSTOOD. EVERYTHING THAT IS ABSORBED AND REGISTERED IN OUR MIND ADDS TO THE COLLECTION OF IDEAS STORED IN THE MEMORY: A SORT OF LIBRARY THAT WE CAN CONSULT WHENEVER A PROBLEM ARISES. SO, THE MORE YOU HAVE SEEN, EXPERIENCED, AND ABSORBED, THE MORE REFERENCE POINTS YOU WILL HAVE TO HELP YOU DECIDE WHICH DIRECTION TO TAKE: YOUR FRAME OF REFERENCE EXPANDS.

HOWEVER, DESIGN EDUCATION WORLDWIDE IS PRIMARILY BASED ON THE STUDIO WHERE STUDENTS LEARN BY TACKLING PROBLEMS RATHER THAN ACQUIRING THEORY AND APPLYING IT. THE IDEA BEHIND IT IS THAT LEARNING FROM YOUR OWN MISTAKES IS USUALLY MORE POWERFUL THAN RELYING ON GAINING EXPERIENCE FROM OTHERS.

THE ROLE OF CREATIVITY

A STUDY OF DESIGN EDUCATION IN SCHOOLS CONCLUDED THAT CHILDREN COULD NOT EXPECT TO BE GENUINELY CREATIVE WITHOUT A RESERVOIR OF EXPERIENCE. HENCE, ARCHITECTURE STUDENTS NEED TO BE ENCOURAGED TO ACQUIRE KNOWLEDGE. THE ABILITY TO EVALUATE AND DISCRIMINATE BETWEEN IDEAS IS A SKILL THAT ALSO CAN BE DEVELOPED BY EXPERIENCE. AND THERE IS THE TRANSFORMATION OR INTERPRETATIVE SKILL THAT IS NEEDED TO TRANSLATE IDEAS INTO AN APPROPRIATE AND RELEVANT CONTEXT. IN A STUDY ABOUT CREATIVITY, THE CONCLUSION POINTS OUT THE PARADOX THAT WE MUST FAMILIARIZE OURSELVES WITH OTHERS' IDEAS TO THINK ORIGINALLY. THESE IDEAS CAN THEN FORM A SPRINGBOARD FROM WHICH THE NEW IDEAS CAN DEVELOP.

_15TH INTERNATIONAL ARCHITECTURE EXHIBITION
VENICE 2016

THE ARCHITECT DOES NOT APPROACH EACH DESIGN PROBLEM AFRESH WITH A TABULA RASA, OR BLANK MIND AND PAGE. STILL, SOME DESIGNERS SEEM ABLE TO ARTICULATE THEIR PRINCIPLES VERY CLEARLY AND HOLD THEM WITH GREAT CONVICTION, WHILE OTHERS ARE LESS CERTAIN OF THEIR' RIGHTNESS.' SOME DESIGNERS SEEM TO ALLOW THEIR GUIDING PRINCIPLES TO DOMINATE THE PROCESS, WHILE OTHERS KEEP THEM MORE IN THE BACKGROUND.

ARCHITECTS INTEGRATE BOTH THEIR VISION OF THE FUTURE AND THEIR LEVEL OF CONFIDENCE IN THEIR WORK. THE STRONGEST CONCEPTS CAN EASILY BECOME RATHER FRIGHTENING, ESPECIALLY WHEN THE ARCHITECTS' WORK HAS SUCH A SIGNIFICANT IMPACT ON PEOPLES' LIVES.

THE AIM OF DESIGN

ARCHITECTURAL DESIGN IS ABOUT MAKING BUILDINGS STAND UP, SPAN LARGE SPACES, WITHSTANDING THE FORCES OF NATURE, AND OFFER A WHOLE RANGE OF STRUCTURAL IDEAS. FOR SOME DESIGNERS SHOWING THE STRUCTURAL ELEMENTS MEANS BEING STRAIGHTFORWARD, BUT KEEPING ENGINEERING AND TECHNOLOGY IN THE BACKGROUND CAN BE A GUIDING PRINCIPLE AS MUCH AS EXPRESSING IT. FOR ARCHITECTS FASCINATED BY THE MATERIALITY AND PROCESS OF MAKING THINGS, THE PRACTICAL CONSTRAINTS CAN OFFER DESIGN IDEAS.

IS THERE A RECIPE OF ARCHITECTURE?

THERE IS NO RECIPE FOR PRODUCING GREAT ARCHITECTURE. ARCHITECTURE ORIGINATES IN THE MIND, BUT ITS PRODUCTS ARE MADE OF REAL MATERIALS, IN REAL CONDITIONS, TO ACCOMMODATE REAL PEOPLE. THE FIRST THING TO UNDERSTAND IS THAT ARCHITECTURE GIVES FORM TO SPACE AND PHYSICAL MATERIALS AS WELL.
BUILDINGS ARE MADE OF STONE, BRICK, CONCRETE, TIMBER, GLASS, METAL, AND THEY CAN BE SEEN AS OBJECTS.

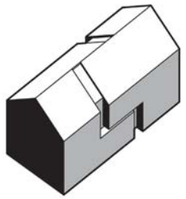
WAYS TO START ARCHITECTING

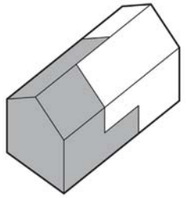
THERE ARE SEVERAL WAYS OF MAKING REAL ARCHITECTURE AND NOT JUST MIMIC IT. EXPRESSING THE BUILDING'S PRIMARY FUNCTIONAL ACTIVITIES THROUGH A RICH, HIERARCHICAL COMPOSITION OF FORMAL GEOMETRIES COULD BE ONE OPTION.

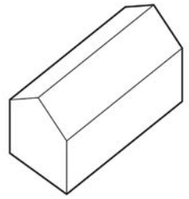
COHERENT CIRCULATION PATTERNS INCORPORATED TO PROVIDE CLEAR ROUTES AND CONNECTIONS IN AND AROUND THE BUILDING IS ANOTHER. THE SPATIAL SEQUENCES CAN BE DEVELOPED TO REINFORCE CIRCULATION PATTERNS AND FUNCTIONAL ACTIVITIES.
SPACES IN AND AROUND THE BUILDING SHOULD BE ARTICULATED TO ENHANCE THE PUBLIC REALM.
SOLID AND VOID, LIGHT AND SHADE, COLOR, TEXTURE, A LIMITED PALLET OF MATERIALS, AND LANDSCAPING SHOULD BE USED TO SUPPORT FORMAL AND SPATIAL OBJECTIVES.

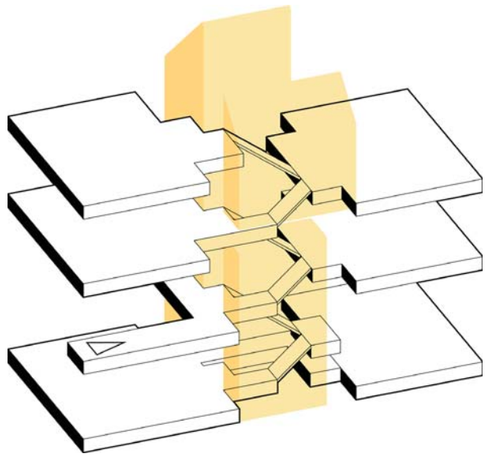
WHAT OUR PREDECESSORS NEW ABOUT ARCHITECTURE

ANOTHER APPROACH BRINGS US TO VERNACULAR ARCHITECTURE. IF WE STUDIED THE LOCALLY TRADITIONAL FORMS AND CONSTRUCTION OF BUILDINGS, THE CONCLUSION COULD BE THAT ONE OF THE STRONGEST INFLUENCES ON TRADITIONAL ARCHITECTURE WAS A RESPONSE TO THE CLIMATE. THE HOT, WET TROPICAL CLIMATE SUGGESTS A DIFFERENT APPROACH TO THE BUILDING'S EXTERNAL SKIN TO THAT EMPLOYED IN EUROPE'S MORE NORTHERN CLIMES. CLIMATE, VIEWED IN THE OVERALL PERSPECTIVE OF HUMAN HISTORY AND BUILT SETTLEMENTS, IS THE SINGLE MOST CONSTANT FACTOR IN OUR LANDSCAPE, APART FROM ITS BASIC GEOLOGICAL STRUCTURE. WHILE SOCIO-ECONOMIC AND POLITICAL CONDITIONS MAY CHANGE ALMOST UNRECOGNIZABLY THROUGHOUT A COUPLE OF DECADES AS MAY VISUAL TASTE AND AESTHETIC SENSIBILITY, THE CLIMATE REMAINS MORE OR LESS UNCHANGED IN ITS CYCLICAL COURSE.

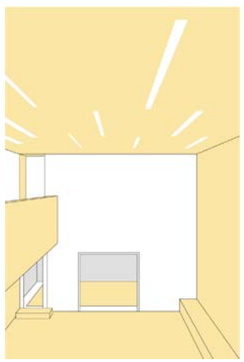


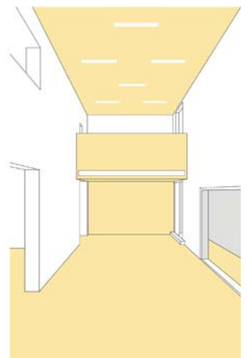






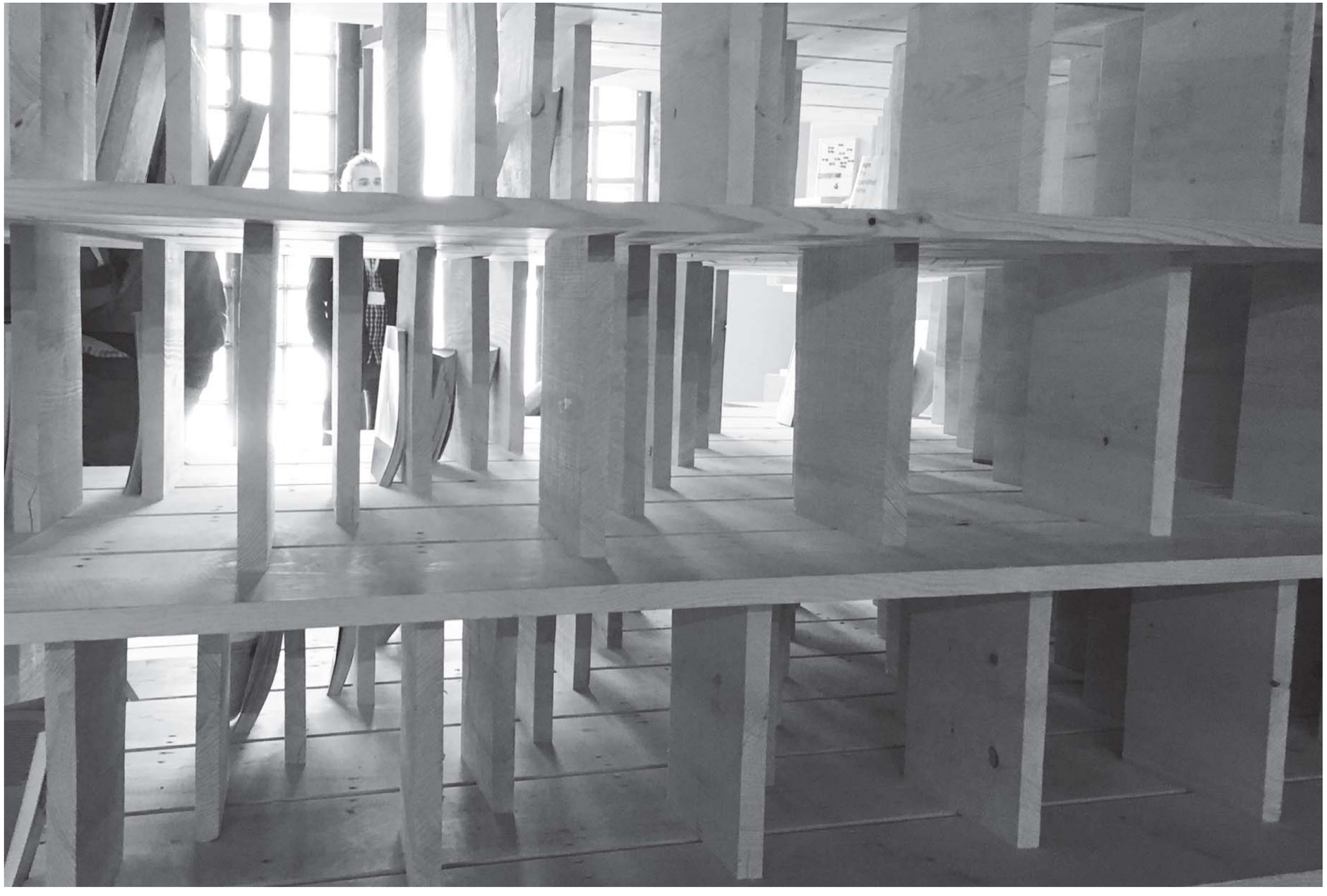
THE CIRCULATION PATTERN EMPHASIZED BY THE SLIT
CONCRETE SLIT HOUSE
NANJING 2008
AZL ARCHITECTS





ANALYZING THE URBAN PATTERN USING
SCALED MODELS IN THE STUDIO WORK

ANALYZING THE SHAPE AND SETTING USING
SCALED MODELS IN THE STUDIO WORK



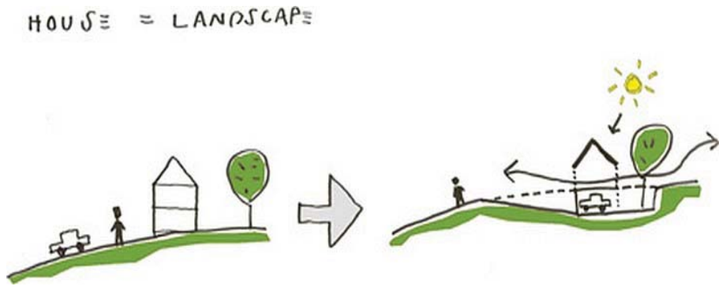
03 _DESIGN PROCESS

THE DESIGN PROCESS STARTS WITH SOME KIND OF A PROBLEM AND FINISHES WITH SORT OF A SOLUTION, BUT HOW TO GET FROM THE FIRST TO THE SECOND?

MOST DESIGN STRATEGIES SEEM TO BEGIN WITH A BRIEF SCANNING OF THE DESIGN PROBLEM AS IT APPEARS. GETTING TO KNOW THE SITE AND DEVELOPING PROPOSALS FOR THE BUILDING'S SITING AND MASSING COULD BE A STARTING POINT. IT CAN BE CONTINUED BY CLEARLY ARTICULATED USING A HIERARCHY OF OPEN SPACES LINKED BY WELL-DEFINED ROUTES TO THE MAIN ENTRANCE. BUT IT CAN BE A TACTIC TO ELEVATE SOME SUB-ELEMENTS OF THE OVERALL PROBLEM TO FORM-GENERATOR. YOU CAN CHOOSE DIFFERENT KINDS OF CONSTRAINTS TO BE USED IN THIS FOCAL ROLE. FOCUSING ON INTERNAL RULES LIKE THE WAY THE BUILDING SHOULD BE ORGANIZED COULD BE ONE, AND THE SITE'S EXTERNAL CONDITIONS COULD BE ANOTHER.

THERE IS NO ONE CORRECT ‚METHOD' OF DESIGNING, NOR ONE ROUTE THROUGH THE PROCESS. BUT YOU CAN ADAPT WAYS IN WHICH YOU CAN CONTROL THE DESIGN THOUGHTS, EITHER CONSCIOUSLY OR NOT, DURING THE DESIGN PROCESS.

3.1 _APPROACHES



IN THE FOCUS: THE ‚PARTI'

GOOD DESIGN OFTEN SEEMS TO HAVE ONLY A FEW CENTRAL DOMINATING IDEAS THAT STRUCTURE THE SCHEME, AND AROUND IT, THE MINOR CONSIDERATIONS ARE ORGANIZED. SOMETIMES THEY CAN BE REDUCED TO ONLY ONE MAIN IDEA, MOST OFTEN CALLED THE ‚CONCEPT' OR ‚PARTI.'

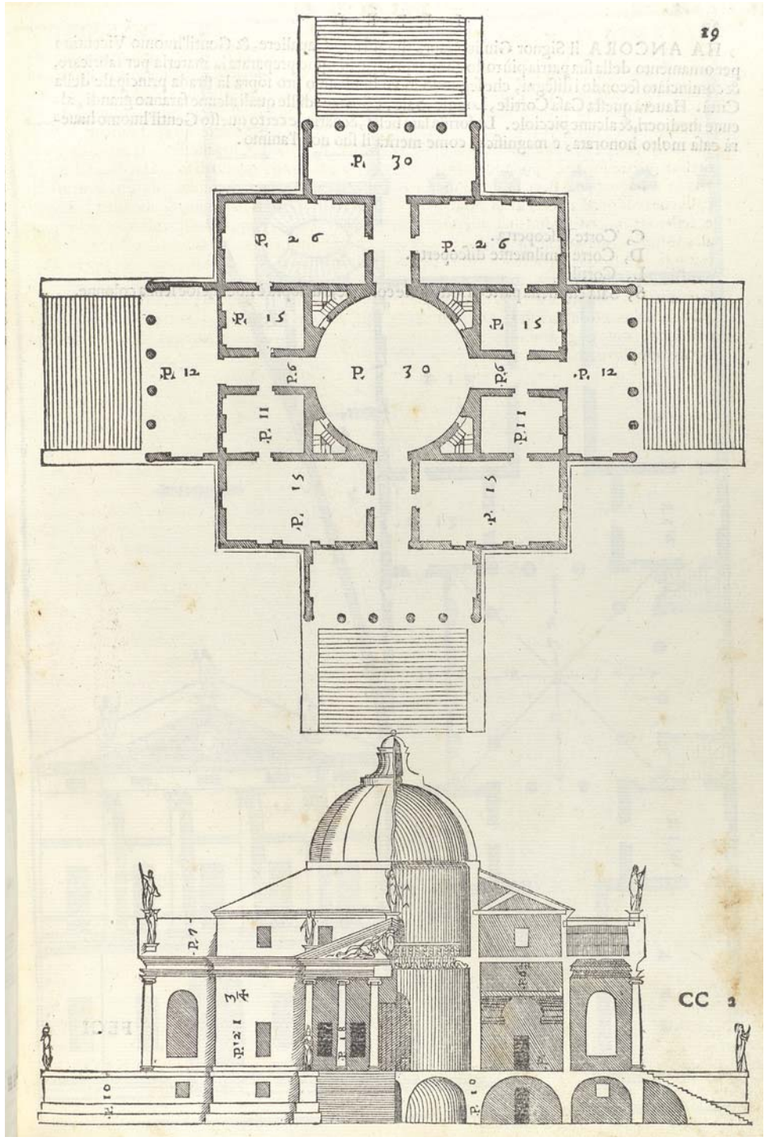
NEW DIRECTIONS

FOR MORE PRODUCTIVE THINKING, IT IS USEFUL TO BE ABLE TO CHANGE THE DIRECTION OF THOUGHT. BEING ABLE TO LOOK AT A PROBLEM FROM A DIFFERENT APPROACH CAN OFTEN YIELD QUITE STARTLING RESULTS.

GRIDS AND MODULES

THE CLASSICAL ARCHITECTURAL STYLES AND CANONIC DESIGN RELY ON RULES SUCH AS PLANNING GRIDS, PROPORTIONING SYSTEMS, ETC.

IN THE ARCHITECTURE HISTORY, RENAISSANCE SUCCESSORS LIKE VITRUVIUS AND ALBERTI OFFERED SUCH AN APPROACH AND LAID DOWN SUCH RULES. IN THE TWENTIETH CENTURY, LE CORBUSIER'S ‚MODULOR' CAN BE SEEN AS AN ATTEMPT TO PRODUCE CANONICAL RULES. MORE RECENTLY, SYSTEM-BUILDING RELYING ON MODULAR COORDINATION AND STANDARD COMPONENTS WAS USING THIS METHOD WITH RATHER DULL RESULTS. BUT YOU CAN CHOOSE DIFFERENT METHODS FOR ARCHITECTURAL APPROACHES.



DESIGN ANALOGIES

FOR EXAMPLE, ANALOGICAL DESIGN RESULTS FROM THE IDEA OF USING ANALOGIES WITH OTHER FIELDS OR CONTEXTS TO CREATE A NEW WAY OF STRUCTURING THE PROBLEM.

THE ANALOGY IS A WIDELY RECOMMENDED GENERIC TECHNIQUE FOR CREATIVE THINKING AND IS A POPULAR DEVICE FOR HELPING THE DESIGNER GENERATE FORM, THAT OF A NARRATIVE.

NARRATIVE DESIGN IS ALSO A METHOD WHERE THE ARCHITECT, OR MORE OFTEN A DESIGN TEAM, TELLS A STORY THAT CAN BE USED TO LINK TOGETHER THE DESIGN'S MAIN FEATURES.

A TYPICAL EXAMPLE FOR THAT IS BIG'S ARCHITECTURAL COMIC BOOK, YES IS MORE, WHERE THEY INTRODUCE THE DESIGN PROCESS IN THE FORM OF COMICS. TO THE OUTSIDER, THIS MAY SEEM A LITTLE CHILDISH OR EVEN QUITE RIDICULOUS. STILL, CONSIDERABLE EVIDENCE SHOWS THAT THIS TECHNIQUE IS QUITE WIDELY USED AND GENUINELY SEEMS TO HELP SOME DESIGNERS.

THE USE OF ANALOGY IN THE DESIGN PROCESS

SCALA TOWER COMPETITION
COPENHAGEN 2007
BJARKE INGELS GROUP

DEVELOPING ALTERNATIVES

THE USE OF AND GENERATING COUNTLESS ALTERNATIVES CAN BE ANOTHER METHOD TO TRY. THIS IS WHAT YOU ARE USUALLY ASKED FOR IN STUDIOS. IN SUCH A PROCESS, BY GENERATING MANY IDEAS, AT LEAST SOME HAVE POSSIBLE ADVANTAGES, RATHER THAN FOCUSING ON ONE IDEA TOO SOON. IN THAT CASE, THE PROCESS QUICKLY BECOMES A MATTER OF ELIMINATING UNWORKABLE OR UNSATISFACTORY IDEAS AND CHOOSING BETWEEN THE REMAINDER, POSSIBLY COMBINING THE BEST FEATURES.

THE DEVELOPMENT OF *ALTERNATIVE IDEAS* BY EXPERIENCED ARCHITECTS MAY OFTEN BE MORE SOPHISTICATED THAN THE SIMPLE GENERATION OF A RANGE OF OPTIONS. THE ALTERNATIVES REPRESENT PARALLEL INVESTIGATIONS AND EXAMINATIONS INTO DIFFERENT ASPECTS OF THE DESIGN. THE DESIGN PROCESS CANNOT JUST PROCEED EITHER FROM SPATIAL CONCEPT TO THE DETAILS OR THE OTHER WAY ROUND; BOTH ARE DEVELOPED IN PARALLEL.

HOWEVER, IT IS NOT JUST A MATTER OF DETAIL OR GENERAL. ARCHITECTS DEVELOP AND SUSTAIN MANY INCOMPLETE AND VAGUE IDEAS ABOUT VARIOUS ASPECTS OF SOLUTIONS. THESE PARALLEL LINES OF THOUGHTS OFTEN REFLECT RELATIVELY CONVENTIONAL THINKING ABOUT THE DESIGN UNDER INVESTIGATION.

YOU MIGHT NOTICE THAT WE TRY TO MOTIVATE YOU NOT TO THINK ABOUT A BUILDING JUST AS A PLAN AND ELEVATION BUT RATHER AS A COLLECTION OF COMPONENTS AND SPATIAL ORGANIZATION. BUT TO BE HONEST, ROBERT VENTURI WAS WORKING RATHER IN THE TWO DIMENSIONAL COMPOSITIONAL WAY, AND LOOKING AT THE RESULT, THERE IS NOT MUCH WRONG WITH THAT.

THERE ARE ALSO SOME OTHER EXTREMES WE KNOW: JAMES STIRLING ONCE STARTED TO PRESENT HIS BUILDINGS BY DRAWING AXONOMETRIC

SHOWING DIFFERENT ALTERNATIVES FOR A COMPETITION
MISSION GRAND AXE 1991
LA DEFENSE, PARIS
O.M.A / REM KOOLHAAS

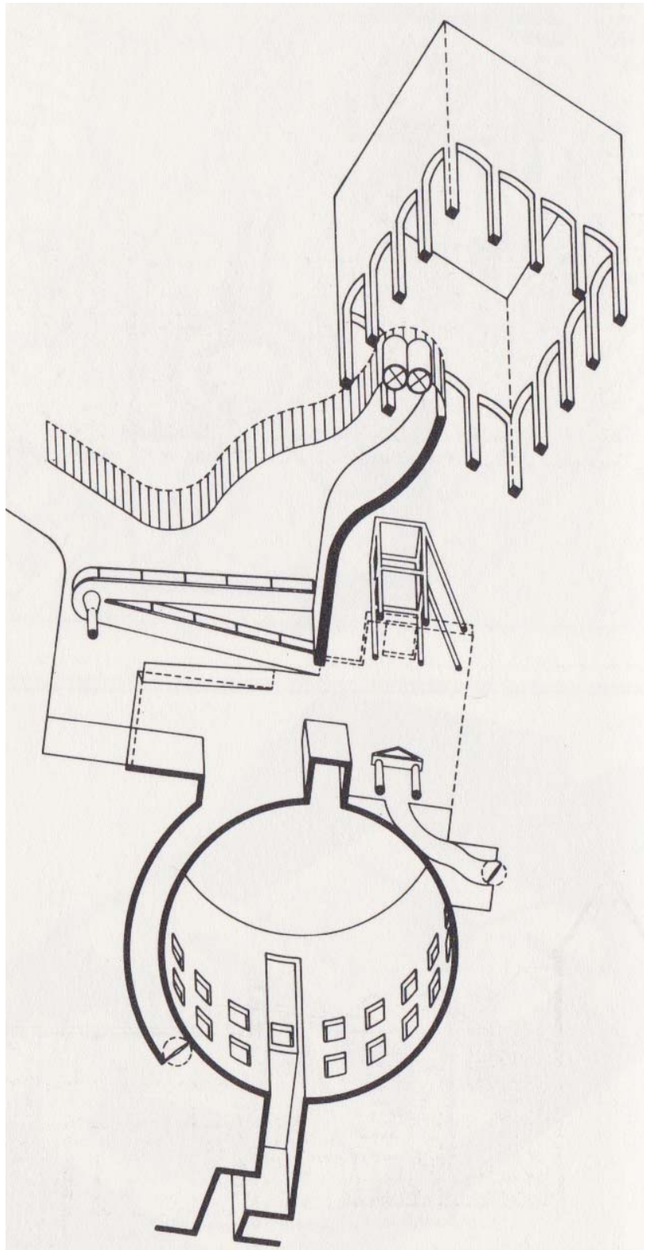
FROM BELOW, LOOKING UP AS A KIND OF ‚WORM'S EYE VIEW' RATHER THAN THE MORE CONVENTIONAL ‚BIRD'S EYE VIEW.' A WHOLE GENERATION OF ARCHITECTURE STUDENTS STARTED TO IMITATE THIS, USING THESE DRAWINGS THROUGHOUT THE DESIGN PROCESS. IN MANY CASES, THEY MADE THEIR DESIGN DECISIONS TO COMPOSING THE DRAWING WELL RATHER THAN THE BUILDING. YOU NEVER SEE BUILDINGS FROM A ‚WORM'S EYE VIEW, AND RARELY FROM THE ‚BIRD'S EYE VIEW.' BUT NEITHER DO YOU EVER SEE BUILDINGS IN PLAN OR SECTION, AND SEEING A TRUE ELEVATION IN ITS ORTHOGONAL SENSE IS ALSO A RARITY.

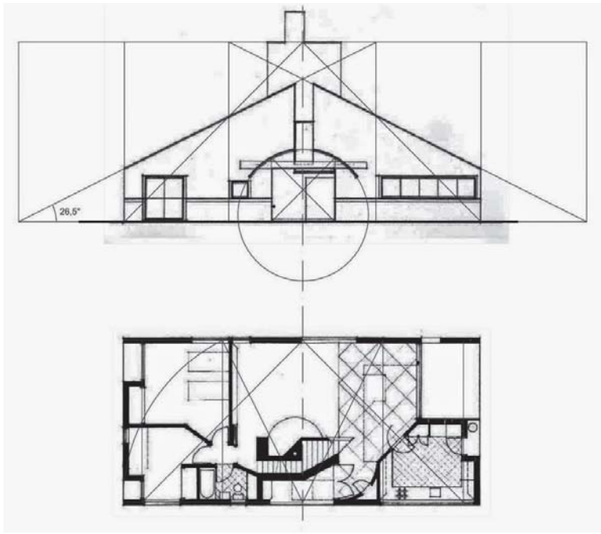
PROBLEMS AND SOLUTIONS

THE FACT IS, NEGOTIATION BETWEEN PROBLEM AND SOLUTION IN DESIGN TURNS OUT TO BE TRICKY TO RESOLVE. THERE IS A TENSION BETWEEN A PROBLEM VIEW AND A SOLUTION VIEW. ARCHITECTS HAVE THE TASK OF NEGOTIATING RECONCILIATION BETWEEN THESE TWO VIEWS OF THE SITUATION THEY ARE DEALING WITH. THIS IS WHAT MAKES DESIGN ACTIVITY NOT ONLY CHALLENGING AND FRUSTRATING BUT ALSO SO SATISFYING AND COMPULSIVE.
GOOD ARCHITECTS TEND TO BE ‚SOLUTION-FOCUSED' RATHER THAN ‚PROBLEM-FOCUSED' IN THEIR APPROACH. THE PROBLEM VIEW IS EXPRESSED GENERALLY IN THE FORM OF NEEDS, DESIRES, WISHES, AND REQUIREMENTS. ON THE OTHER HAND, THE SOLUTION VIEW IS EXPRESSED IN TERMS OF THE PHYSICALITY OF MATERIALS, STRUCTURES, SHAPES, AND COMPONENTS. SINCE THESE TWO VIEWS SHARE NO COMMON LANGUAGE, THIS RECONCILIATION REQUIRES SOME VERY CLEVER MENTAL TRICKS INDEED.

COMPLEXITY IN DESIGN

DESIGNING IS A COMPLEX PHENOMENON; TO DESCRIBE IT BY SIMPLE DIAGRAMS IS OFTEN CHALLENGING. YOU PROBABLY NOTICED THAT THE WORD ‚DESIGN' IS APPLIED TO AN EXTRAORDINARILY WIDE RANGE OF ACTIVITIES. AT ONE POINT, IT IS SOMETHING THAT COULD BE CONSIDERED ‚ENGINEERING,' AND AT ANOTHER POINT, THAT COULD BE CALLED ART. DESIGN IS A HIGHLY PERSONAL AND MULTI-DIMENSIONAL PROCESS, SO A MODEL OF DESIGN THINKING MUST BE ABLE TO ALLOW FOR ALL THIS RICHNESS AND VARIATION.





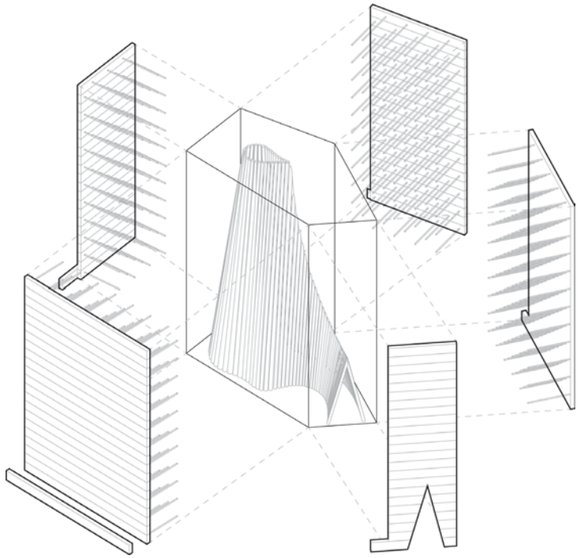
VANNA VENTURI HOUSE
PHILADELPHIA
1962-64
ROBERT VENTURI

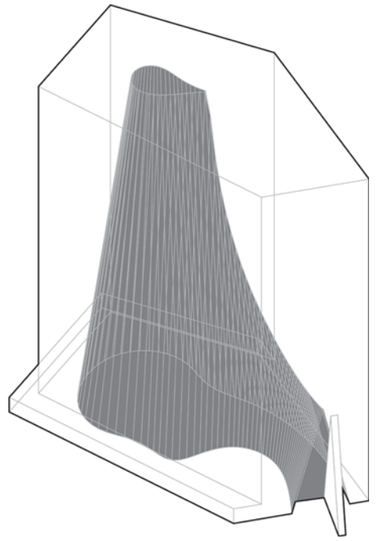
DÜSSELDORF MUSEUM OF ART
1975
JAMES STIRLING

DESIGN SKILLS

LET'S LOOK AT THE GROUPS OF ACTIVITIES AND SKILLS THAT ARE ALL NEEDED FOR SUCCESSFUL DESIGN.
THEY ARE *‚FORMULATING', ‚MOVING', ‚REPRESENTING', ‚EVALUATING' AND ‚REFLECTING'.* THROUGH ALL THESE, YOU CAN FIND A WAY TO AT LEAST AN ADEQUATE UNDERSTANDING OF BOTH THE PROBLEM AND THE SOLUTION AND GIVE THE USERS FUNCTIONING AND OCCASIONALLY BEAUTIFUL AND IMAGINATIVE DESIGNS.

ARCHITECTS MUST BE SKILLED IN FINDING AND STATING PROBLEMS AND IN UNDERSTANDING AND EXPLORING THEM. THIS GROUP OF ACTIVITIES IS BEST CALLED *‚FORMULATING.'* IN THE PROBLEM-SOLVING PART OF THE DESIGN, THESE SKILLS INCLUDE THE ABILITY *TO REFORMULATE AND GIVE STRUCTURE* TO SOMETIMES WICKED PROBLEMS. IT IS AN ESSENTIAL AND CENTRAL DESIGN SKILL TO REFORM PROBLEMS OR IDENTIFY ELEMENTS, MAKING THEM EXPLICIT AND DEVELOPING THEIR CHARACTERISTICS.
PROBLEM AND SOLUTION ARE BETTER SEEN AS TWO ASPECTS OF A DESCRIPTION OF THE DESIGN SITUATION RATHER THAN SEPARATE ENTITIES.
IN DESIGN, ISSUES DO NOT NECESSARILY PRECEDE SOLUTIONS IN THE WAY TYPICALLY EXPECTED IN CONVENTIONAL PROBLEM-SOLVING. SOME DESIGN FIELDS HAVE VERY CLEARLY DEFINED PROBLEMS THAT CAN BE QUITE WELL DESCRIBED AND UNDERSTOOD AT THE BEGINNING OF THE PROCESS. OTHERS MAY CHARACTERISTICALLY HAVE MORE OPEN-ENDED QUESTIONS. THOUGH, THE BRIEFING OF THE SITUATION CAN CONTINUE
THROUGHOUT THE PROCESS RATHER THAN ASSUME IT IS MERELY AN EARLY-STAGE ACT NEVER TO GET BACK TO. IT IS CRUCIAL TO TRACK *PARALLEL LINES OF THOUGHT* ABOUT THE PROBLEM-SOLUTION SITUATION. EACH LINE OF THOUGHT RESPONDS TO A FRAME TO RESTRICT THE PROBLEM'S VIEW AND RELIES ON A PRIMARY GENERATOR TO DEVELOP IDEAS ABOUT THE SOLUTION. THE ABILITY TO THINK ALONG PARALLEL LINES SEEMS TO BE AN ESSENTIAL DESIGN SKILL, AS IT MAINTAINS A SENSE OF AMBIGUITY AND PREVENTS GETTING TOO CONCERNED ABOUT A SINGLE ANSWER TOO QUICKLY. THE QUICK, SEEMINGLY EXPLICIT ANSWERS MIGHT





TO DESIGN BUILDINGS WITH A SENSUOUS CONNECTION TO LIFE, ONE MUST THINK IN A WAY THAT GOES FAR BEYOND FORM AND CONSTRUCTION. THIS CONCEPT RINGS TRUE IN THE DESIGN OF PETER ZUMTHOR TO THE BRUDER KLAUS FIELD CHAPEL, WHERE A VERY RIGID RECTANGULAR OUTER MASKS A MYSTICAL AND INTIMATE INTERIOR THAT INVITES REFLECTION.
ON A SUNNY DAY, THE OCULUS RESEMBLES A STAR'S ERUPTION, A FACT THAT REFERS TO A VISION OF BROTHER KLAUS IN UTERO. THE FEELINGS EVOKED BY THE CHAPEL MAKE IT ONE OF THE MOST REMARKABLE RELIGIOUS ARCHITECTURE PIECES TO DATE. WITH ITS CHARRED CONCRETE WALLS AND CAST METAL FLOORS, THE SEEMINGLY UNINVITING CHAPEL EVOLVED INTO A STYLISH REFERENCE POINT IN GERMANY'S NATURAL LANDSCAPE.

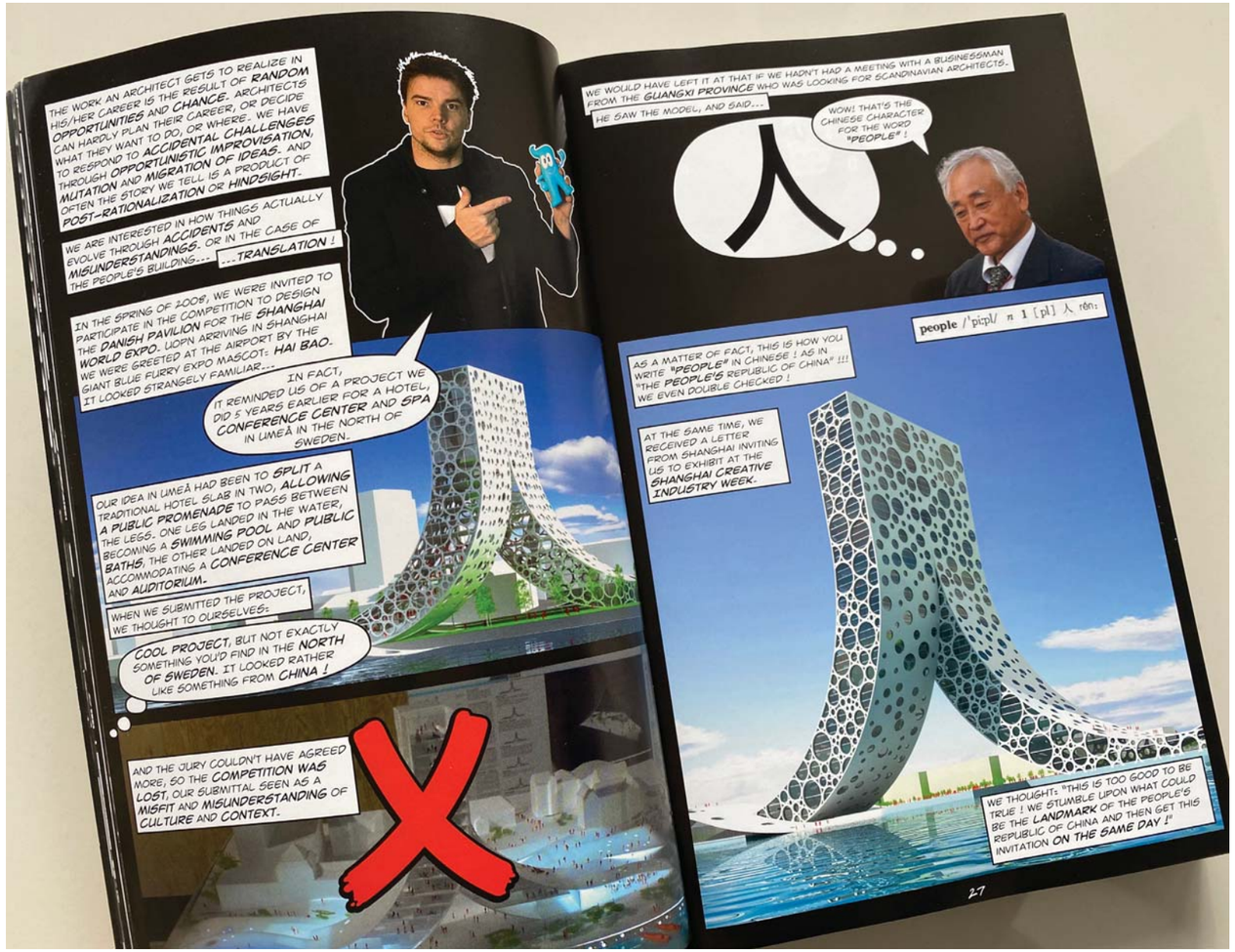
PETER ZUMTHOR: BRUDER KLAUS FIELD CHAPEL / 2007 / GERMANY

THE OCULUS AND CHARRED INTERIOR /

LACK THE MULTILAYERED PROFOUNDNESS.
‚MOVING' IN DESIGN MEANS SELECTIVELY VIEWING THE SITUATION IN A PARTICULAR WAY FOR A PERIOD OR PHASE OF ACTIVITY. THIS SELECTIVE FOCUS ENABLES THE DESIGN TO HANDLE THE COMPLEXITY AND THE INEVITABLE CONTRADICTIONS BY GIVING STRUCTURE AND DIRECTION TO THINKING WHILE TEMPORARILY SOLVING SOME ISSUES. THE SKILL TO CREATE AND MANIPULATE FRAMES IS A CENTRAL ONE IN DETERMINING HOW THE PROCESS WILL UNFOLD. CREATING SOLUTION IDEAS MIGHT BE A FIRST STEP IN THE DESIGN PHASE, AND THEN A MOVE MAY ALTER OR DEVELOP THE EXISTING STATE OF THE SOLUTION. WE HAVE SEVERAL OPTIONS IN THE DESIGN PROCESS. AN IDEA MAY BE ENTIRELY NOVEL IN ALL OF HISTORY. SUCH EVENTS ARE RELATIVELY RARE IN OUR DEVELOPED AND SOPHISTICATED WORLD. IT MIGHT BE ENTIRELY NOVEL AS FAR AS THE ARCHITECT OR DESIGN TEAM IS CONCERNED. IT IS MORE COMMON THAN THE PREVIOUS, BUT IT WILL CHANGE WITH THE MORE YOU SEE AND EXPERIENCE. IT MIGHT BE ENTIRELY NOVEL AS FAR AS THAT PARTICULAR DESIGN PROCESS IS CONCERNED, WHICH IS QUITE USUAL, AS YOU MIGHT DEVELOP IDEAS BASED ON WHAT YOU HAVE SEEN.

DESIGN SITUATIONS NEED TO BE REPRESENTED OR DOCUMENTED IN ORDER TO WORK TOWARDS: YOU HAVE TO DRAW, WRITE, MODEL, MAKE, AND COMPUTE REPRESENTATIONS OF THE INCOMPLETE OR SOMETIMES FRAGMENTED IDEAS FOR THE DESIGN. THE ABILITY TO EXECUTE THESE *REPRESENTATIONS* AND MANAGE THEM IS ONE OF THE CENTRAL SKILLS IN DESIGNING. AN ARCHITECT WHO CANNOT SKETCH IS LIKELY NOT GOING TO BE ABLE TO DIVERT THE SITUATION FREELY. DRAWINGS ARE UNDOUBTEDLY THE MOST PROMINENT AND ESSENTIAL OF ALL THE FORMS OF REPRESENTATION. THE GRAPHICS CAN HAVE SEVERAL TYPES, INCLUDING MOST CRUCIALLY DESIGN DRAWINGS, DIAGRAMS, VISIONARY DRAWINGS, COMPUTER MODELS, TEXTUAL DESCRIPTIONS, PHYSICAL MODELS, ETC.

NOT ONLY DO DESIGNERS GENERATE ALTERNATIVES BETWEEN WHICH CHOICES MUST BE MADE BUT ALSO THEY MUST KNOW, RATHER LIKE AN ARTIST, WHEN TO STOP. THIS REQUIRES SKILLS ENABLING THE *EVALUATION* OF THE DEVELOPED SOLUTION, AND *REFLACTING* ON IT IN A CANDID MANNER.



BJARKE INGELS
REFLECTING ON THE TRANSFORMATION OF A DESIGN CONCEPT IN HIS BOOK YES IS MORE *ABOUT THE PEOPLE'S BUILDING IN SHANGHAI*

3.2 _PRIMARY ELEMENTS IN ARCHITECTURE

THE PRIMARY ELEMENTS OF ARCHITECTURE ARE THE CONDITIONS WITHIN WHICH IT OPERATES. PRINCIPALLY THESE ARE THE *GROUND*, WHICH IS THE REFERENCE PLANE TO WHICH MOST ARCHITECTURAL PRODUCTS RELATE; *THE SPACE ABOVE THAT; GRAVITY; LIGHT; AND TIME.*

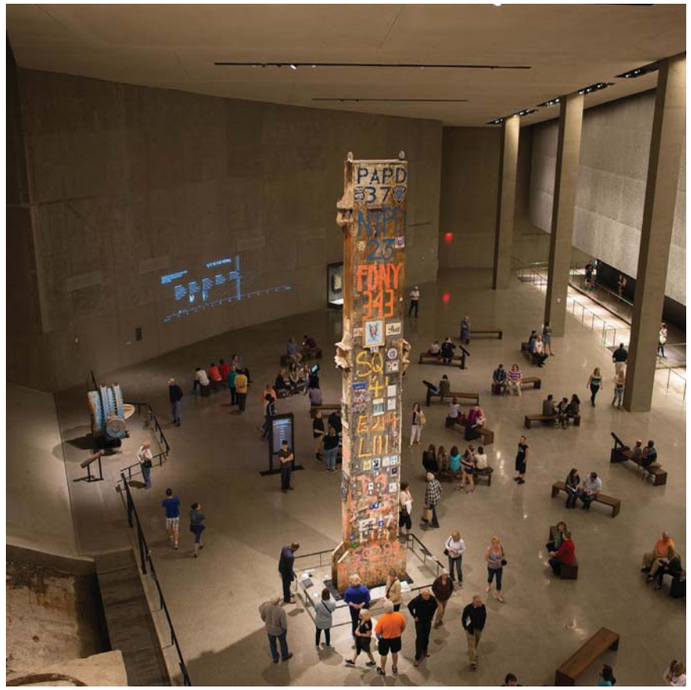
TO DEVELOP AS AN ARCHITECT, YOU NEED TO BECOME AWARE OF THE POWERS OF ARCHITECTURAL ELEMENTS.

THE *LEVELED AREA OF GROUND* HAS THE ABILITY TO *ESTABLISH A PLACE* FOR A CEREMONY OR PERFORMANCE.

THE DEFINITION OF AN AREA OF GROUND IS FUNDAMENTAL TO IDENTIFYING MOST TYPES OF PLACES. IT CAN BE A CLEARING IN THE FOREST, OR A PITCH LAID OUT FOR A FOOTBALL GAME. IT NEED NOT BE RECTANGULAR, NOR HAVE A PRECISE BOUNDARY. BUT IT DEFINITELY ALWAYS HAS A CENTER.
DRAWING A CIRCLE ON THE GROUND CAN BE A POLITICAL AND PROVOCATIVE ACT, AS GIVING FORM TO SPACE FOR HUMAN OCCUPATION ALWAYS IS: THE WAY TO WITNESS AND SEE THE POSSIBILITIES OF MANIPULATING SOME OF THE POWERS OF ARCHITECTURE.

THE CENTER HAS A UNIQUE, ASSERTIVE PRESENCE WITH A PRIVILEGED LOCATION; THERE IS ONLY ONE AGAINST ANY NUMBER OF LOCATIONS THAT ARE NOT THE CENTER. THE CENTER OF SPACE POSSESSES *AUTHORITY*.

THE POWER OF THE LEVELED GROUND
THE CIRCLE AND ITS CENTER
THE SERPENTINE PAVILION 2012
LONDON
HERZOG & DE MEURON, AI WEIWEI



THE POWER OF THE LEVELED GROUND AND CENTERED SPACE
NATIONAL SEPTEMBER 11MEMORIAL & MUSEUM
NEW YORK
2011
MICHAEL ARAD OF HANDEL ARCHITECTS
PETER WALKER AND PARTNERS
DAVIS BRODY BOND

THE WALL HAS THE POWER TO *SEPARATE* ONE PLACE FROM ANOTHER.

A ROOF CAN *SHELTER* OR SHADE.

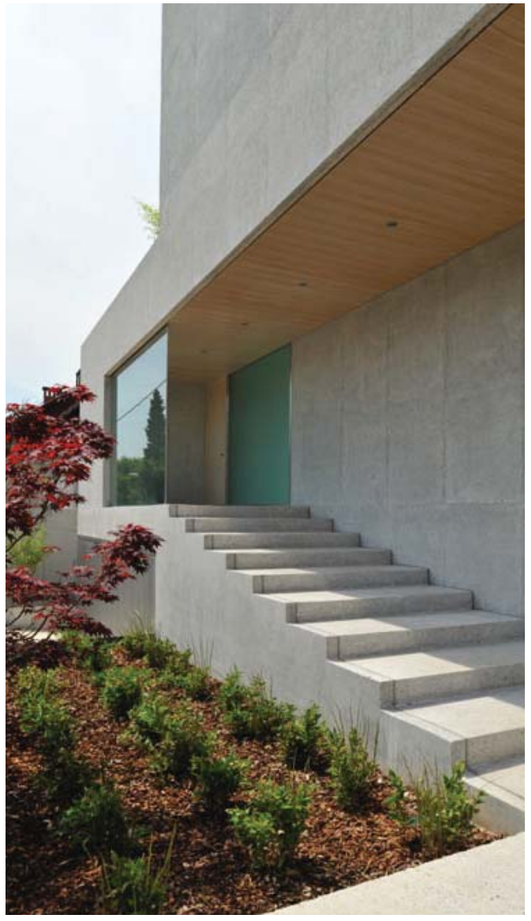
A *DOORWAY* IS ABLE TO ***ALLOW ACCESS***.

PEOPLE'S RESPONSE TO AND RELATIONSHIP WITH THE LANDSCAPE HAS BEEN PART OF ARCHITECTURE SINCE ANCIENT TIMES.
A PERSONAL MAP OF SENSE ON THE BARE PHYSICAL ENVIRONMENT IS IMPORTANT AS IT IS A SIGNIFICANT MANIFESTATION OF ARCHITECTURE THAT DERIVES FROM OUR EXISTENTIAL NEED TO IDENTIFY THE PLACE.
IMAGINING IDEAS IN REAL SETTINGS IS ESSENTIAL TO DOING ARCHITECTURE.

ARCHITECTURE BEGINS WITH THE OCCUPATION. YOU IDENTIFY A PLACE JUST BY BEING THERE.
PLACE-MAKING IN THE LANDSCAPE IS OFTEN DESCRIBED AND DISCUSSED IN TERMS OF *SHELTER AND SURVIVAL.*

ARCHITECTURE CAN *MODIFY* FOUND PLACES AND CHANGE THE WORLD TO ACCOMMODATE LIFE, ACTIVITIES, RESPONDING TO HUMAN NEEDS, AND COUNTERING THREATS (WIND, RAIN, PREDATORS, ENEMIES).

FRAMING THE PLACE IS FUNDAMENTAL TO ARCHITECTURE. THE *FRAME* CAN BE CIRCLE DRAWN THE SAND OR THE WALLS OF A BUILDING. IT WILL MEDIATE BETWEEN CONTENT - OCCUPANTS AND THEIR ACTIVITIES - AND CONTEXT - THE GREAT OUTSIDE.
IT ESTABLISHES A BOUNDARY, DEFINING A *THRESHOLD* AS AN INTERFACE WHERE YOU PASS FROM OUTSIDE TO INSIDE AND BACK. WITH ITS EMOTIONAL CHARACTER, THE THRESHOLD IS COMPARATIVELY POWERFUL ARCHITECTURALLY, AS THE CENTER.



THE POWER OF TRESHOLD/TRANSITIONAL SPACE
CREATING AN EMPHASIZED ENTRY SITUATION
HOUSE D
2008
LJUBLJANA
BEVK PEROVIC

FINDING AND DEFINING A SPACE IN THE LANDSCAPE
WITH THE ROOF AS SHELTER
SERPENTINE PAVILION 2019
LONDON
JUNYA ISHIGAMI

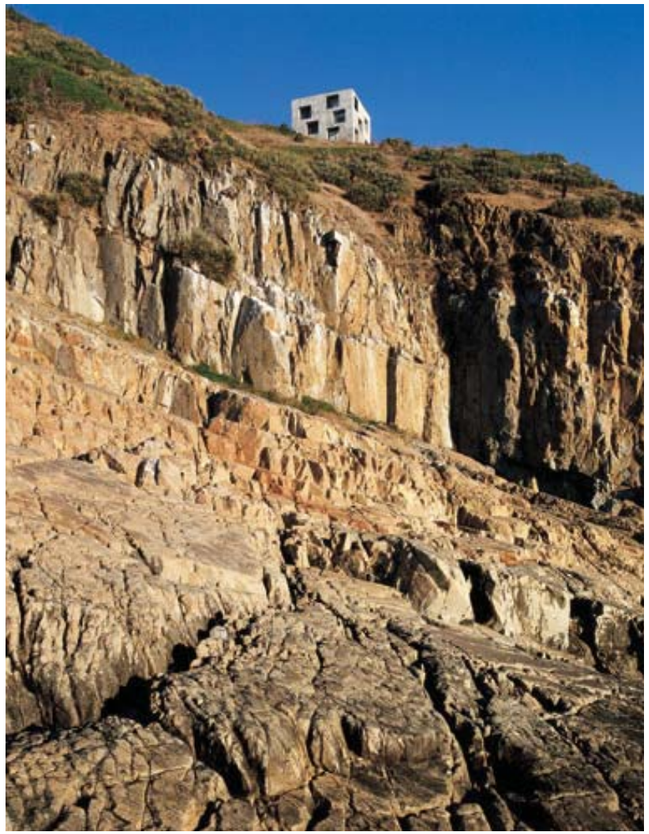
3.3 _GEOMETRY IN ARCHITECTURE

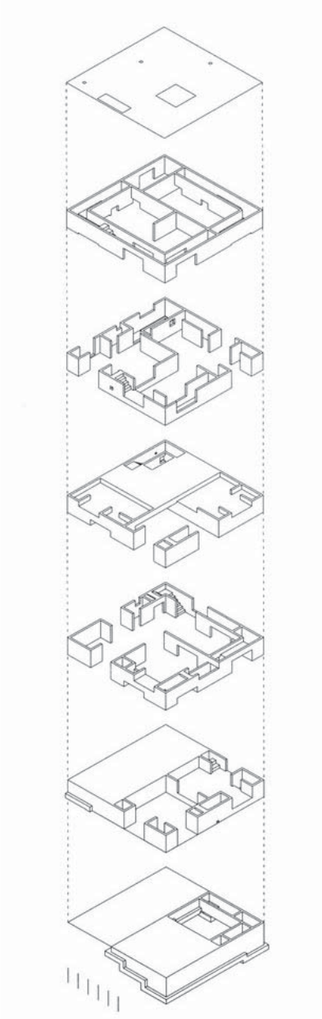
ARCHITECTURE IS FUNDAMENTALLY **GEOMETRIC.** IT INVOLVES GIVING FORM TO PARTS OF THE PHYSICAL WORLD WE LIVE IN, MAKING PLACES TO FIT OURSELVES AND OUR ACTIVITIES. GEOMETRY CONDITIONS THE WAY HOW WE BUILD. THROUGH GEOMETRY, WE STRIVE FOR THE PERFECT FORM AND TO SIMULATE NATURE.

SOME OF THE DIFFICULTY IN LEARNING HOW TO DO ARCHITECTURE DERIVES FROM THE FACT THAT IT INVOLVES SEVERAL DIFFERENT KINDS OF GEOMETRY. WHAT IS MORE CONFUSING, THESE DIFFERENT GEOMETRIES DO NOT ALWAYS AGREE WITH EACH OTHER.
HOW CONSCIOUS YOU ARE OF THEM, THEIR PRIORITY, AND HOW HARD YOU TRY TO RESOLVE CONFLICTS CAN STILL BE THERE.

GEOMETRIES RELATE TO DIFFERENT ASPECTS OF ARCHITECTURE - PLACE-MAKING, THE PERSON, THE WORLD, ACCOMMODATING SOCIAL GATHERINGS, ASSEMBLING BUILDING COMPONENTS, SCULPTURAL FORM, ETC. - THEY EACH PRESENT VARIOUS ISSUES. THE DIFFERENT GEOMETRIES GENERATE DIFFERENT ARCHITECTURE BASED ON THEIR RELATIVE CLAIMS TO PRIORITY.

DECISIONS CAN BE MADE ABOUT THEM BASED ON PRACTICAL, AESTHETIC, MORAL APPROACHES. WHETHER TRYING TO HARMONIZE THEM, OR TO FIND COMPROMISES BETWEEN THEM, RECONCILE THEM, OR EXPLOIT THEIR CONFLICTS, IS BASED ON HOW CONSCIOUS THE DIFFERENT KINDS OF GEOMETRY ARE TREATED.





STRIVING FOR IDEAL GEOMETRY
CASA POLI 2005
CHILE
PEZO VON ELLRICHSHAUSEN

WE CAN SEE THAT ARCHITECTURE CAN INVOLVE VARIOUS KINDS OF GEOMETRY, SOME OF WHICH EMERGE FROM HOW THE WORLD WORKS AND SOME THAT ARE BROUGHT FROM MATHEMATICS.

SOME GEOMETRIES ORIGINATE IN THE WORLD AND OUR EXISTENCE IN IT - GEOMETRIES OF BEING - AND THERE ARE THOSE WE TRY TO IMPOSE UPON THE WORLD - IDEAL GEOMETRY.
THE FORMER INCLUDES THE GEOMETRY OF OUR OWN BODY AND THAT BY WHICH WE INTERPRET OUR WORLD AND THE GEOMETRY THAT CONDITIONS HOW WE BUILD THINGS.
THE LATTER CONTAINS GEOMETRIES WE CONSTRUCT MATHEMATICALLY AND MECHANICALLY, BY RULER AND COMPASSES OR BY COMPUTERS.

SOME PEOPLE HAVE MADE A MORAL AND AESTHETIC CASE OF FOLLOWING THE GEOMETRIES' AUTHORITY IN DOING ARCHITECTURE.
IN ARCHITECTURE, THESE DIFFERENT SORTS OF GEOMETRY COMPETE FOR PREFERENCE.

THE GEOMETRIES INCLUDE:
- THE CIRCLE OF PLACE WITH ITS CENTER;
- THE GEOMETRY OF THE WORLD WITH ITS FOUR HORIZONTAL AND TWO VERTICAL DIRECTIONS;
-THE GEOMETRY OF THE PERSON (AS A WHOLE, WITH ITS FOUR DIRECTIONS);
- THE AXIS GENERATED BY A DOORWAY;
- THE GEOMETRY OF ALIGNMENT ;
- ANTHROPOMETRY (THE GEOMETRY OF THE PARTS AND MOBILITY OF THE PERSON);
- SOCIAL GEOMETRY (THE GEOMETRY OF PEOPLE TOGETHER);
- AND THE GEOMETRY OF MAKING (RELATING TO THE DIMENSIONS OF BUILDING COMPONENTS AND CONSISTENT FORCE OF GRAVITY).

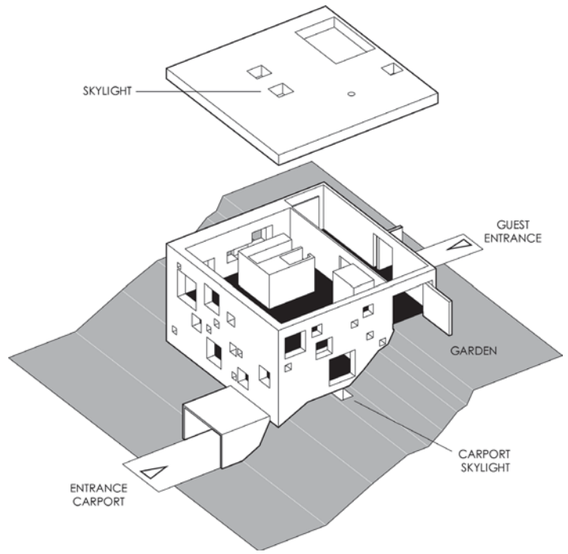
WHEN WE ANALYZE A WORK OF ARCHITECTURE, WE SEE THAT THESE GEOMETRIES OVERLAP AND RUB UP AGAINST EACH OTHER, SOMETIMES CONFLICTING, SOMETIMES RESONATING, SOMETIMES APPEARING TO EXIST IN SEPARATE REALMS. IT IS RARE TO BE ABLE TO GET ALL VARIOUS GEOMETRIES TO WORK HARMONIOUSLY TOGETHER. A WORK OF ARCHITECTURE MANIFESTS THE ARCHITECT'S PREFERENCES AND CHOICES TO PRIORITIZE THESE TYPES OF GEOMETRY.

THE RECTANGULAR CEILING PLANES, THE RECTANGULAR ROOMS, AND THE FRAMED WINDOWS AND VIEWS, AS IN THE DESIGN OF THE FÜLLINSDORF HOUSE BY WESPI DEMEURON(CH), IS GOVERNED BY THE GEOMETRY OF MAKING BROUGHT TO A HIGH LEVEL OF DISCIPLINE AND PERFECTION. SOME ELEMENTS ARE ALLOWED TO RETAIN THEIR IRREGULAR NATURAL GRAIN AND TEXTURE COUNTERPOINTING TO THE STRICT GEOMETRY. ON THE FACADE, OPENINGS ARE PLACED SEEMINGLY RANDOMLY. THE RESULT IS AN INTRIGUING INTERPLAY BETWEEN RAW MATERIALS AND THE RECTANGULAR, THE GEOMETRY OF MAKING.
IT IS USUAL TO DRAW UPPER FLOOR PLANS DIRECTLY ABOVE LOWER FLOOR PLANS TO BE READ INTUITIVELY SO THAT THE WEIGHT OF UPSTAIRS WALLS SHOULD BE TAKEN DOWN TO THE GROUND THROUGH CORRESPONDING WALLS BENEATH.
IN SOME HOUSE PLANS, THE UPPER FLOOR PLAN IS NOT PRECISELY CONGRUENT WITH THE LOWER. AT THAT POINT, A BRICK WALL UPSTAIRS HAS NO WALL BELOW, SO IT HAS TO BE SUPPORTED BY A BEAM.

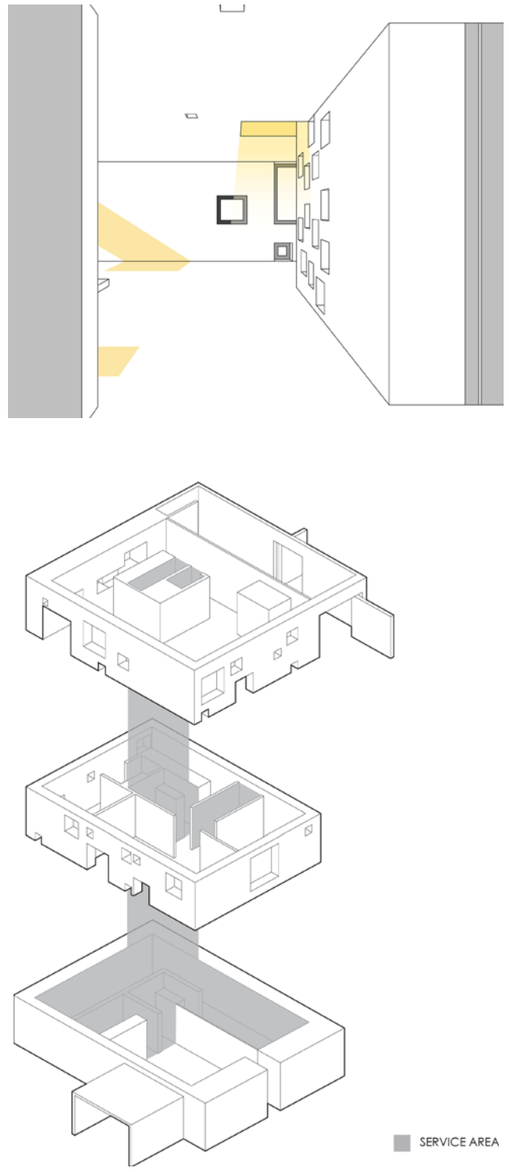
SOME BUILDINGS MANIFEST DISREGARD FOR THE GEOMETRY OF MAKING.

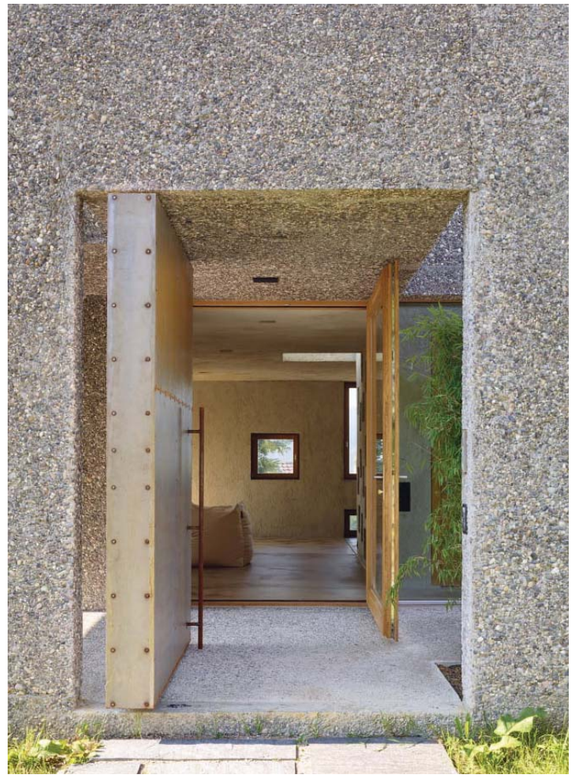
IN THE RIBBON CHAPEL (J) CASE, HIROSHI NAKAMURA AND NAP ARCHITECTS REFUSED TO ACCEPT THAT THE TRADITIONAL CONSTRUCTION GEOMETRY MIGHT DEFINE THEIR DESIGN. THE GEOMETRY OF MAKING IS NOT CONSIDERED AS A CONDITION TO BE FOLLOWED.
A POETIC INTERPLAY BETWEEN REGULARITY AND NATURAL FORM, THE INGENUITY WAS ACHIEVED BY JOINING TWO SPIRAL STAIRWAYS TO SUPPORT ONE ANOTHER, RESULTING IN A FREE-STANDING STRUCTURE.
ADHERING TO THE APPARENT AUTHORITY OF THE GEOMETRY OF MAKING IS CHEAPER, EASIER, PERHAPS MORE SENSIBLE. IGNORING IT IN FAVOR OF OTHER SHAPES IS EXPENSIVE, DIFFICULT, AND MIGHT BE RISKY.

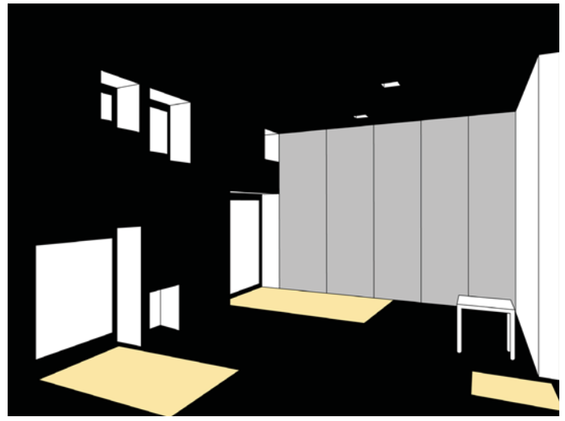
IGNORING THE GEOMETRY OF MAKING CAN BE ATTRACTIVE; IT CAN PRODUCE SENSATIONAL RESULTS THAT CHALLENGE THE SPECTATOR'S SENSE. AND SOME CLIENTS WANT SENSATION RATHER THAN SENSE, AS THEY NEED AWE AND ATTENTION.



CONCRETE HOUSE IN FÜLLINSDORF
SWITZERLAND 2015
WESPI DE MEURON ROMEO ARCHITECTS







RIBBON CHAPEL
JAPAN 2013
HIROSHI NAKAMURA & NAP

THESE ATTITUDES CONTRIBUTE TO THE PROMISCUITY OF ARCHITECTURAL FORM. THE RIBBON CHAPEL IS SENSATIONAL; IT DRAWS ATTENTION WITHOUT BRAGGING. THE ATTENTION IS NOT DRAWN AWAY FROM THE PERSON AS AN INGREDIENT OF ARCHITECTURE.

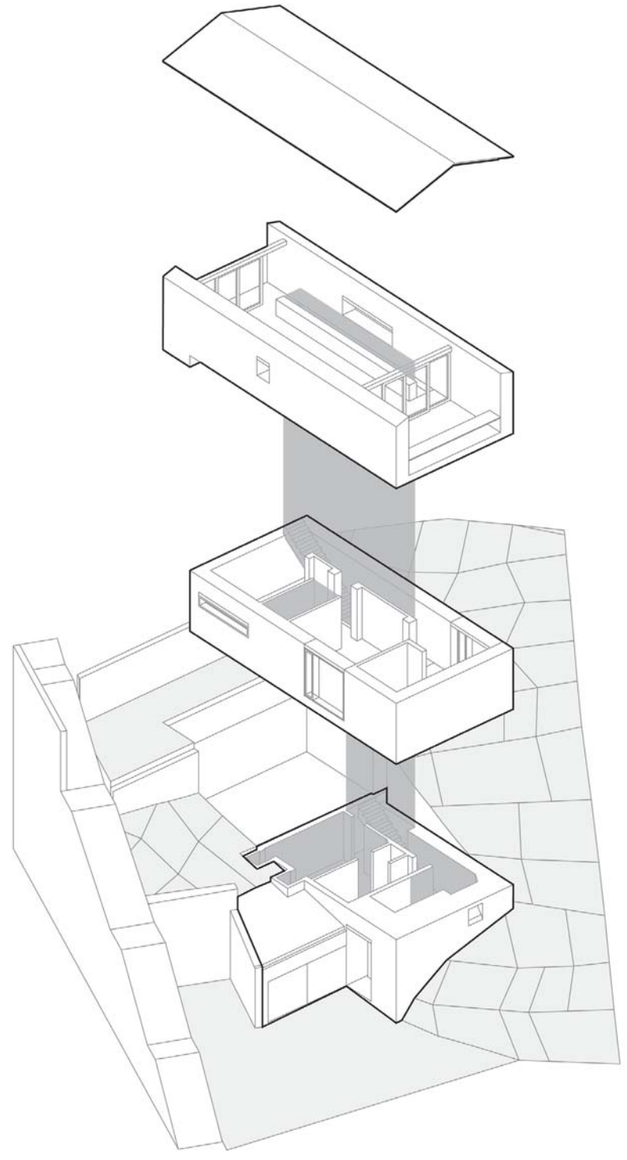
FOR EXAMPLE, FRANK O. GEHRY, THE GUGGENHEIM MUSEUM'S ARCHITECT IN BILBAO (ES), IS NOT ACTING AS A SERVANT OR PHILOSOPHER, MAKING A CONSIDERATE FRAME (PHYSICAL AND ABSTRACT) TO ACCOMMODATE THE PERSON. HE ACTS AS A SHOWMAN, MAKING A SHOW TO IMPRESS, RATHER THAN FOCUSING ON THE PERSON OR ART THE BUILDING INCORPORATES. THE PERSON IS NOT THE MAIN INGREDIENT OF ARCHITECTURE, JUST A SPECTATOR. BUT THE BILBAO EFFECT BECAME A SUCCESS: THE GLITTERING TITANIUM MUSEUM HAS A WOW FACTOR THAT CITIES AROUND THE GLOBE ARE ASPIRING TO COPY.

THE GEOMETRY OF MAKING, ON THE CONTRARY, INFLUENCES THE SHAPES OF ROOMS AND SPACES. IT SUGGESTS THAT ROOMS ARE RECTANGULAR WITH PARALLEL OPPOSITE WALLS TO MAKE THEM EASIER TO BUILD.

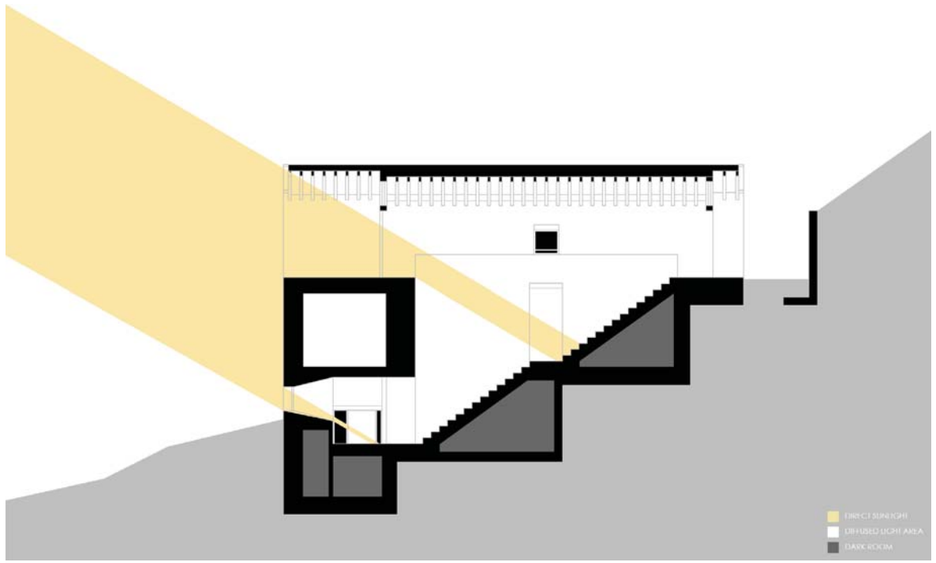
STANDARD RECTANGULAR BRICKS BUILD MOST EASILY INTO FLAT, VERTICAL, RECTANGULAR WALLS RUNNING IN REGULAR HORIZONTAL LAYERS. THEY ALSO FIT RIGHT-ANGLED CORNERS.
TOGETHER WITH THE EASE OF MAKING FLOORS AND ROOFS BY SPANNING REGULAR-SIZED BEAMS BETWEEN PARALLEL WALLS, THE GEOMETRY OF MAKING PREDISPOSES THE ARCHITECT WHO WANTS TO MAKE LIFE EASY TO MAKE ROOMS RECTANGULAR.

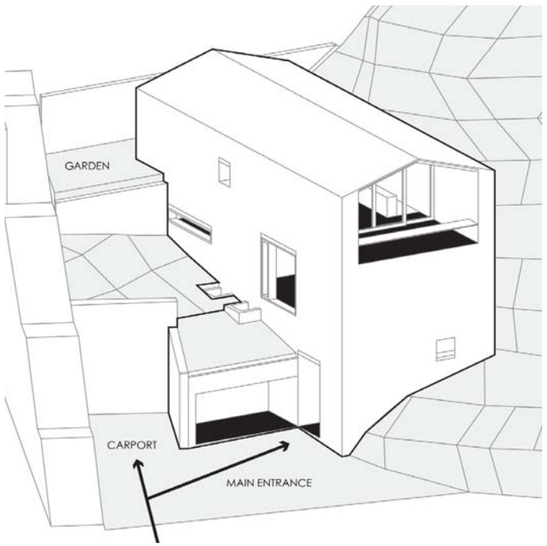
IT IS EASIER TO BUILD ROOMS NEXT TO EACH OTHER, SHARING PARTITION WALLS IF THEY ARE RECTANGULAR. IT IS EASIER TO COMBINE ROOMS AND SPACES IF THOSE ROOMS AND SPACES ARE RECTANGULAR RATHER THAN IRREGULAR.

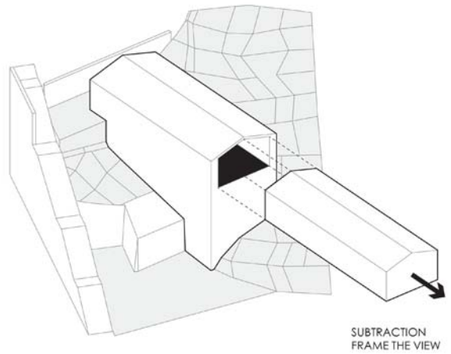
THOUGH IT DOES NOT NECESSARILY MEAN IT IS ALWAYS THE MOST PRACTICAL, MOST INTERESTING, MOST POETIC RESPONSE TO A GIVEN PROGRAM. BUT IT IS EASIER TO PLAN HOUSES WITH MANY ROOMS IF THOSE ROOMS ARE RECTANGULAR, AS CIRCLES DO NOT TESSELLATE WELL.

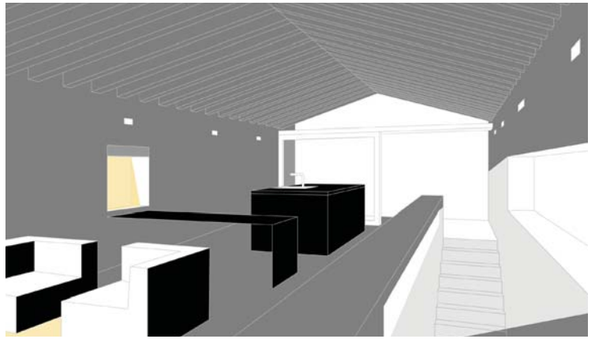


« *THE GEOMETRY OF MAKING*
BRICK HOUSE
2003
MORCOTE (CH)
WESPI DE MEURON ROMEO
ARCHITECTS »









THE GEOMETRY OF MAKING
BRICK HOUSE
2003 MORCOTE (CH)
WESPI DE MEURON ROMEO ARCHITECTS

CIRCULAR HOUSES CANNOT SHARE WALLS EASILY, AND REDUNDANT GAPS DEVELOP. BEES SOLVE THE PROBLEM BY MORPHING CIRCLES INTO HEXAGONS, AND THEY ACCESS THEIR CELLS THROUGH THE ROOF, AND HEXAGONS ARE NOT EASY TO BUILD AND COVER.
FOR THE REASONS ABOVE, IT MIGHT BE SAID THAT THE RECTANGLE IS THE NORM IN PLANNING BUILDINGS; IT IS, IN EFFECT, THE ‚DEFAULT SETTING' FOR ARCHITECTURE.

THE SPHERE IS AN IDEAL GEOMETRIC FORM, A PLATONIC SOLID, AND AN ATTRACTIVE PROPOSITION FOR ARCHITECTURAL FORM REALIZATION. BUT SPHERES ALSO PRESENT EXTREME CHALLENGES REGARDING THE ENTRY SITUATION.

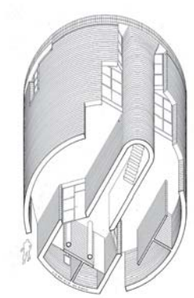
IT IS WORTH TAKING A LOOK AT MARIO BOTTA'S SPHERE SHAPED BUILDINGS, AS THE SANTA MARIA DEGLI ANGELI CHAPEL WITH ITS SLOTTED OPENINGS, OR THE CASA ROTONDA IN STABIO, WHERE DISTINCT SUBTRACTIONS SHOW THE WAY IN, JUST AS IN CASE OF TEATRO DELL' ARCHITETTURA. THE CHAPEL AND THE HOUSE ALSO REPRESENT A STRONG SYMMETRY.

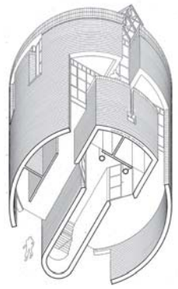
DEVIATING FROM THIS DEFAULT SETTING IS ONE OF THE GREAT THEMES OF ARCHITECTURE. THERE ARE VARIOUS WAYS AND REASONS FOR MODIFYING THE RECTANGULAR.

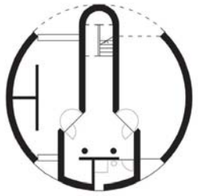
‚RESPONSIVE' REASONS FOR CHANGING THE RECTANGULAR ARE THOSE THAT DERIVE FROM RESPONDING TO SPECIFIC CONDITIONS.

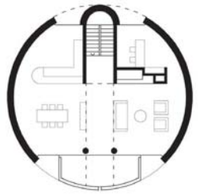
WILLFUL REASONS ARE THOSE THAT DERIVE FROM THE ARCHITECT'S DESIRE TO PRESENT AN EXTRAVAGANT PROJECT. IT IS NOT ALWAYS EASY TO UNRAVEL ONE FROM THE OTHER. IT IS A VERY INDIVIDUAL APPROACH OF THE ARCHITECT TO THE WORLD IN WHICH HE/SHE INTERVENES. THE ACTS OF THE RESPONSIVE AND THE WILLFUL ACTS HAVE AFFECTED ARCHITECTURE THROUGH ALL HISTORY.

THE DISTORTED GEOMETRIES OF MAKING AND PLANNING RELATE MAINLY TO THE SURROUNDING SPACES, THE SITE, THE SUN, AND THE VIEWS.







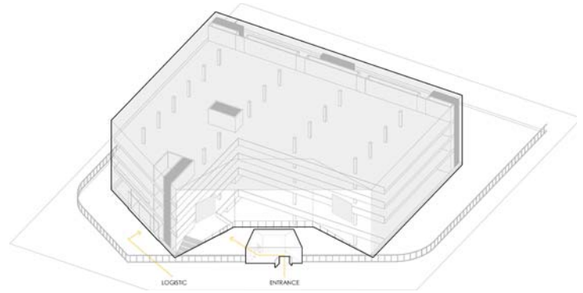


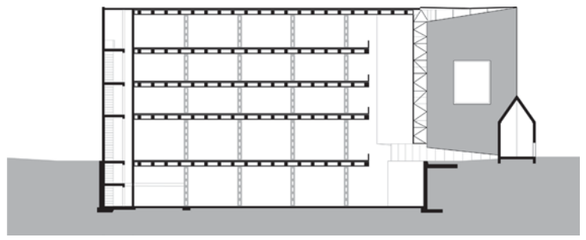
CASA ROTONDA
STABIO (CH) 1981
MARIO BOTTA

THE GEOMETRY OF **SCHAULAGER IN BASEL (CH)** IS BROKEN TO RESPOND TO THE LINE OF APPROACH AND TO AVOID THE SENSE OF A FORMAL AXIAL ENTRANCE. THE DESIGN OF **HERZOG DE MEURON** IS PARTLY A RESPONSE TO THE WEDGE-SHAPED SITE TOO.
RATHER THAN GIVING THE IRREGULAR SPACE AN AXIS AND SYMMETRY, IT IS ORDERED AND ORGANIZED WITH A HIGHLIGHTED SUBTRACTION OF THE VOLUME COMPLEMENTED WITH AN ARCHETYPAL HOUSE-SHAPED ENTRY ZONE.
IN COUNTERPOINT WITH THE IRREGULARITY OF THE SITE, THIS PRODUCES DIFFERENT SPACES. THE DESIGN IS AN EXERCISE IN THE INTERPLAY OF REGULARITY AND IRREGULARITY.

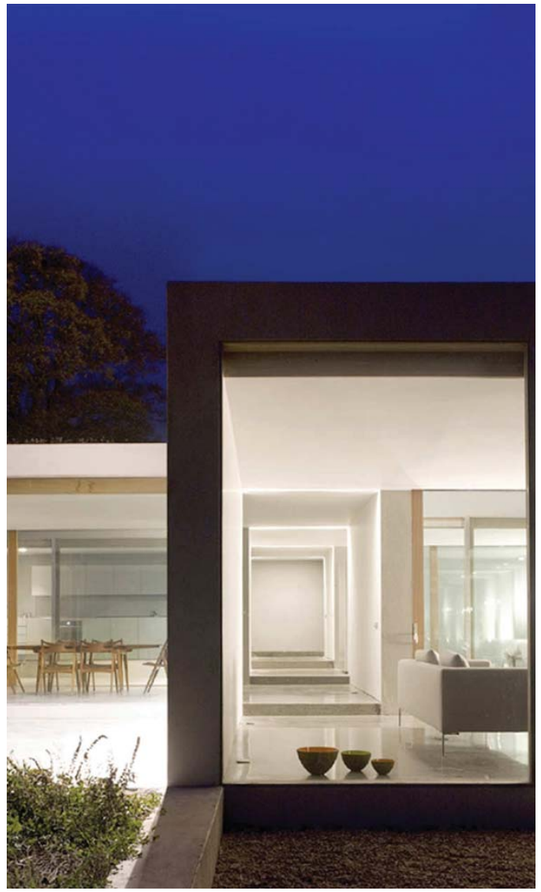
WHEN WE LOOK AT THE DESIGN, IT IS EITHER A RESPONSE TO (IRREGULAR) CONDITIONS OR AN AIM TO AFFECT THE PERSON'S EXPERIENCE.
IN SOME EXAMPLES, THE AIM IS TO PERSUADE THE PERSON THAT THEY ARE IN A REGULAR, ORDERED, AXIAL PLACE DESPITE THE SITE'S IRREGULARITY.
IN OTHERS, THE AIM IS TO FREE THE PERSON FROM THE AXIAL AND THE RECTANGULAR AND OFFER DIFFERENT SORTS OF SPATIAL EXPERIENCE.

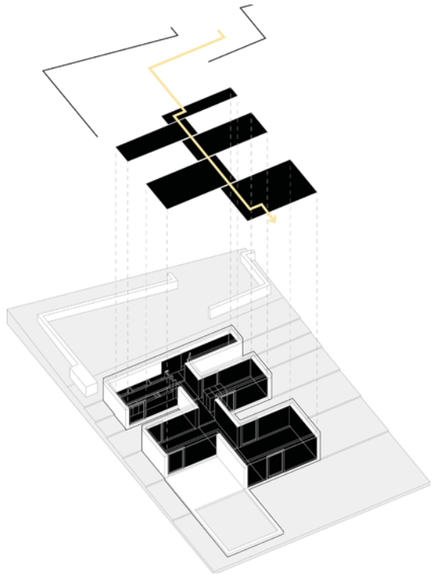
THE TENDENCY THROUGHOUT HISTORY HAS BEEN TO ASSOCIATE IDEAL GEOMETRY WITH AXIAL SYMMETRY.
AXIAL SYMMETRY CAN EASILY BE CONFUSED WITH A BIT OF TWIST, AS WE SEE IN THE CASE IN **BOHERMORE OF BOYD CODY ARCHITECTS**. IT CONSTITUTES A PHILOSOPHICAL IDEA, WHICH IS NOT ONLY EXPRESSED IN THE ABSTRACT DRAWINGS AS A DISTINCT EFFECT. WHEN YOU LOOK THROUGH THE CORRIDOR REPRESENTING THE AXIS, YOU CAN SEE HOW THE COURTYARDS AND SPACES ARE ARRANGED IN A TWISTED SYMMETRICAL WAY- WHERE THE VOID IS THE SYMMETRICAL REFLECTION OF THE SOLID. YOU CAN EXPERIENCE THE POWER OF AN AXIS WHEN YOU STAND BEFORE IT, AT THE END OF IT. THE AXIS USUALLY IS AN IMPORTANT FACTOR IN IDEAL GEOMETRY. SYMMETRY AND ASYMMETRY SUGGEST DIFFERENT ATTITUDES TO HIERARCHY AND MOVEMENT THROUGH A BUILDING'S SPACES AND THE INSIDE AND THE OUTSIDE WORLD.
WHEN DRAWING AN AXIS, IT CAN BE EITHER JUST A LINE OF DIRECTION AND FOCUS OR ALSO A PRINCIPLE FOR THE SPATIAL ORGANIZATION.

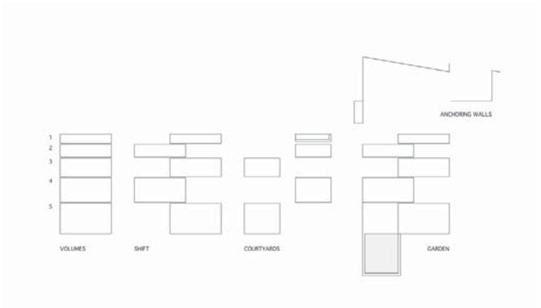


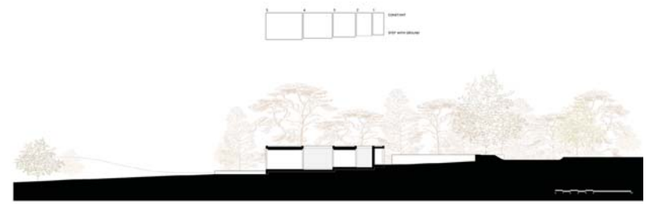


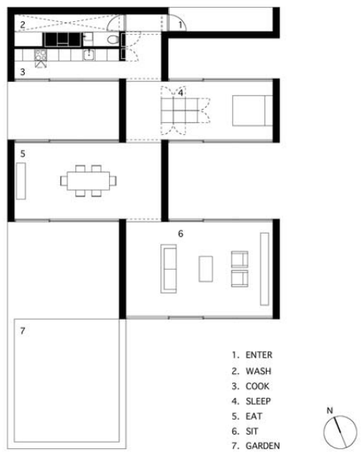
THE BROKEN GEOMETRY
SCHAULAGER ART CENTER
BASEL (CH) 2003
HERZOG & DE MEURON











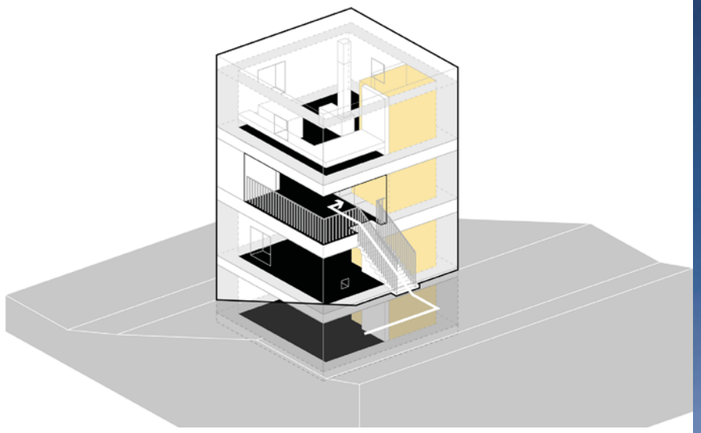
THE POWER OF THE AXIS
HOUSE IN BOHERMORE
KILKENNY, IRELAND 2008
BOYD CODY ARCHITECTS

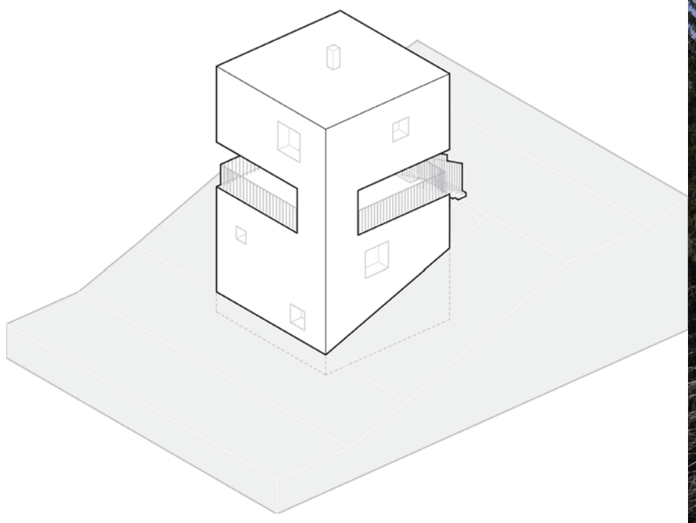
AS AN ARCHITECTURAL IDEA, **SYMMETRY** IS A RULE MEANING WHAT HAPPENS ON ONE SIDE OF AN AXIS THAT SHOULD BE MIRRORED ON THE OTHER. IT IS A POWERFUL RULE, OFTEN ASSOCIATED WITH HIERARCHY AND AUTHORITY.

ANALYZING CONTEMPORARY EXAMPLES, THE QUEST FOR IDEAL GEOMETRY MIGHT SEEM TO BE A PATH WORTH TAKING.
IT CAN GIVE YOU SOMETHING TO LEAN ON, A SYSTEM TO HELP TO MAKE DECISIONS. IT MAKES PLANS LOOK WELL-ORDERED, OR, WHEN PRESENTING THEM, IT PROVIDES A KIND OF CREDIBILITY AND INTELLECTUAL RIGOR THAT ATTRACTS OR DEMANDS RESPECT. DESIGNING FORM ACCORDING TO IDEAL GEOMETRY MAY EXPRESS A DESIRE TO ACHIEVE PERFECTION, INTELLECTUAL OR AESTHETIC.
BUT IT ALSO HAS A MORE PROSAIC ROLE IN ARCHITECTURE.
IDEAL GEOMETRY MAY HELP YOU MAKE DESIGN DECISIONS. IN ITS PERFECT FORM, IDEAL GEOMETRY REPRESENTS AN IDEA BASED ON AN INTELLECTUAL EXPERIMENT.
IN THE CASE OF THE **MOUNTAIN CABIN BY MARTE. MARTE ARCHITETS** THE SMALL TOWER BUILDING RISES FROM THE STEEP HILLSIDE, STRIKING AND MODEST IN APPEARANCE, MIMICING THE ARCHETYPES OF FORTIFIED STRUCTURES. COMPOSED OF SQUARE SHAPED LEVELS, CONNECTED BY A PILLAR (OF COURSE WITH A SQUARE SECTION TOO) INCORPORATIN THE SPIRAL STAIRCASE, THE ARCHITECTS CREATED A CAREFULLY COMPOSED STRUCTURE IN THE SCENIC LANDSCAPE WHICH STANDS OUT AGAINST THE MEADOW GREEN AND WINTER WHITE, BUT WITH ITS MODEST SCALE ALSO FITTING INTO THE LANDSCAPE AS IF IT WERE A BARN.

EVEN WHEN WE GET CLOSE TO AN IDEAL FORMED BUILDING, IT IS LIKELY TO BE DISRUPTED PLACED IN THE REAL WORLD.

LOOKING AT NATURE'S PRODUCTS, THEY SEEM IN SOME WAY TO BE FLAWED OR DEVIATE FROM THEIR PERFECT MODEL.
HUMAN BEINGS SEE THEMSELVES AS AGENTS BRINGING ORDER AND DISCIPLINE TO THE NATURAL CREATIONS. THIS HUMANIST ATTITUDE CAN BE SEEN AS HEROISM, BUT AS ULTIMATE ARROGANCE TOO.





MOUNTAIN CABIN
LATERNS, AUSTRIA
2011
MARTE.MARTE ARCHITECTS

FREEDOM FROM THE AUTHORITY OF THE AXIS OF SYMMETRY MIGHT BE ACHIEVED MERELY BY MOVING THE DOORWAY.

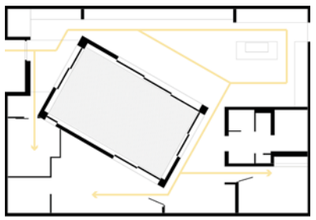
A DIAGONAL WALL OR EVEN A CURVED ONE WOULD CHANGE THE SPACES' EXPERIENCE RELATED TO THE WALL'S PRECISE POSITION. A UNIQUE EXAMPLE OF ADDING, OR RATHER SUBTRACTING A COURTYARD IN A TILTED POZITION IN A RECTANGULAR SYSTEM CREATING NEW SPATIAL HIERARCHIES IS THE F-WHITE HOUSE BY TAKURO YAMAMOTO. IF YOU ENTER A NARROW SPACE, GRADUALLY REACHING A MORE EXPANSIVE SPACE IS A DISTINCTIVELY DIFFERENT EXPERIENCE THAN ENTERING DIRECTLY INTO A LARGE ROOM, EVENTUALLY FINDING A DOORWAY, ONE WAY OR THE OTHER, INTO THE MORE SECLUDED SECOND SPACE.

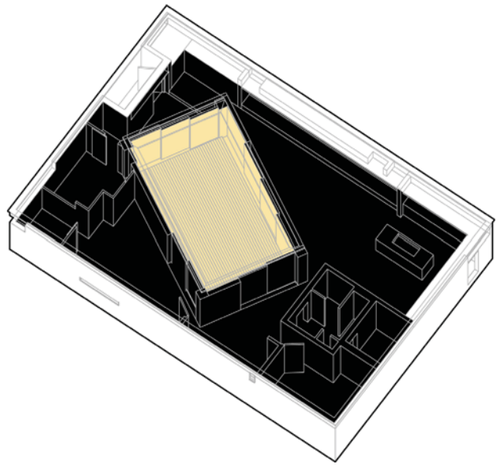
YOU CAN ORGANIZE SPACE WITH A FREE COMPOSITION OF ORTHOGONAL WALLS TOO, AS LUDWIG MIES VAN DER ROHE OFTEN DID (BARCELONA PAVILION FOR EXAMPLE).

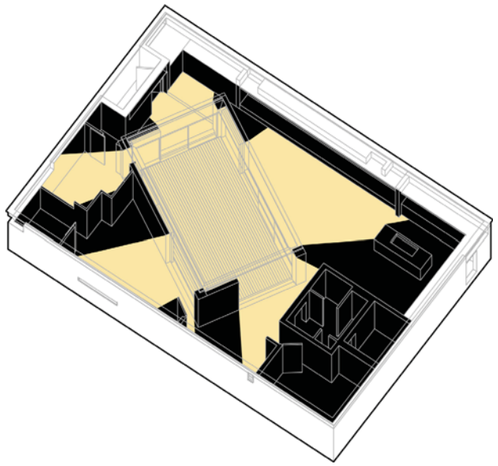
IT COULD MAKE YOU QUESTION WHY YOUR WALLS NEED TO BE ATTACHED AND WHY THEY NEED TO BE CONFINED WITHIN THE BOUNDING WALL. SO THOSE WALLS CAN REPRESENT A FREE COMPOSITION WITHOUT THE BOUNDING WALLS. OR SPACE CAN BE DIVIDED BY A CORE, PERHAPS CONTAINING A BATHROOM, A CLOSET, A KITCHEN. THIS WAS APPROXIMATELY THE IDEA OF MIES'S FARNSWORTH HOUSE SHAPED OF GLASS WALLS.

THE IDEA OF THE **‚FREE' PLAN** IS WHERE SUPPORTING FLOORS AND ROOFS WITH (REINFORCED CONCRETE OR STEEL) COLUMNS FREE WALLS OF THEIR LOAD-BEARING ROLE AND PRODUCES OPEN RATHER THAN ENCLOSED SPACES.

YOU CAN COMPOSE ECCENTRIC AND DIFFERENT SIZED SPACES BY DISLOCATING SQUARES, THEN REMOVING PORTIONS OF THE WALLS YOU CAN MAKE THE SPACES YOU NEED. REPLACING A CORNER WITH A COLUMN (TO SUPPORT THE ROOF OR WALL ABOVE) OR TURNING SOME WALLS INTO GLASS TO GIVE LIGHT AND VIEWS CAN BE A WAY OF MODIFYING THE ORIGINAL SPACE. ALTERNATIVELY, YOU CAN FRACTURE GEOMETRY, MAYBE BY DISLOCATING A PORTION, BITING A PIECE OFF, OR BREAKING IT INTO PIECES. THE RESULT MIGHT BE AS IF THE OR-







F-WHITE
KASHIWA, JAPAN
2009
TAKURA YAMAMOTO ARCHITECTS

THOGONAL BUILDING ELEMENTS HAVE BEEN BROKEN APART AND RECOMPOSED ACCORDING TO A WARPED ALTERNATIVE GEOMETRY THAT DIVERGES FROM THE ORTHOGONAL.

ARCHITECTS USE MANY DIFFERENT GEOMETRIC FIGURES (IN ADDITION TO THE SQUARE, CIRCLE, ETC., AND THE CATENARY CURVE AND SPIRAL) AS THE BASIS ON WHICH TO GENERATE THE DESIGN OF BUILDINGS: PYRAMIDS; PRISMS; ELLIPSES; PARABOLAS; HYPERBOLAS.

THERE HAVE BEEN EXAMPLES INSPIRED BY FOLDED PAPER. THERE ARE HOUSES ACTING LIKE A MÖBIUS STRIP (BEN VAN BERKEL / UN STUDIO) OR THE TWISTED, TILTED SHAPE OF DANIEL LIBESKIND'S 18.36.54 HOUSE IN CONNECTICUT
WE KNOW THAT THE STRANGE, UNORTHODOX, WEIRD ATTRACTS ATTENTION. DISTORTION ADDS STRANGENESS. IT INCLUDES EFFECTS SUCH AS MAKING BUILDINGS APPEAR AS IF SEEN THROUGH A DISTORTING LENS OR IN A DISTORTING MIRROR; MAKING SURFACES APPEAR WARPED, WRINKLED, OR MELTED; MAKING BUILDINGS WITH FLUID, LIQUID FORMS. THESE EFFECTS HAVE BEEN MADE EASIER TO ACHIEVE BY COMPUTER SOFTWARE.

THE FREEDOM (WHICH IS INFINITELY GREATER WHEN USING COMPUTER SOFTWARE) SEEMS COMPELLING; IT IS UNDOUBTEDLY SEDUCTIVE. SHAPES BECOME POSSIBLE THAT WOULD OTHERWISE BE INCONCEIVABLE.

BUT, AS IN THE CASE OF OTHER NON-ORTHOGONAL GEOMETRIES, RESULTS CAN FIND THEMSELVES IN CONFLICT WITH GRAVITY, THE PERSON, FURNITURE, AND DOORWAYS: ALL ASPECTS OF ARCHITECTURE RELATED TO THE GEOMETRIES OF BEING.

APART FROM CONSTRUCTION COMPLEXITY, THERE IS NO PROBLEM GIVING A ROOF OR CEILING AN IRREGULAR CURVING GEOMETRY. HOWEVER, IT CAN BE PROBLEMATIC POSITIONING BEDS AND CUPBOARDS IN IRREGULARLY SHAPED ROOMS OR AGAINST CURVING WALLS.

THE USE OF COMPUTER SOFTWARE CAN HELP TO GENERATE COMPLEX GEOMETRIES.
CREATING COMPLEX (GENERALLY CURVED) FORMS WOULD BE DIFFICULT, IF NOT IMPOSSIBLE TO

A HOUSE WITH A FREE PLAN
HOFMAN HOUSE
VALENCIA, SPAIN
2018
FRAN SILVETSRE ARCHITECTS

HOUSE WITH A FOLDED SHAPE
KLEIN BOTTLE HOUSE
RYE, AUSTRALIA
2007
MCBRIDE CHARLES RYAN

ACHIEVE BY OTHER MEANS. WHETHER OR NOT THIS IS ‚A GOOD THING' REMAINS A LIVE DEBATE. IT CAN PRODUCE SENSATIONAL BUILDINGS. IT CAN BE CRITICIZED AS REDUCING ARCHITECTURE TO SCULPTURE IN PRIORITIZING STUNNING THREE-DIMENSIONAL FORM OVER THE SENSIBLE AND POETIC BUILDING.

FRANK GEHRY FAMOUSLY DECLARED SOME DECADES AGO AS HE INTRODUCED HIS NEW PLASTICITY, *WE CAN, WITH THE AID OF THE COMPUTER, BUILD ANY FORM IN ANY SHAPE WE CAN IMAGINE.* TO WHICH A REACTION WAS: *WHY SHOULD WE CREATE ANY FORM OR SHAPE WE DO NOT NEED.*

AS BUILDINGS INTENDED TO BE CONSIDERED PERMANENT, ONE SHOULD ALWAYS THINK OF THE OBSOLESCENCE OR OUTDATING OF THE VERY FASHIONABLE DESIGN, WHICH MIGHT BE A LONGER-TERM BURDEN.

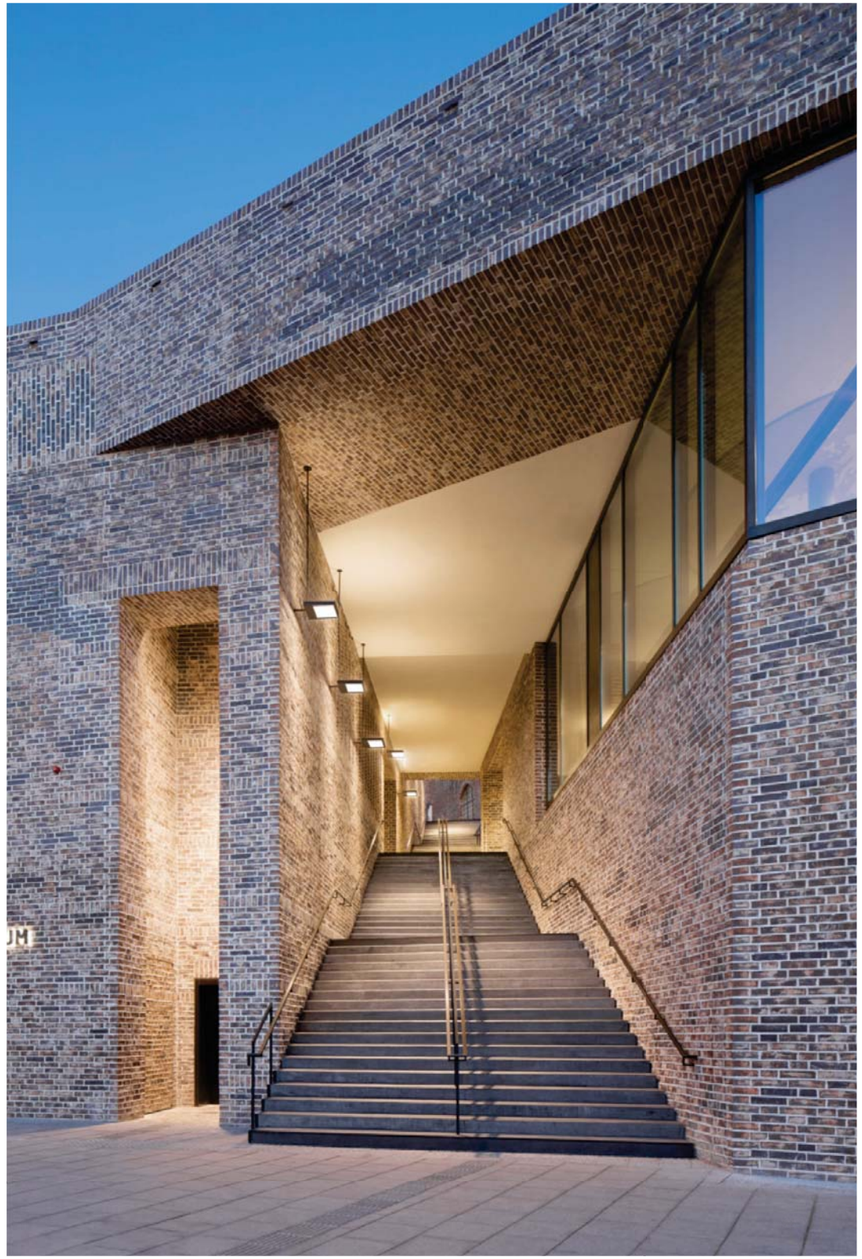
THE POSSIBILITIES OF COMPUTER-GENERATED FORM CHALLENGE THE ARCHITECT, RATHER THAN USING STANDARD PARTS. IN THAT SENSE, EACH BUILDING COMPONENT HAS TO BE MADE INDIVIDUALLY AND PRECISELY LABELED TO BE PUT IN THE

3.4 _PRINCIPLES OF DESIGN

ARCHITECTURE ALSO INVOLVES BEING SENSITIVE TO THE INHERENT CHARACTERISTICS OF MATERIALS AVAILABLE, BEING AWARE OF HOW THEY HAVE THEIR OWN GEOMETRIES OF MAKING, AND CAPACITIES FOR SUPPORTING THEMSELVES AND OTHER ELEMENTS.
ARCHITECTURE IS MORE THAN PRAGMATIC, THOUGH; IT ALSO FRAMES ATMOSPHERES. AS NONVERBAL PHILOSOPHY, IT CAN SET DOWN SPATIAL RULES OR GUIDELINES FOR MAKING SENSE OF THE WORLD; IT CAN RIG EXPERIENCE AND INDUCE CHANGING EMOTIONS. AS IN ANY ART, QUALITY COMES WITH PROGRESSIVE REVISION AND REFINEMENT.

A SIGNIFICANT PART OF THE DESIGN PROCESS IS UNSEEN AND MASKED, AS IT INCLUDES SUBJECTIVE PRINCIPLES, CONCEPTS, AND FEELINGS. THESE ARE FACTORS THAT GUIDE THE DESIGN FROM PROGRAM ANALYSIS TO LAYOUT TO PHYSICAL APPEARANCE. THE UNDERLYING PRINCIPLES ARE NOT APPARENT AND OBVIOUS BUT MANIFEST IN FORMS, PROPORTIONS, AND RELATIONSHIPS. THE CONSTRUCTION OF A BUILDING PROJECT TAKES THESE PRINCIPLES AND CONVERTS THEM INTO DEFINED MATERIALS, SYSTEMS, AND DIRECTED WORK. THIS IS THE FUNDAMENTAL RELATION BETWEEN THE DESIGN AND SCIENCE ASPECTS OF ARCHITECTURE.

A BUILDING WITH STRONG BRICK CHARACTERISTIC REFLECTING ON THE REGIONAL TRADITIONAL ARCHITECTURE IN A CONTEMPORARY WAY
EUROPEAN HANSE MUSEUM
LÜBECK, 2015
STUDIO ANDREAS HELLER ARCHITECTS & DESIGNERS



TODAY, WE DO NOT LIKE TO CATEGORIZE ARCHITECTURE BASED ON STYLES. YOU MIGHT HAVE READ ABOUT MINIMALISM, REGIONALISM, OR MODERN CONTEMPORARY.
STILL, MOST ARCHITECTS CONSIDER ARCHITECTURAL STYLES AND EXPRESSIONS MORE AS INVENTIONS OF THE CRITICS THAN AS SETS OF RULES TO FOLLOW. ROBERT VENTURI MADE HIS POINT BY SAYING: ‚BERNINI DIDN'T KNOW HE WAS BAROQUE. FREUD WAS NOT A FREUDIAN, AND MARX WAS NOT A MARXIST'.
THE WORD ‚FASHION' ITSELF HAS COME TO STAND FOR SOMETHING TEMPORARY AND PASSING. PERHAPS BECAUSE BUILDINGS ARE MORE PERMANENT AND COSTLY, ARCHITECTS FEEL THE NEED TO DESCRIBE THEIR WORK AS SUPPORTED BY MORE LASTING IDEAS. WE ALL KNOW THE THROW-AWAY OR DISPOSABLE CONSUMERIST APPROACH, AND THAT IS WHAT WE WOULD LIKE TO AVOID BY DOING ARCHITECTURE.
THE DESIGN PROCESS IS ESSENTIALLY EXPERIMENTAL.
DESIGN IS THE ORGANIZED ARRANGEMENT OF ONE OR MORE ELEMENTS FOR A PURPOSE.

AWARENESS OF THE INGREDIENTS AND DIRECTIONS IN DESIGN IS THE FIRST STEP IN CREATING SUCCESSFUL VISUAL COMPOSITIONS.

THE PRINCIPLES OF DESIGN ARE VERY DIVERSIFIED IN MODERN DESIGN. THE PRINCIPLES RULE THE RELATIONSHIPS OF THE ELEMENTS USED AND ORGANIZE THE COMPOSITION AS A WHOLE.
THE SUCCESSFUL DESIGN INCORPORATES PRINCIPLES AND DETAILS TO SERVE THE DESIGNER'S PURPOSE AND VISUAL GOALS. THERE ARE NO RULES FOR THEIR USE. THE DESIGNER'S PURPOSE AND INTENT DRIVE THE DECISIONS MADE TO ACHIEVE APPROPRIATE SCALE AND PROPORTION AND THE DEGREE OF HARMONY BETWEEN THE ELEMENTS. DESIGN PRINCIPLES ARE A TECHNICAL AND ARTIFICIAL METHOD TRYING TO PRODUCE ARCHITECTURAL DESIGN BEAUTY.

A BUILDING WITH STRONG BRICK CHARACTERISTIC REFLECTING ON THE REGIONAL TRADITIONAL ARCHITECTURE IN A CONTEMPORARY WAY
EUROPEAN HANSE MUSEUM
LÜBECK, 2015
STUDIO ANDREAS HELLER ARCHITECTS & DESIGNERS

04 _DESIGN TOOLS

PARTI IS THE BASIC SCHEME OR CONCEPT FOR AN ARCHITECTURAL DESIGN. THE DESIGN PRINCIPLE IS A FUNDAMENTAL AND COMPREHENSIVE CONCEPT FOR STRUCTURING AN AESTHETIC COMPOSITION.

A WORK OF ART HAS MULTIPLE MEANINGS, WHICH WE CALL CONTENT. IT IS TO BE DISTINGUISHED FROM THE COMPOSITION OF ITS PARTS.

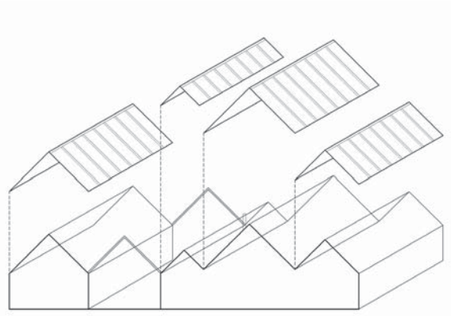
WE DESCRIBE A DESIGN AS COHERENT WHEN THE PARTS ARE LOGICALLY OR AESTHETICALLY ORDERED AND INTEGRATED TO SUPPORT COMPREHENSION OR RECOGNITION.

4.1 _UNITY, BALANCE AND HARMONY

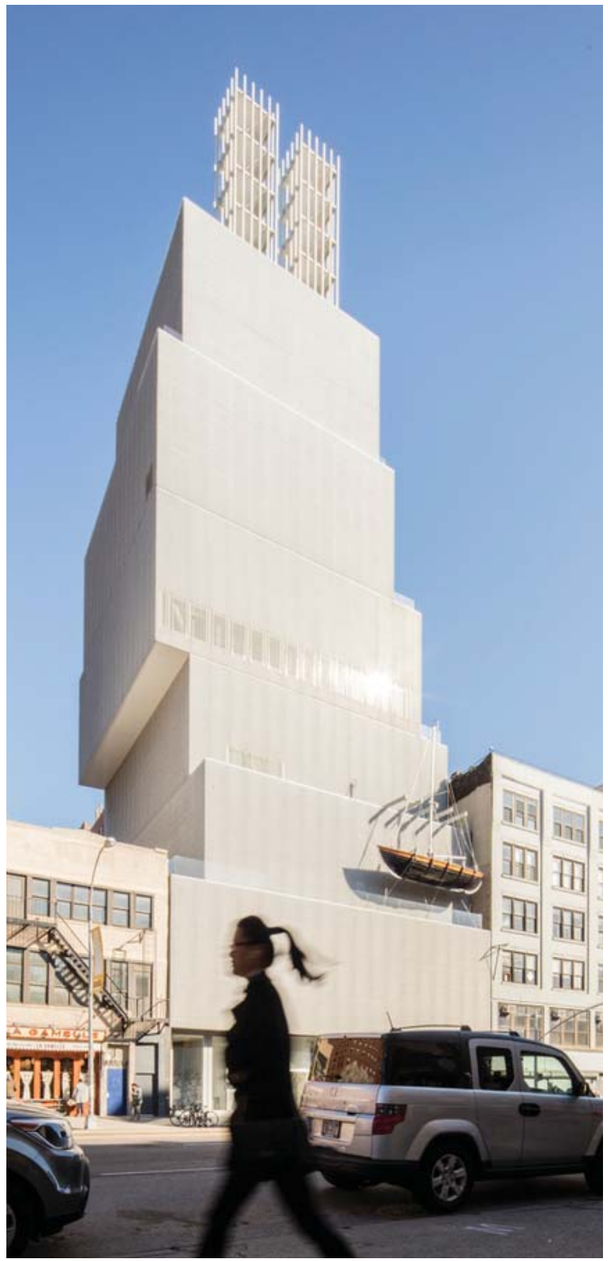
UNITY REFERS TO THE SENSE THAT EVERYTHING IN THE DESIGN BELONGS THERE AND MAKES A WHOLE PIECE. IT CAN BE ACHIEVED BY THE USE OF *BALANCE, REPETITION, AND/OR DESIGN HARMONY.*
LIKE TWO ROOMS CAN BE UNIFIED BY USING THE SAME HARDWOOD FLOOR DESIGN. UNITY HELPS THE ITEMS (EVEN A BUILDING ENSEMBLE) TO LOOK LIKE THEY BELONG TOGETHER.
ARTISTIC UNITY AVOIDS DISTRACTION OR SUBCONSCIOUS CONFUSION IN BUILDING DESIGN, GIVES A CLEAR DESIGN COMMUNICATION.

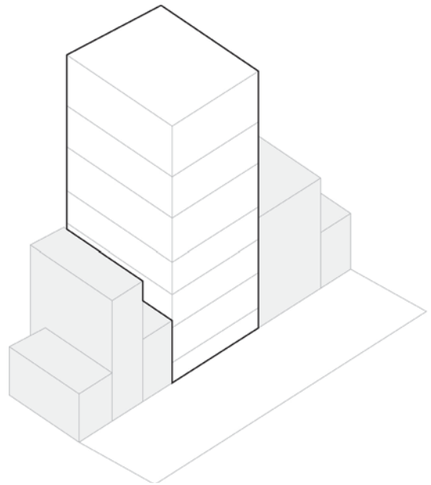
BALANCE CAN BE EITHER SYMMETRICAL OR ASYMMETRICAL, DEPENDING ON THE RIGHT OR LEFT SIDE BEING IDENTICAL/SIMILAR OR NOT.
IT ALSO REFERS TO THE SENSE THAT THE DOMINANT FOCAL POINT IS BALANCED AND IS NOT PULLED TOO MUCH TO ANY PART.
SOME PEOPLE MAY HAVE A TENDENCY OR URGE TO WANT TO BALANCE OBJECTS LIKE FURNITURE LOCATIONS OR FLOWER ARRANGEMENTS.
BALANCE CAN BE ACHIEVED BY LOCATING OBJECTS SUCH AS WINDOWS ON A FACADE, BALANCE BY SIZES OF OBJECTS, OR BY COLOR.
YOU CAN BALANCE LIGHTER COLORS WITH DARKER COLORS, NATURAL COLORS, AND PATTERNS WITH SYNTHETIC COLORS, BOLD COLORS WITH SOFT NEUTRAL COLORS, COLORS WITH HIGH CONTRAST IN A ROOM MAY BE BALANCED WITH DIMMED LIGHT.
IN CASE OF THE SUMMER HOUSE IN LAGNÖ THE HEAVY CONCRETE SURFACE IS BALANCED BY THE OPENING GOING ALL THE WAY THROUGH FACING THE LAKE.

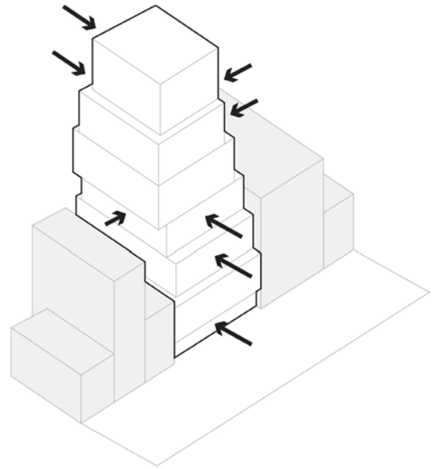
UNITY IN FORM (REPETITION OF ARCHETYPAL HOUSE SHAPES), MATERIAL
SUMMER HOUSE
2012
LAGNÖ
THAM & VIDEGÅRD ARKITEKTER

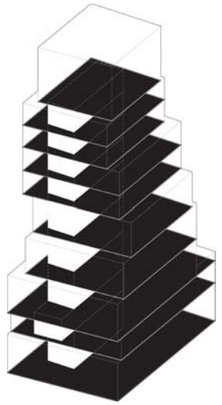


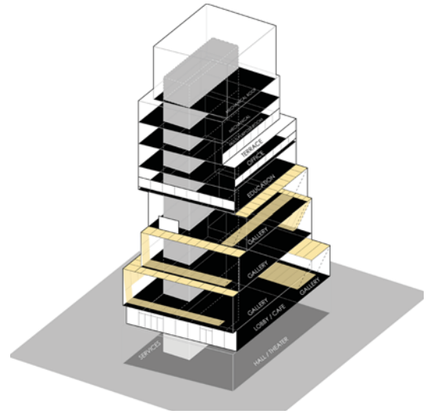
HARMONY CAN BE ACHIEVED THROUGH THE BALANCE OF VARIETY AND UNITY.
COLOR HARMONY, FOR EXAMPLE, MIGHT BE ACHIEVED USING COMPLEMENTARY OR ANALOGOUS COLORS. HARMONY IN DESIGN IS THE SIMILARITY OF COMPONENTS OR OBJECTS EXPRESSING THEY BELONG TOGETHER.
HARMONY IS WHEN SOME OR MANY OF THE ELEMENTS SHARE A COMMON TRAIT OR TWO. THAT COMMON FEATURE COULD BE THE COLOR, SHAPE, TEXTURE, PATTERN, MATERIAL, STYLE, SIZE, OR FUNCTIONALITY.
FOR EXAMPLE, A FACADE'S MATERIALS COULD SHARE THE SAME COLOR AND TEXTURE THAN THE INTERIOR FLOORING OR WALL COVER. THIS RECURRENCE OF COLORS IS COLOR COORDINATION IN DESIGN.
HARMONY AND UNITY GENERALLY MAKE DESIGNS VISUALLY MORE APPEALING, ORGANIZED, AND ATTRACTIVE.
DESIGN HARMONY OR UNITY CREATES ORDER OR ORGANIZATION, PRODUCES A BALANCE IN DESIGN, FURNITURE, AND ACCESSORY SELECTION.



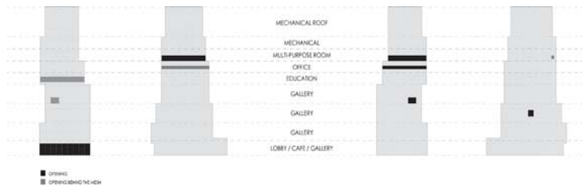








UNITY IN SHAPE, MATERIAL, HARMONY WITH ASYMMETRICAL BALANCE
NEW ART MUSEM
2007
NEW YORK
SANAA



4.2 _REPETITION, RHYTHM, PATTERN, VARIETY, PROXIMITY

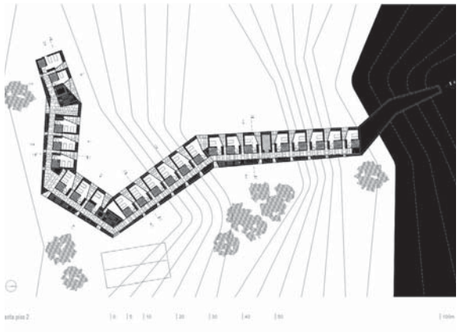
REPETITION IS THE RECURRENCE OF ELEMENTS WITHIN A PIECE: COLORS, LINES, SHAPES, VALUES, ETC. ANY COMPONENT THAT OCCURS IS GENERALLY ECHOED, OFTEN WITH SOME VARIATION TO KEEP THE INTEREST.

RHYTHM IN DESIGN ALSO MAY BE USED TO REDUCE RANDOMNESS. FOR EXAMPLE, PLACING THE WINDOWS OR BALCONIES IN A ROW AND EVENLY SPACED APART PRODUCES AN ORGANIZED LOOK.

NATURAL PATTERNS LIKE PATTERN ON A FACADE'S CLADDING MAY ADD VISUAL APPEAL OR INTEREST TO BUILDING DESIGN.

VARIETY IS THE USE OF DISTINCT ELEMENTS, WHICH CREATES INTEREST AND UNIQUENESS. VARIETY LIKE USING DIFFERENT SIZED WINDOWS CAN BE USED TO REDUCE MONOTONY. ON THE OTHER HAND, YOU HAVE TO BE CAREFUL WITH THIS KIND OF VARIETY AS IT SHOULD NOT SUGGEST THE LACK OF PLANNING. THERE IS A VERY SOFT BOUNDARY BETWEEN BEING RANDOM AS AN ARTISTIC APPROACH OR MAKING AN UNPLANNED IMPRESSION.

PROXIMITY DESCRIBES NEARNESS IN PLACE, ORDER, OR RELATION, LIKE PLACING SIMILAR OBJECTS CLOSER TOGETHER PHYSICALLY, WHICH HELPS PRODUCE HARMONY BY GROUPING LIKE OBJECTS. FOR EXAMPLE, DIFFERENT OPENINGS COMPRESSED IN A SMALL ROOM DOES NOT LOOK AS NICE AS THE SAME PLACED FURTHER APART IN A LARGE SPACE. SIMILARITY - MEANS BEING ALIKE IN SUBSTANCE, ESSENTIALS, OR CHARACTERISTICS



REPETITION AND RYTHM ARE MAJOR DESIGN TOOLS BEYOND THE PLASTICITY OF THE FACADE - WHICH RESULTS FROM THE CONTRAST OF SOLID AND VOID
HOUSES FOR ELDERY PEOPLE
ALCÁCER DO SAL, PORTUGAL , 2010
AIRES MATEUS

4.3 _EMPHASIS, ARTICULATION, ATTRACTION

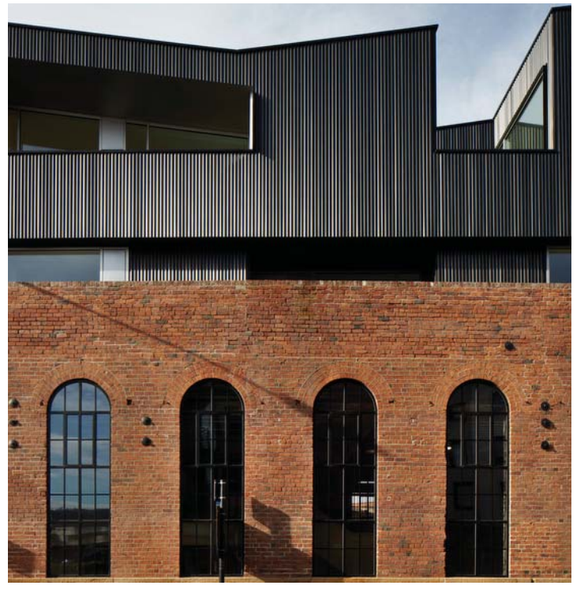
EMPHASIS [DOMINANCE, FOCAL POINT] REPRESENTS THE AREA OF INTEREST. IT GUIDES THE EYE BY USING A SEQUENCE OF VARIOUS FOCAL POINTS, PRIMARY FOCAL POINT, SECONDARY, TERTIARY, ETC. EMPHASIS IS A KIND OF HIERARCHY THAT MAY GIVE DIRECTION AND ORGANIZATION TO DESIGN, AND AVOID SUBCONSCIOUS CONFUSION TO IMPROVE ITS VISUAL APPEAL AND STYLE.
EMPHASIS IN HIERARCHY OR FOCUS MEANS NOT GIVING EACH OBJECT IN A PROJECT EQUAL DOMINANCE. EMPHASIS OR PROMINENCE OF AN ITEM CAN BE INCREASED BY MAKING THE OBJECT MORE IMMENSE, MORE SOPHISTICATED, PLACING IT IN THE FOREGROUND, OR STANDOUT VISUALLY (BY COLOR, FOR EXAMPLE) MORE THAN OTHER OBJECTS IN A PROJECT. THE PRIMARY FOCUS POINT OR AREA RECEIVES THE MOST CONSIDERABLE EMPHASIS IN A ROOM. EMPHASIS HIERARCHY AVOIDS CONFUSION. EMPHASIS IS THE STRESS OR PROMINENCE GIVEN TO AN ELEMENT IN A COMPOSITION BY USING CONTRASTS OR COUNTERPOINTS.

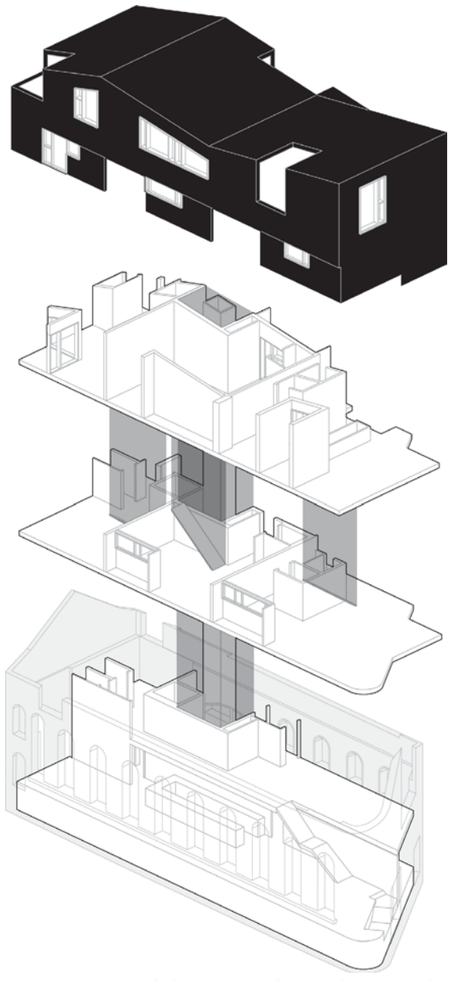
BY ANALYZING THE MASSING PROCESS, WE COME TO ARTICULATION, WHICH IS THE JOINING OF PARTS IN CLEAR AND PRECISE RELATION TO EACH OTHER.

THE ATTRACTION IS HOW MUCH AN OBSERVER IS ATTRACTED TO A PARTICULAR DESIGN. IT MAY INVOLVE STUDYING PSYCHOLOGY, CONSIDERING THE

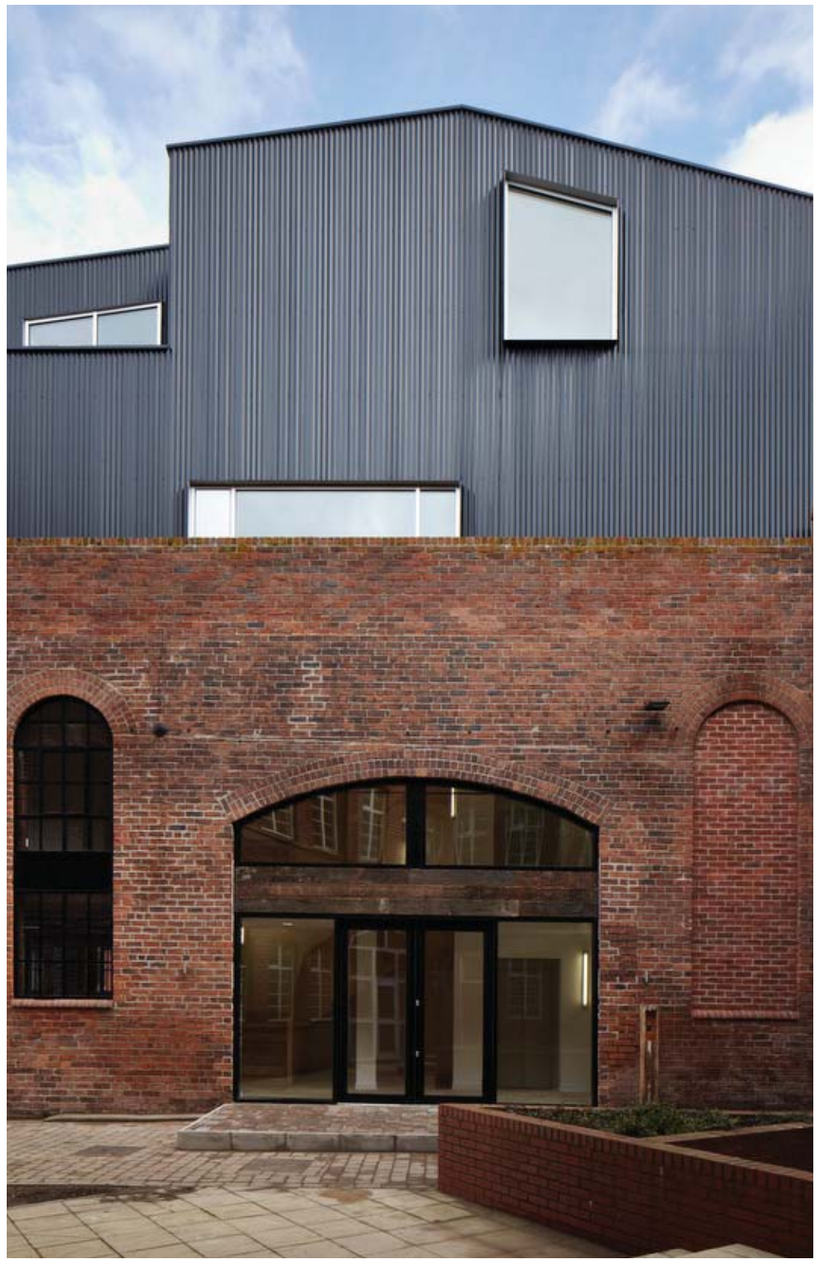
HASIS AND ARTICULATION ARE USED IN
CONTEMPORARY EXTENSION OF THE VI-
RIAN BRICK BUILDING
SHOREHAM STREET

FIELD
JECT ORANGE

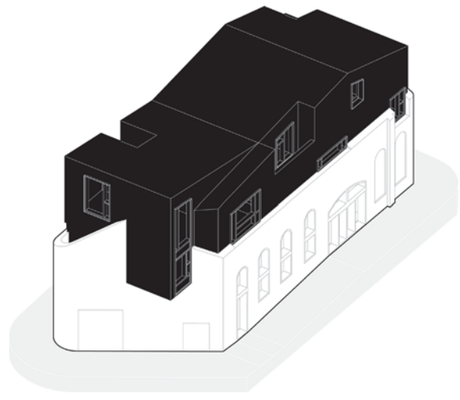




EMPHASIS AND ARTICULATION ARE USED IN THE CONTEMPORARY EXTENSION OF THE VICTORIAN BRICK BUILDING
192 SHOREHAM STREET
2012
SHEFFIELD
PROJECT ORANGE



THE UPWARD EXTENSION OF THE EXISTING BUILDING IS A CONTRASTING BUT COMPLEMENTARY VOLUME, A REPLACEMENT FOR THE ORIGINAL PITCHED ROOF.
THE NEW EXTENSION IS CONTEMPORARY YET LACONIC IN FORM AND AN ABSTRACT EVOCATION OF THE INDUSTRIAL ROOFSCAPES THAT USED TO DOMINATE THIS PART OF THE CITY. IT IS PARASITICAL IN NATURE, ENGAGING WITH THE HOST STRUCTURE IN A COUPLE OF LOCATIONS, WHERE WINDOWS BITE INTO THE EXISTING BUILDING.



4.4 _CONTRAST, COUNTERPOINT, JUXTAPOSITION, OPPOSITION

CONTRAST IS THE OCCURRENCE OF CONTRASTING ELEMENTS REFERRING TO COLOR, VALUE, SIZE, ETC. IT WAKES INTEREST AND PULLS THE ATTENTION TOWARD THE FOCAL POINT. COLOR CONTRAST OR" POP „ALSO HELPS PEOPLE NAVIGATE EASIER IN A DARK ROOM. CONTRAST OR" POP" COLORS MAY BE VISUALLY PLEASING IN INTERIOR DESIGN.

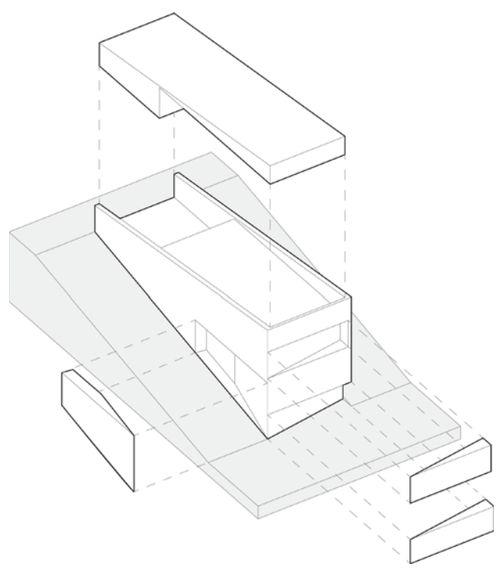
CONTRAST IS THE OPPOSITION OR JUXTAPOSITION OF DIVERSE ELEMENTS TO INTENSIFY EACH OTHER'S PROPERTIES AND TO ACHIEVE MORE DYNAMIC EXPRESSIVENESS.

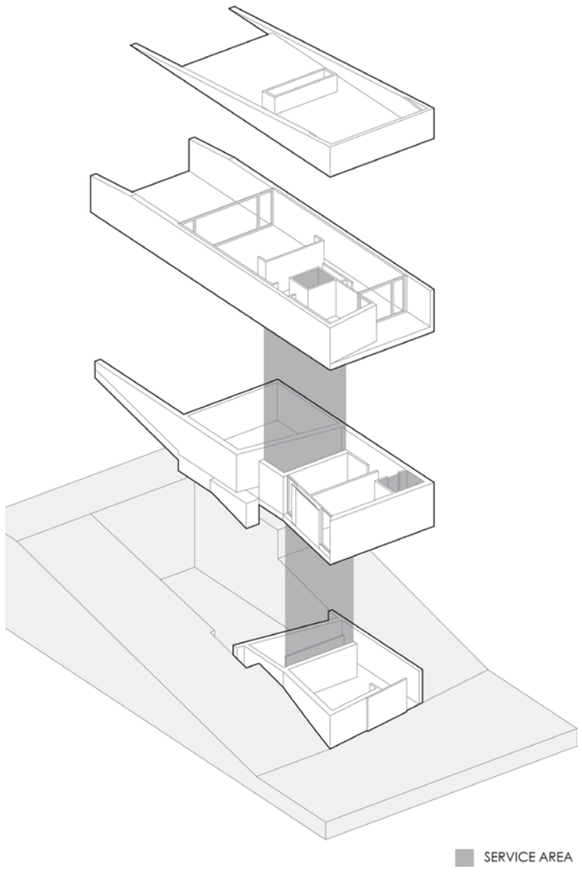
JUXTAPOSITION IS A PLACEMENT CLOSE TOGETHER OR SIDE BY SIDE TO PERMIT CONTRAST OR TENSION, CREATING MEANING FROM THE CONTRAST. ANY TWO ARCHITECTURAL ELEMENTS, WHEN JUXTAPOSED, INEVITABLY COMBINE INTO ANOTHER CONCEPT WHICH ARISES FROM THAT JUXTAPOSITION AS SOMETHING QUALITATIVELY NEW.

OPPOSITION - MEANS THE PLACEMENT OF AN ELEMENT OPPOSITE ANOTHER OR THE ARRANGEMENT OF ELEMENTS IN CORRESPONDING POSITIONS FROM AN INTERVENING SPACE OR OBJECT. IN ARCHITECTURE IT IS REPRESENTED BY SOLID-VOID, DARK-LIGHT, ENCLOSURE-EXPOSURE SETTINGS.

COUNTERPOINT FORMS A PLEASING OR NOTABLE CONTRAST TO SOMETHING ELSE, EMPHASIZES BY CONTRAST.

JUXTAPOSITION AND COUNTERPOINTS OF SOLID AND VOID ARE USED IN THE SUBTRACTION OF THE ORIGINAL VOLUME
HOUSE ON THE CASTLE MOUNTAINSIDE
2010
AYORA, SPAIN
FRAN SILVESTRE ARQUITECTOS





JUXTAPOSITION AND COUNTERPOINTS OF SOLID AND VOID ARE USED IN THE SUBTRACTION OF THE ORIGINAL VOLUME
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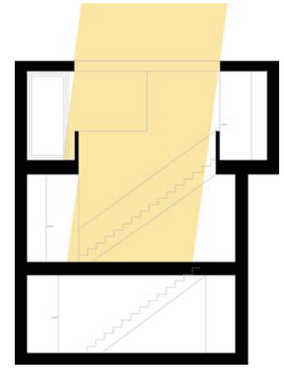

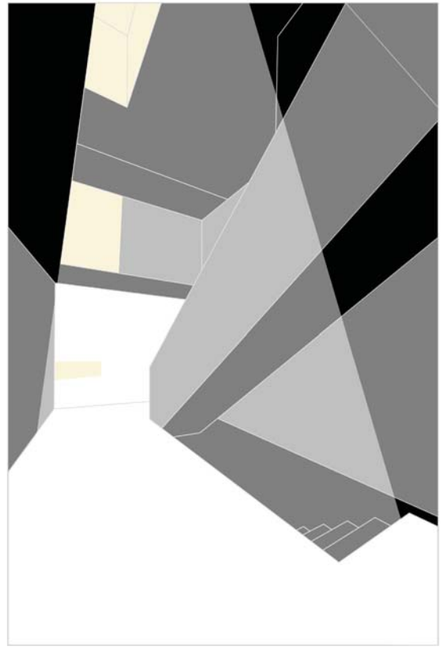

JUXTAPOSITION AND COUNTERPOINTS OF SOLID AND VOID ARE USED IN THE SUBTRACTION OF THE ORIGINAL VOLUME
HOUSE ON THE CASTLE MOUNTAINSIDE
2010
AYORA, SPAIN
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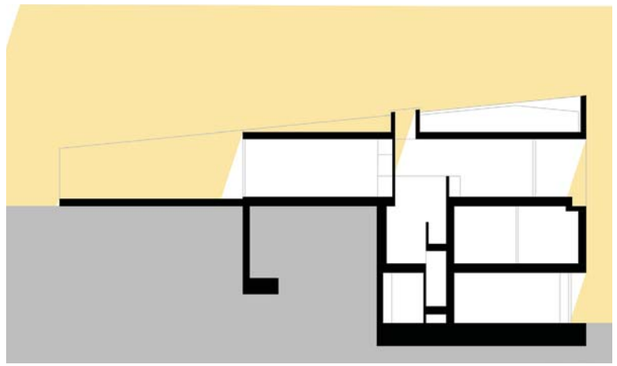
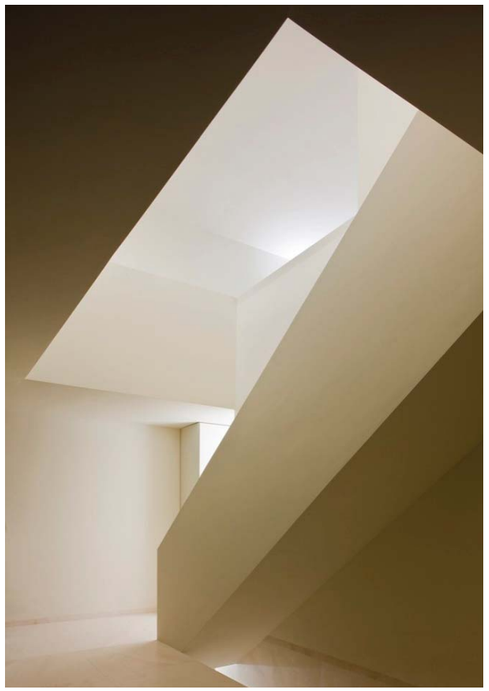
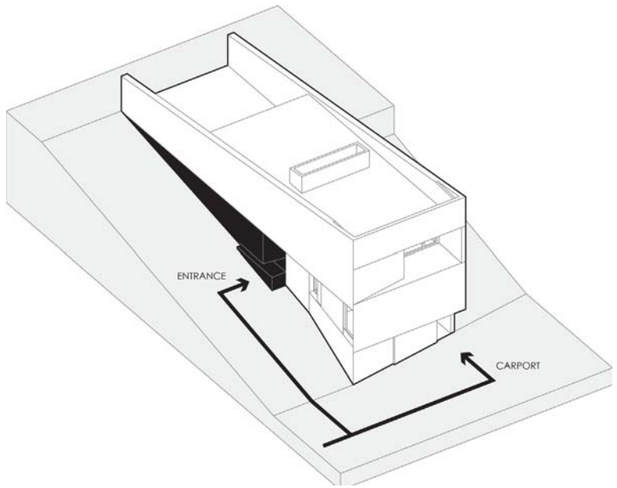


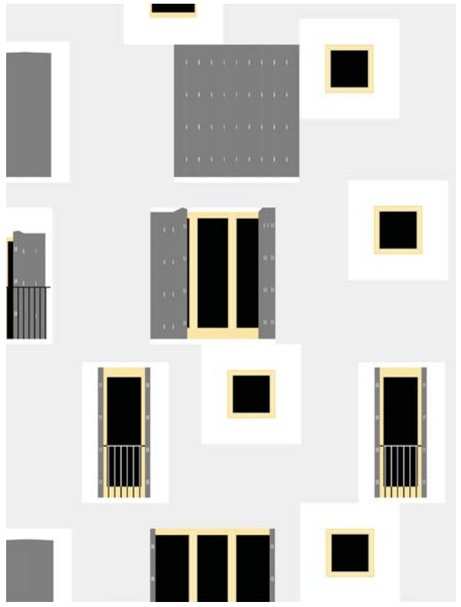




THE HOUSE IS CONCEIVED AS A MONOLITH PIECE PLACED ON THE GROUND, BUILT ON THE WHITE LIMESTONE.
WITH ITS MASSIVE WHITE VOLUME, IT IS JUXTAPOSED AS A FRAGMENT OF THE ENVIRONMENT.
THE INDOOR SPACE IS DIVIDED BY THE VOID THAT IS THE CORE OF COMMUNICATION.
THE AREAS FACING THE GARDEN ARE ILLUMINATED BY DAYLIGHT REFLECTED FROM SLOPE. LIGHT BECOMES AN ESSENTIAL INGREDIENT OF THE ARCHITECTURAL DESIGN.

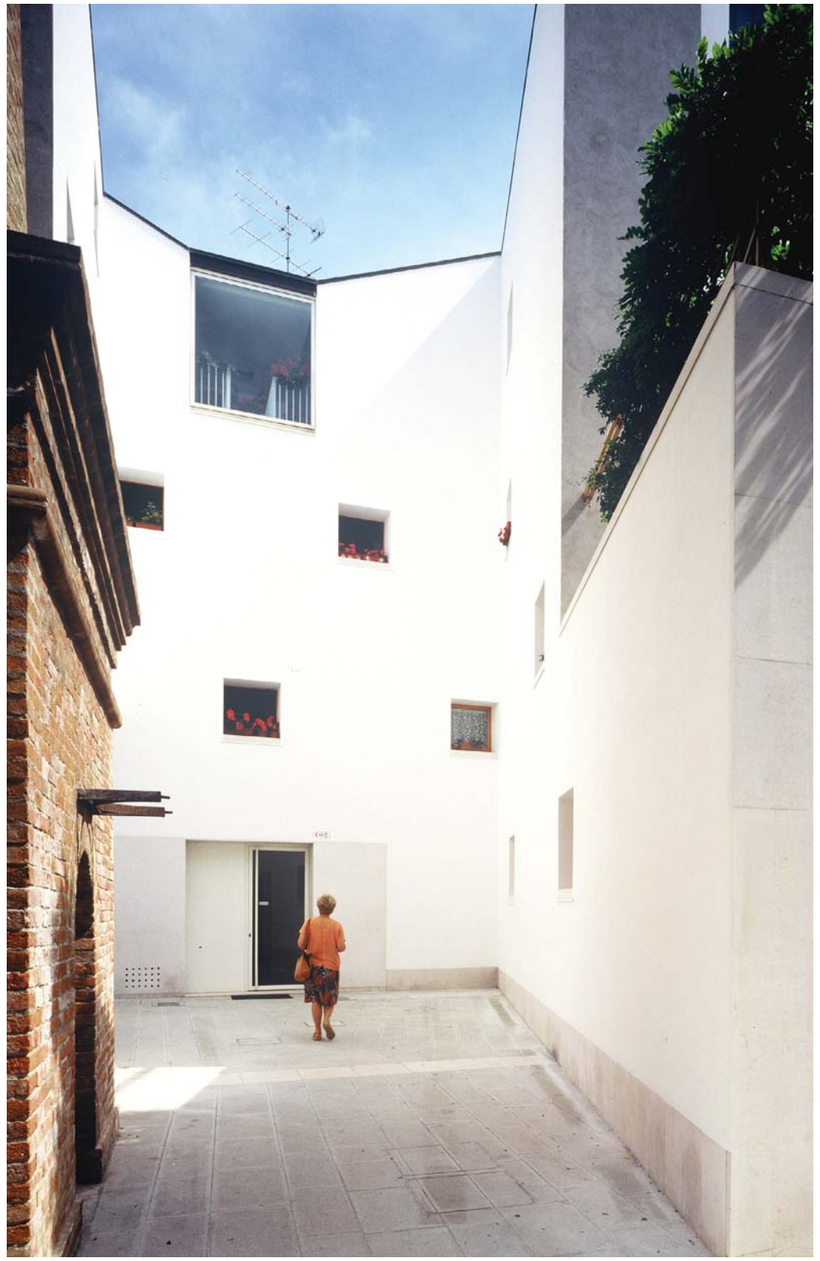
4.5 _SCALE, PROPORTION

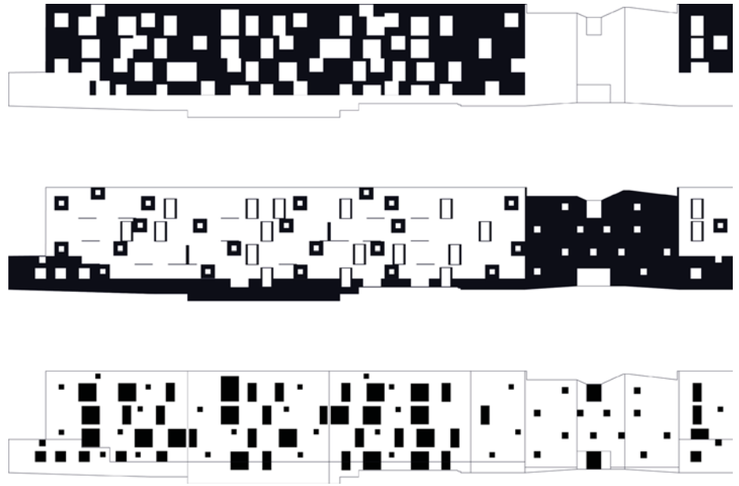
THE SCALE IN ARCHITECTURE IS ABOUT RELATIVE SIZES. A SCALE ON A MAP OR DRAWING SHOWS THE SIZES OF THINGS RELATIVE TO THEIR SIZES IN REALITY. ON A 1:100 DRAWING, A DOORWAY WHICH IN REALITY MIGHT BE ONE METER WIDE IS ONE CENTIMETER IN WIDTH. IN ARCHITECTURE, THE SCALE HAS ANOTHER MEANING TOO. STILL, IT REFERS TO RELATIVE SIZES: TO THE SIZE OF SOMETHING RELATIVE TO ONESELF.
HOW WE EXPERIENCE A SPACE IS RADICALLY AFFECTED BY ITS SCALE.
PEOPLE SET THE SCALE OF A WORK OF ARCHITECTURE COMPARED TO THEIR OWN STATURE AS HUMAN BEINGS; THIS IS THE FIRST ACTION THEY DO MEETING AN ARCHITECTURE WORK. PEOPLE SET THE MEASURE OF THE BUILDINGS BY THE WAY THEY USE IT, BUT BUILDINGS ALSO SET THE MEASURE OF THE LIVES THEY ACCOMMODATE.
IN THE LATE FIFTEENTH CENTURY, LEONARDO DA VINCI CONSTRUCTED THIS DRAWING ILLUSTRATING THE RELATIVE PROPORTIONS OF AN IDEAL HUMAN FRAME, AND THE BUILT ENVIRONMENT ACCOMMODATES THOSE PROPORTIONS. THE HUMAN FRAME SET DOWN BY THE ROMAN WRITER ON ARCHITECTURE, VITRUVIUS, SUGGESTS THAT IN ITS IDEAL FORM, THE HUMAN FRAME CONFORMS TO GEOMETRIC PROPORTIONS; IT ALSO SUGGESTS THAT THE HUMAN FRAME'S MEASUREMENTS ARE TIED IN WITH THOSE OF NATURE AND THE UNIVERSE.
IN THE MIDDLE OF THE TWENTIETH CENTURY, LE CORBUSIER CONTRIVED A MORE COMPLEX SYSTEM OF PROPORTIONS RELATING THE HUMAN FRAME TO THOSE OF OTHER NATURAL CREATIONS. HE USED A NOTABLE PROPORTION, THE SO-CALLED GOLDEN



D RESIDENTIAL BUILDING,
EX JUNGHANS AREA
2003
VENICE, ITALY
CINO ZUCCHI

SECTION. HE CALLED HIS SYSTEM THE MODULOR, WHICH ALLOWED FOR THE DIFFERENT POSTURES THAT THE HUMAN FRAME ADOPTS: SITTING, LEANING, WORKING AT A TABLE, ETC.
PEOPLE MEASURE THE WORLD WITH THEIR MOVEMENT, THEIR BODIES, AND THEIR SENSES.
ANY DIFFERENCE TO THE AVERAGE CAN EXPRESS SOMETHING IN ARCHITECTURE:
A LARGE DOORWAY EXAGGERATES THE STATUS OF THE OCCUPANT AND DIMINISHES THE STATUS OF THE VISITOR. A SMALL DOORWAY DIMINISHES THE STATUS OF THE OCCUPANT AND ENHANCES THE STATUS OF THE VISITOR. A HUMAN-SCALE DOORWAY PUTS THE OCCUPANT AND VISITOR AT EQUAL STATUS.
HUMAN BEINGS RARELY EXCEED A PARTICULAR HEIGHT, AND GENERALLY, THEY MOVE IN THE SAME WAY. THE BODY - ITS SIZE, REACH, MOBILITY - PRESENTS ANOTHER KIND OF GEOMETRY - ANTHROPOMETRY - WHICH CAN BE DISTINGUISHED FROM THE FOUR-DIRECTIONAL GEOMETRY WE ASCRIBE TO THE WORLD AROUND AND THE GEOMETRY OF THE FOUR ASPECTS OF THE PERSON STANDING IN SPACE (). ANTHROPOMETRY (THE MEASURE OF THE PERSON) IS A THIRD GEOMETRIC FACTOR TO BE TAKEN INTO ACCOUNT WHEN GIVING FORM TO SPACE THROUGH ARCHITECTURE.
THIS MAY SEEM A PROSAIC ASPECT OF ARCHITECTURE. STILL, THE DIMENSIONS OF ELEMENTS THAT RELATE TO PEOPLE'S SIZES CONSTITUTE AN IMPORTANT WAY IN WHICH THE FORM THAT IS GIVEN TO SPACE ENGAGES WITH THE PEOPLE WHO OCCUPY THAT SPACE. THERE CAN BE A COMFORTABLE AGREEMENT BETWEEN PEOPLE'S GEOMETRY AND THE GEOMETRY OF BUILT ELEMENTS, OR AN UNCOMFORTABLE CONFLICT.
POETRY AND HARMONY CAN BE INSTILLED INTO THE SUBTLE MANIPULATION OF SCALE.
THE WAYS PEOPLE MOVE RELATE TO THE SPACES THEY OCCUPY. THE SIZES OF ESSENTIAL ELEMENTS, SUCH AS STAIRS, CORRIDORS, EVEN TOILETS, RESPOND TO THE HUMAN FRAME'S INNATE DIMENSIONS AND MOVEMENT CAPACITY

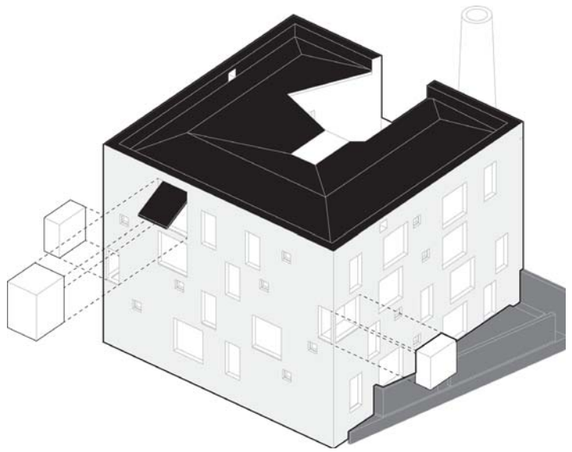




THE BUILDING IS A NEW CONSTRUCTION ON THE CORNER BETWEEN TWO CANALS. AN EXISTING BRICK CHIMNEY IS INTEGRATED IN THE DESIGN AS A TESTIMONIAL OF THE INDUSTRIAL PAST.
THE CUBICAL MASS OF THE NEW BUILDING IS EXCAVATED ON THE SOUTH SIDE BY A TRIANGULAR COURT, AN INTIMATE SPACE WHICH LEADS FROM THE PUBLIC PATH TO THE CENTRAL CORE OF THE VERTICAL DISTRIBUTION. THE BUILDING IS BUILT IN LOAD-BEARING MASONRY AND REINFORCED CONCRETE. IF THE MATERIALS AND THE TECHNICAL SOLUTIONS OF THE BUILDING ARE VERY TRADITIONAL, THE DETAILS OF THEIR USE REVEAL THEIR CONTEMPORARY APPROACH.
THE FAÇADES HAVE ONLY THREE KINDS OF WINDOW OPENINGS; THEIR IRREGULAR DISPOSITION FOLLOWS THE VARYING FLOOR PLANS OF THE APARTMENTS, AND IS ARRANGED TO MAXIMIZE THE VIEWS TOWARD THE LAGUNA. THE WINDOW PATTERN ON THE FAÇADES COULD ALSO BE READ AS CONTEMPORARY "PICTURESQUENESS" WHICH SUBSTITUTED THE NATURAL PROCESS OF ADDITIONS AND MODIFICATIONS OF THE CITY OVER TIME. THE BUILDING REPRESENTS A DEEP UNDERSTANDING OF THE URBAN AND HUMAN SCALE, BEING CONTEMPORARY WITHOUT FALLING INTO THE PASTICHES OF COMMERCIAL ARCHITECTURE.

D RESIDENTIAL BUILDING, EX JUNGHANS AREA
2003
VENICE, ITALY
CINO ZUCCHI

PROPORTION REFERS TO THE RELATIONSHIP OF SIZE BETWEEN OBJECTS. PROPORTION IS ALSO RELATIVE. THE PROPORTION OF OPENINGS ON A WALL OF A LIVING ROOM MAY BE CHOSEN TO BE VISUALLY PLEASING. PROPORTION ALSO DEPENDS ON THE FUNCTIONALITY OF THE OBJECT.
FOR EXAMPLE, FOR THE BEST PROPORTION BETWEEN A ROOM AND ITS FURNISHING, FURNITURE SIZES DEPEND ON THE ROOM'S SIZE. IN BUILDING DESIGN, PROPORTIONS LIKE MAKING THE FLOOR TO CEILING HEIGHT IN THE MOST PROMINENT BUILDING SPACE TALLER THAN THE AVERAGE MAY BE USED TO OBTAIN GOOD VISUAL APPEAL, FUNCTIONALITY, AND GRANDEUR.



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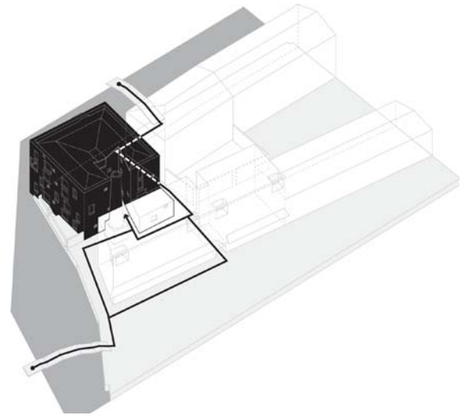


4.6 _FUNCTIONALITY, ORGANIZATION, ORDER, HIERARCHY

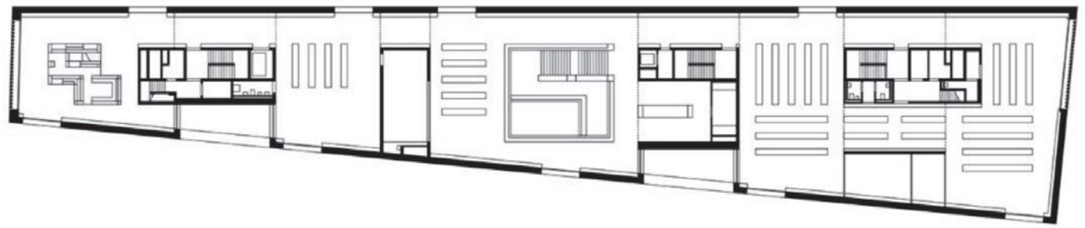
A DESIGN MUST HAVE USEFUL FUNCTIONALITY. FOR EXAMPLE, A ROOM MUST FUNCTION WELL AS A PLACE TO DO THINGS, FIT SOME PROPER FURNISHING, AND LOOK NICE. ADEQUATE FUNCTIONALITY IS SIMPLY THE BEST POSSIBLE DESIGN AND BEST POSSIBLE LOCATION OF THIS DESIGN THAT THE OCCUPANT REQUIRES. THE REQUIREMENTS MAY BE VARIED, BUT SUCH A PLAN IS CLEAN, TIDY, BRIGHTLY LIT, VISUALLY APPEALING, HAS A HIGH COMFORT, COMPLIES WITH HIGH-LEVEL HEALTH AND SAFETY STANDARDS, USES GENUINENESS OF FUNCTION.

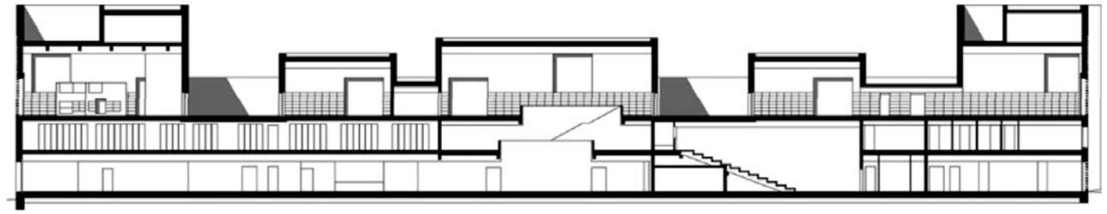
ORGANIZATION MEANS NEATNESS, CONSTRUCTION PRECISION, AND ORGANIZATION IN ARCHITECTURE AND INTERIOR DESIGN. SOME BELIEVE THAT DE-CLUTTERING A HOUSE FROM TOO MANY REDUNDANT OBJECTS MAKES IT LOOK BETTER. A NEAT AND TIDY OR ORGANIZED ROOM USUALLY LOOKS BETTER. REDUNDANT OBJECTS OR ACCESSORIES CAN DISTURB THE SPATIAL IMPRESSION. ORGANIZATION IS THE SYSTEMATIC ARRANGING OF INTERDEPENDENT OR COORDINATED PARTS INTO A COHERENT UNITY OR FUNCTIONING WHOLE.

ORDER IS A CONDITION OF THE LOGICAL, HARMONIOUS, OR COMPREHENSIBLE ARRANGEMENT.

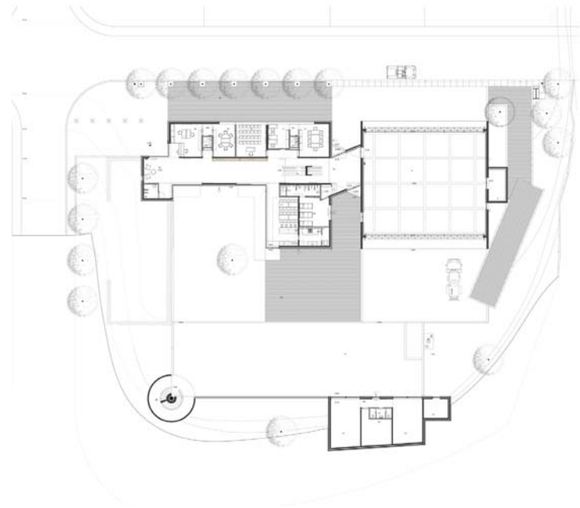
HIERARCHY CAN BE USED AS AN ORGANIZATIONAL TOOL - AND QUITE OFTEN IN THE MASSING PROCESS TOO: WHEN THE CENTRAL VOLUME IS ASSIGNED TO THE PRIMARY FUNCTION, THE OTHER VARIOUS SPACES SERVE AS CONNECTING ELEMENTS, THE HIERARCHICAL RELATIONSHIP BRINGS THE FOCUS TO THE MAIN PURPOSE OF THE BUILDING.

THE READING ROOMS' BLOCKS APEAR AS ARTICULATING, ORGANIZING ELEMENTS WITHING THE VOLUME AND THIS CAN BE READ IN THE FUNCTIONALITY OF THE FLOORPLANS AND SECTIONS TOO .





LIBRARY
2017
HEIDENHEIM AN DER BRENZ, GERMANY
MAX DUDLER



THE BUILDING'S APPEARANCE CLEARLY SHOWS AND EMPHASIZES THE DIFFERENT FUNCTIONAL UNITS ARTICULATED IN VOLUME AND MATERIALITY. THE MAIN VOLUMES INCORPORATE THE FIREFIGHTERS' BARRACKS (BRICK) AND THE GARAGE (CONCRETE), LINKED BY AN EXTRAORDINARILY ARRANGED CIRCULATION SPACE. THE ONE-LEVEL ADJACENT VOLUME INCLUDES PUBLIC SERVICE FUNCTIONS.

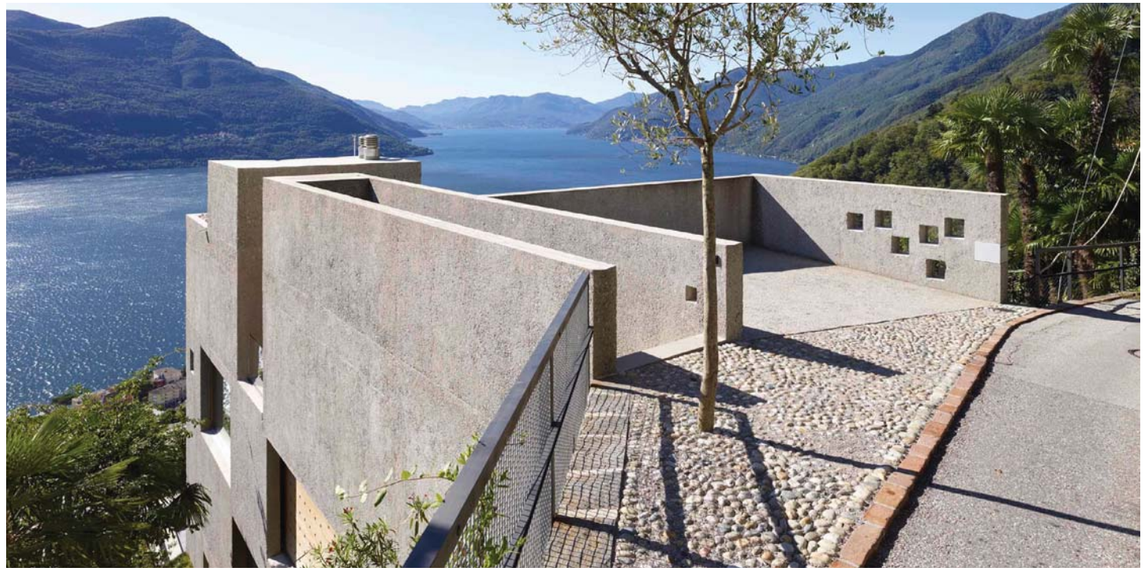
FIRE STATION
2013
SANTO TIRSO, PORTUGAL
ÁLVARO SIZA VIEIRA

4.7 _TEXTURE, GENUINENESS

TEXTURE IS THE FEELING AND VISUAL FEEL OF THE FABRICS, COLORS, AND ROOM ACCESSORIES. THE TEXTURE IS ALSO A CHARACTERISTIC THAT ONE CAN BE SEEN AND PERCEIVED IN LIGHT, BUT IT IS ALSO A CHARACTERISTIC THAT ONE CAN FEEL—IN THIS, IT RELATES TO THE SENSE OF TOUCH. EITHER WAY, TEXTURE CONTRIBUTES TO THE IDENTIFICATION OF PLACE.

TEXTURE CAN BE GIVEN TO SURFACES BY APPLICATION OF PAINT OR POLISH OR FABRIC. HOWEVER, THE TEXTURE IS ALSO RELATED TO MATERIALS' INNATE QUALITIES, HOW THEY ARE TREATED, APPLIED, AND USED.

THERE ARE TWO TYPES OF TEXTURE; TACTILE, OR VISUAL TEXTURE, AND TEXTURE, WHICH YOU CAN DETECT WITH YOUR FIVE SENSES. TEXTURE LIKE GRASS SHEETS ON A WALL OR THE PEBBLES EMBEDDED IN A CONCRETE WALL GIVE A THREE-DIMENSIONAL LOOK TO THE WALL AND A FEW SHADES OF ITS COLORS. THE TEXTURE IS THE ROUGHNESS OF THE SURFACE OF A MATERIAL. SURFACES WITH THE SAME OR SIMILAR TEXTURES LIKE FIREPLACE MARBLE TILES AND DRYWALL USUALLY LOOK MORE VISUALLY APPEALING. THE QUALITY OF FINISHES OF SURFACES IN THE DESIGN IS ESSENTIAL. SMOOTHENING AND POLISHING WOOD WALL PANELING NEATLY AND UNIFORMLY USUALLY IMPROVE ITS FINISH AND SO ITS APPEARANCE. A SMOOTH AND POLISHED SURFACE ON A MARBLE TILE IS ALSO A TEXTURE, AND SMOOTH AND UNIFORM QUALITY FINISHES CAN ENHANCE THE VISUAL APPEAL OF NATURAL MATERIAL FINISHES LIKE MARBLE TILES ON A WALL. SMOOTH MIRROR REFLECTIVE FINISH ON A

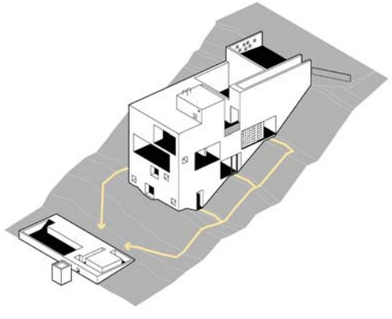


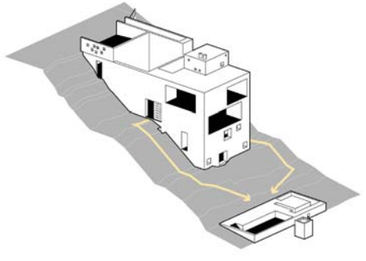
A SIMPLY SHAPED MONOLITH IN WASHED CONCRETE RISING FROM THE SLOPE'S NATURAL TOPOGRAPHY AT THE TOP IS DOCKED DIRECTLY TO THE ROAD. OPENINGS TO THE COURT AND OUTSIDE, EXTERIOR AND INTERIOR, LANDSCAPE AND ARCHITECTURE FORM A UNITY. ACCORDING TO THE ARCHITECTS, THE HOUSE CAN BE EXPERIENCED LIKE A HISTORIC VILLAGE DUE TO ITS SPATIAL DIVERSITY, COMPLEX RELATIONSHIPS BETWEEN INTERIOR AND EXTERIOR SPACES, AND DIVERSE PATH CHOICES. THE SPATIAL ARRANGEMENT ALLOWS THE GENUINENESS OF THE LOADBEARING STRUCTURES TO BE SHOWCASED IN THEIR ORIGINALITY.

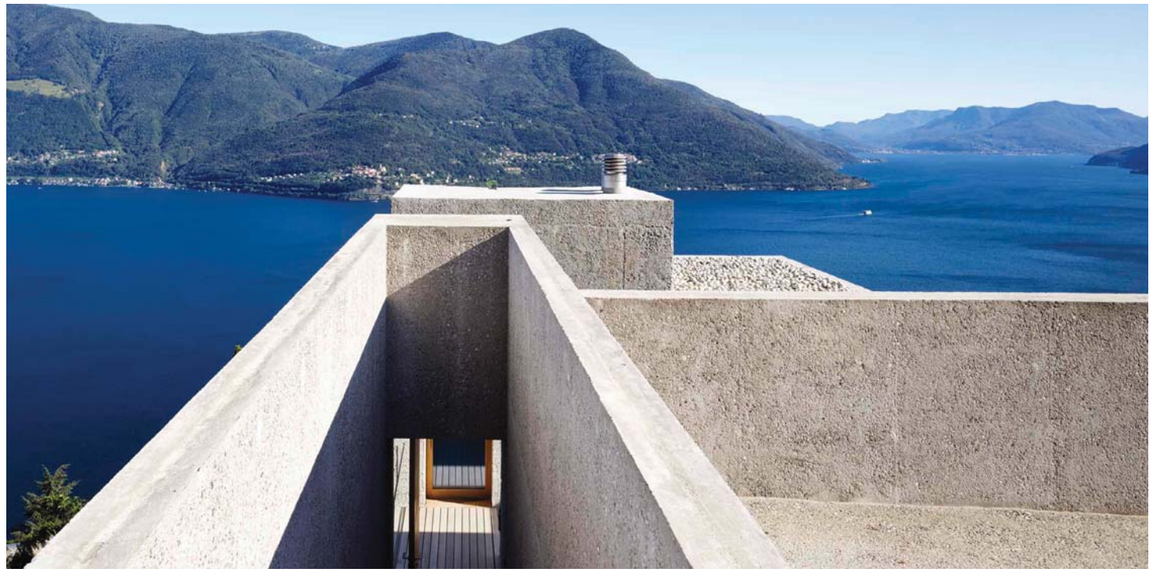
HOUSE IN BRISSAGO
2013
SWITZERLND
WESPI DE MEURON ROMEO ARCHITECTS

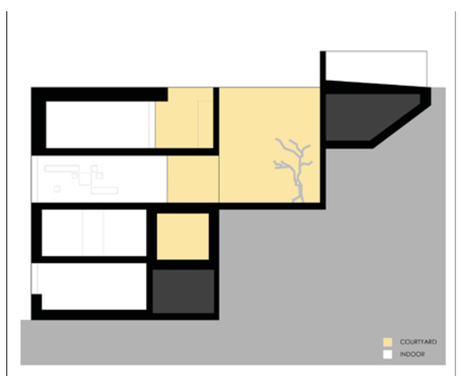
MARBLE BATHROOM COUNTERTOP ENHANCES ITS LOOKS.

GENUINENESS IN ARCHITECTURE AND INTERIOR DESIGN IS USING REAL/NATURAL MATERIAL FOR FINISHES RATHER THAN FAUX. THE BEAUTY OF NATURAL PATTERNS OF STONE OR WOOD MAY BE USED TO ENHANCE THE VISUAL APPEAL OF THE DESIGN. USING REAL METAL, GLASS INSTEAD OF PLASTIC OR PAINT SIMULATIONS IS BETTER BOTH AESTHETICALLY AND FUNCTIONALLY.
UP-SCALE PROJECTS NEED AUTHENTIC MATERIALS FOR FINISHES, NOT FAUX. GENUINENESS OF FORM IS USING A REAL STRUCTURE IN DESIGN RATHER THAN JUST A SHELL. FOR EXAMPLE, FORM'S GENUINENESS IS USING A REAL BRICK WALL RESPECTING ITS TRAITS RATHER THAN „BRICK TILES," PRETENDING TO BE MASSIVE. A REAL STRUCTURE LIKE A BRICK WALL USUALLY LOOKS MORE PRESTIGIOUS THAN A FAUX WALL. GENUINENESS OF FUNCTION INCLUDES USING REAL MATERIALS THAT IS BEST FOR ITS ROLE. GENUINENESS OF FUNCTION COULD MEAN USING THE CORRECT CONSTRUCTION MATERIALS AND STRUCTURE FOR A PUBLIC FACILITY: FOR EXAMPLE, THE STRUCTURE IS MADE FROM CONCRETE THAT IS STRONG AND FIRE-RESISTANT, NOISE-RESISTANT, ETC.
GENUINENESS OF FORM MEANS USING REAL STRUCTURE RATHER THAN SIMULATIONS USING A REAL SOLID STONE WALL RATHER THAN FAUX STONE TILES ON THE WALL.

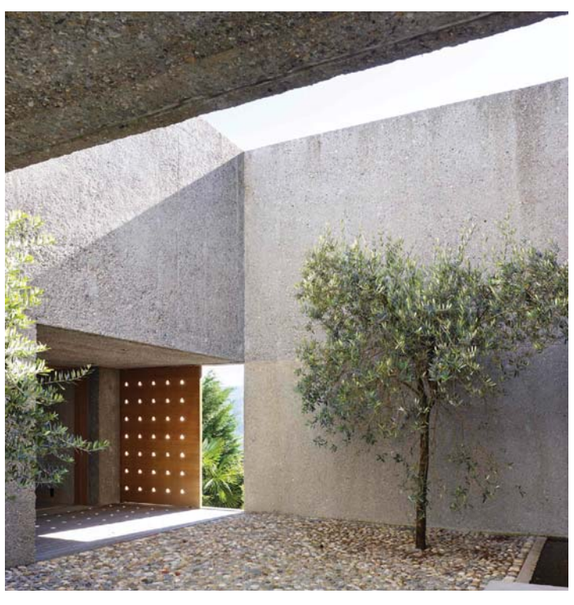


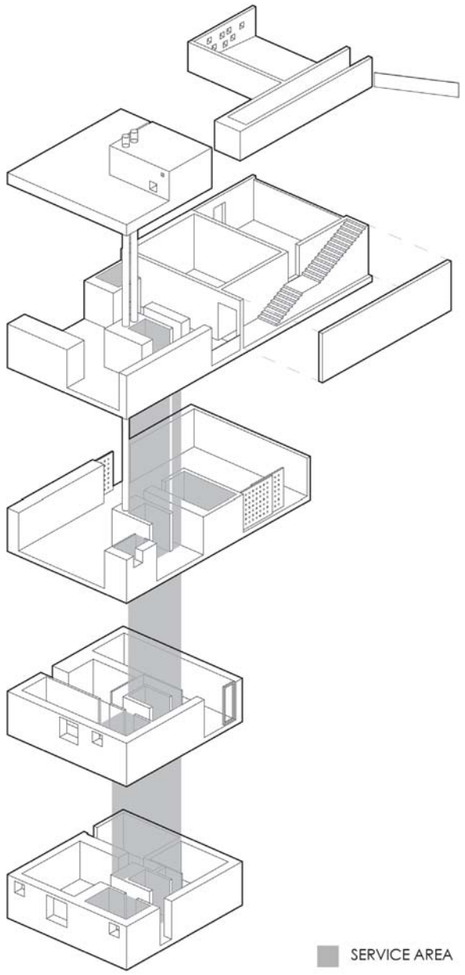






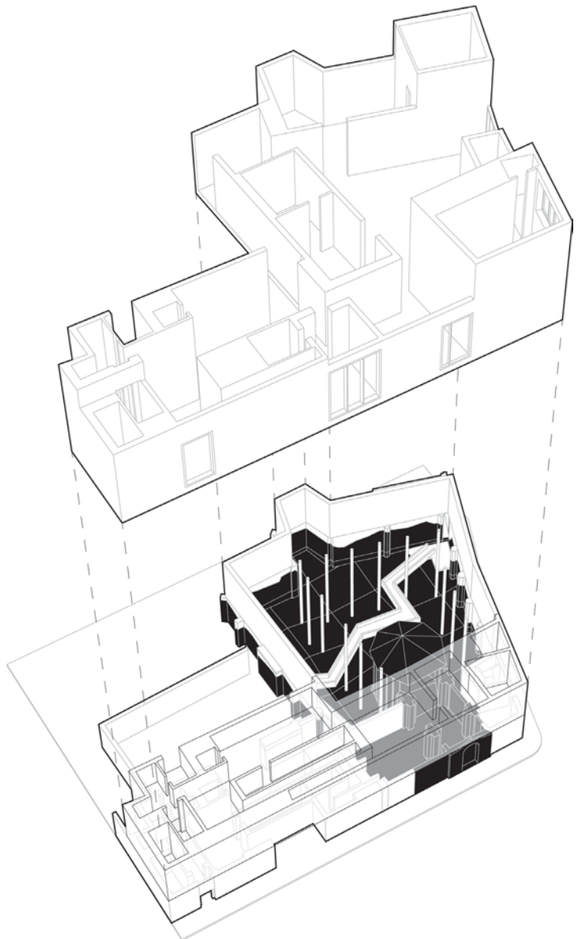
HOUSE IN BRISSAGO
2013
SWITZERLND
WESPI DE MEURON ROMEO ARCHITECTS



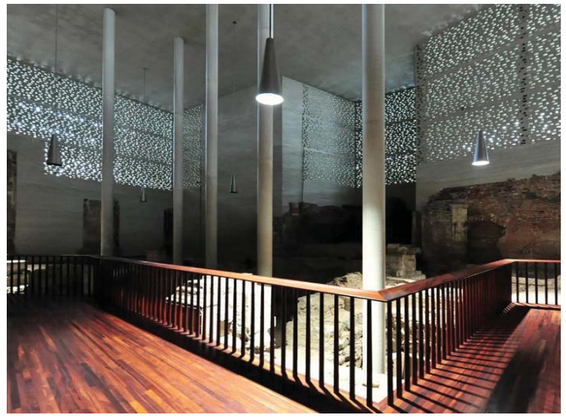


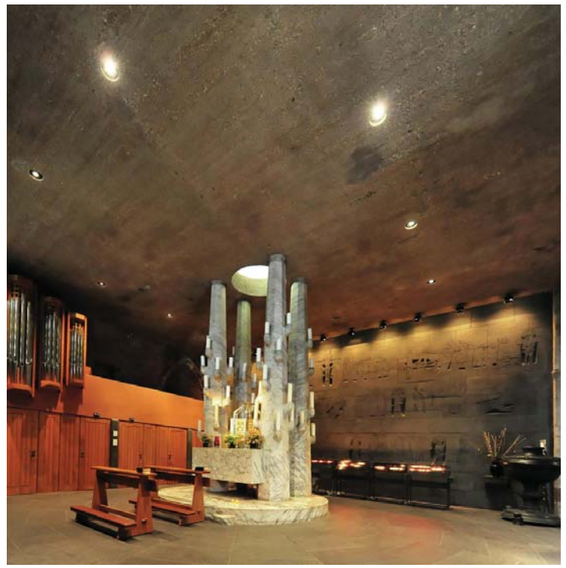
SERVICE AREA

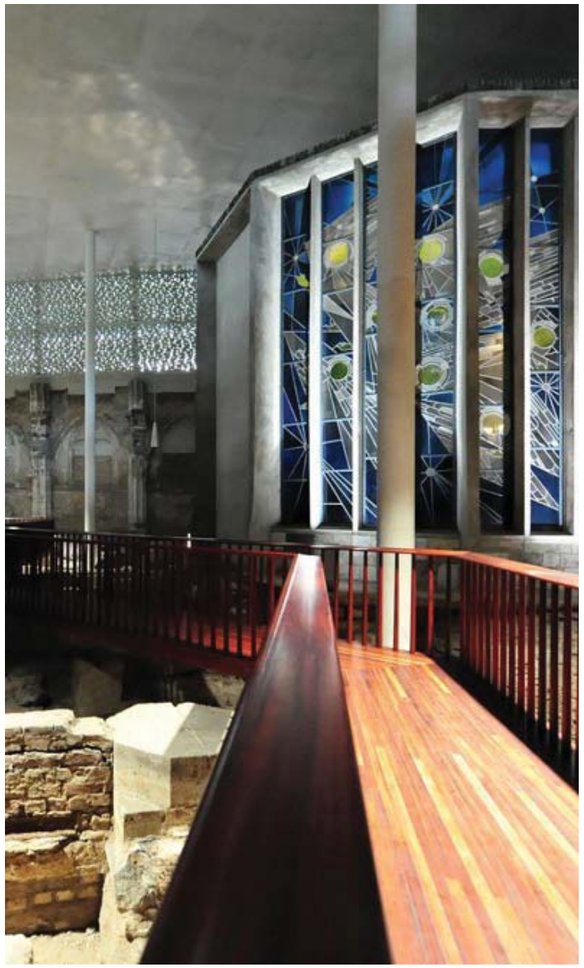
HOUSE IN BRISSAGO
2013
SWITZERLND
WESPI DE MEURON ROMEO ARCHITECTS

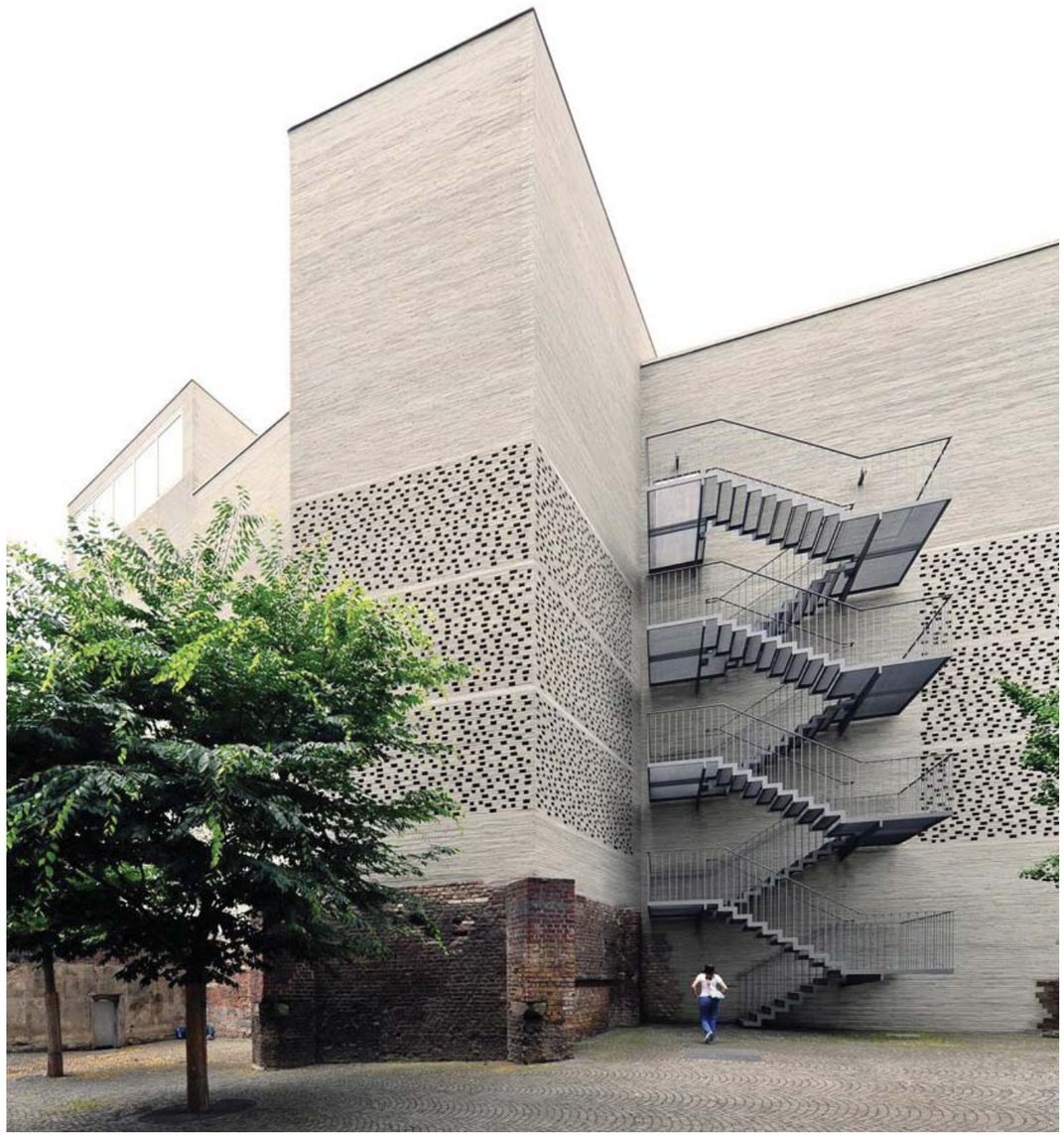


KOLUMBA MUSEUM
2007
KÖLN
PETER ZUMTHOR

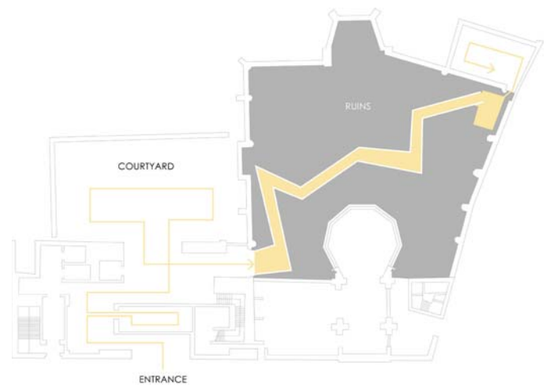








THE MUSEUM DELICATELY RISES FROM A LATE-GOTHIC CHURCH'S RUINS, RESPECTING THE SITE'S HISTORY AND PRESERVING ITS ESSENCE. CONSISTENTLY MINDFUL OF THE USE OF THE MATERIALS, SPECIFICALLY THEIR CONSTRUCTION DETAILS, THE ARCHITECT USED GREY BRICK TO UNITE THE SITE'S DESTROYED FRAGMENTS. THE FACADE OF GREY BRICK INTEGRATES THE CHURCH'S FACADE'S REMNANTS INTO A NEW FACE FOR THE CONTEMPORARY MUSEUM. ARTICULATED WITH PERFORATIONS, THE BRICK WORK ALLOWS DIFFUSED LIGHT TO FILL SPECIFIC MUSEUM SPACES. WITH THE CHANGING SEASONS, THE LIGHT SHIFTS AND PLAYS ACROSS THE RUINS, CREATING A PEACEFUL EVER-CHANGING ENVIRONMENT. THE MATERIALITY PLAYS SUCH AN ESSENTIAL ROLE IN THE OVERALL DESIGN, SO THE BRICKS, HANDCRAFTED BY PETERSEN TEGL OF DENMARK, WERE SPECIFICALLY DEVELOPED FOR THIS PROJECT.



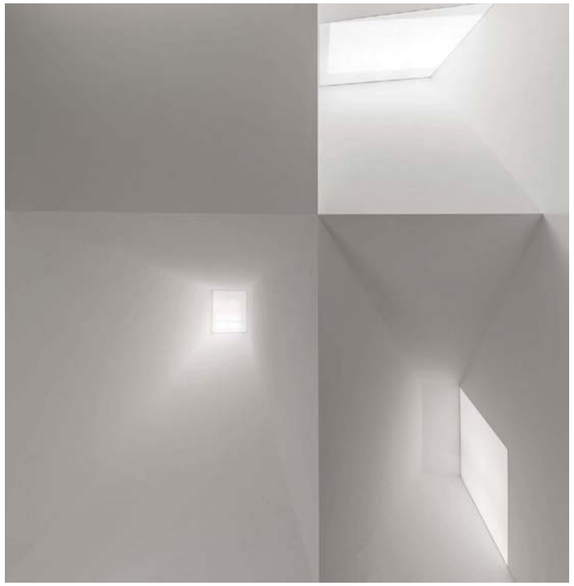
KOLUMBA MUSEUM
2007
KÖLN
PETER ZUMTHOR

4.8 _LIGHT AND COLOR

“ARCHITECTURE IS THE MASTERLY, CORRECT AND MAGNIFICENT PLAY OF MASSES BROUGHT TOGETHER IN LIGHT. OUR EYES ARE MADE TO SEE FORMS IN LIGHT; LIGHT AND SHADE REVEAL THESE FORMS . . .” /LE CORBUSIER/

LIGHT IS INEVITABLE FOR THE PERCEPTION OF FORMS AND SPACES IN ARCHITECTURE.
THE SUN'S NATURAL LIGHT CAN BE PERCEIVED IN DIRECT SUNLIGHT OR DIFFUSE DAYLIGHT, VARYING WITH THE DAYTIME, SEASON, OR PLACE. THE WINDOW OR SKYLIGHT CONTROLS THE AMOUNT OF DAYLIGHT COMING INTO THE ROOM. THE LOCATION OF AN OPENING DETERMINES HOW NATURAL LIGHT ENTERS A ROOM AND ILLUMINATES ITS SURFACES. WHEN LOCATED ENTIRELY WITHIN A WALL PLANE, AN OPENING CAN APPEAR AS A BRIGHT SPOT OF LIGHT ON A DARKER SURFACE. LIGHT FROM THE SKY VARIES THROUGH THE CYCLES OF NIGHT AND DAY AND DURING DIFFERENT TIMES OF THE YEAR; SOMETIMES, IT IS SHADED OR DEFUSED BY CLOUDS. THE VARIATIONS CAN BE STIMULATING. DAYLIGHT CAN BE ALTERED AND EXPLOITED IN MAKING PLACES TOO. ITS QUALITIES CHANGE BY HOW IT IS ALLOWED INTO A BUILDING. WHEN PLACING AN OPENING, ANOTHER CONSIDERABLE ASPECT IS THE FOCUS AND ORIENTATION OF THE VIEW. WINDOWS CAN ESTABLISH A VISUAL RELATIONSHIP BETWEEN A ROOM AND ITS SURROUNDINGS, LEADING THE EYE FROM INSIDE TO OUT.

LIGHTING IS AN IMPORTANT INGREDIENT OF ARCHITECTURAL DESIGN. IT ALLOWS THE OBSERVER TO



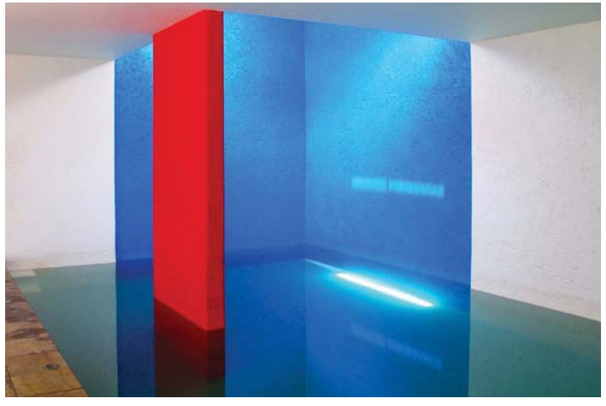
CHURCH CENTER
SELIGER PATER RUPERT MAYER
2018
POING, GERMANY
MECK ARCHITEKTEN

SEE THE DESIGN CLEARLY, AND WE USE LIGHTING TO SET MOOD AND AMBIANCE IN INTERIOR DESIGN. LIGHTING MAY ALSO BE NEEDED FOR COMFORT. LIGHT COLORATION IS IMPORTANT TO SET THE MOOD IN SPACE OR VISUAL ARTWORK. LIGHT IS AN ESSENTIAL INGREDIENT OF COLOR.

COLOR IS INSEPARABLE FROM LIGHT. LIGHT ITSELF CAN BE ANY COLOR; OPENINGS WITH COLORED GLASS CHANGE THE COLOR OF LIGHT PENETRATING SPACE; THE COLORS OF OBJECTS ARE AFFECTED BY THE COLOR OF THE LIGHT THAT FALLS ON THEM. COLOR IS THE MOST EXPRESSIVE ELEMENT OF ART AND IS SEEN BY THE WAY LIGHT REFLECTS OFF A SURFACE. COLOR IS USED TO CREATE THE ILLUSION OF DEPTH, AS RED COLORS SEEM TO COME FORWARD WHILE BLUE SEEMS TO RECEDE INTO THE DISTANCE. COLOR, AND REMARKABLY CONTRASTING, IS ALSO USED TO DRAW ATTENTION TO A PARTICULAR PART.

IN SOME DESIGN CASES, COLOR CAN BE ADDED TO INCREASE VISUAL APPEAL, SUCH AS THE SUBTRACTED PART OF A BUILDING. IT CAN ALSO BE USED FOR ESTABLISHING HIERARCHY, AND ORDER, OR GIVING EMPHASIS TO SPECIAL FUNCTIONS.

COLOR THEORY IN DESIGN INVOLVES THE IDEA OF HOW COLOR AFFECTS HUMAN THOUGHT AND EMOTIONS. PASTEL COLORS ARE CONSIDERED AS SOOTHING COLORS. THE RED ON SPORTS CARS IS REGARDED AS A DARING COLOR, AND IT CAN BE



CUADRA SAN CRISTÓBAL
1968
MAYORAZGOS DE LOS GIGANTES
MEXICO CITY

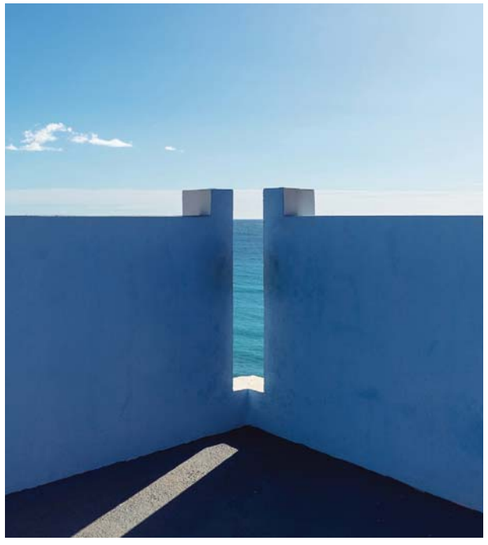
CASA GILARDI
1976
LUIS BARRAGAN

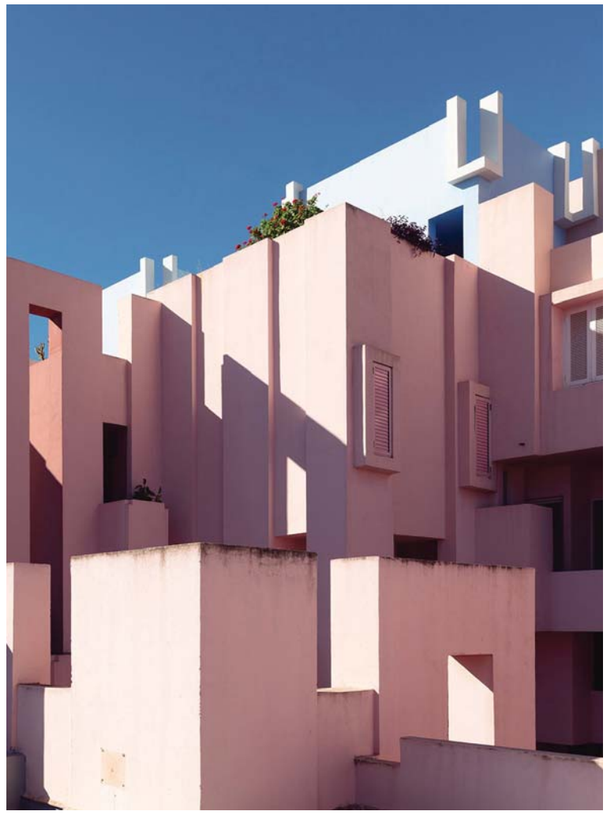
USED TO EMPHASIZE A PART IN A DESIGN. SHADES WITH RED SUCH AS ORANGE AND YELLOW, ARE ASSUMED TO BE WARM COLORS BECAUSE WE ASSOCIATE THEM WITH SUNLIGHT. WOODY BROWNS ARE ALSO CONSIDERED AS COZY WARM COLORS. COLORS WITH BLUE ARE COOL COLORS BECAUSE WE ASSOCIATE BLUE WILL COOL WATER AND ICE.

COLOR HARMONY IS A PLEASING COMBINATION OF COLORS THAT COULD ENHANCE THE CHARACTER OF A DESIGN. COLOR HARMONY IS ALSO USING A LIMITED NUMBER OF COLORS IN A COLOR PALETTE; USUALLY, SEVEN OR LESS, TO HELP PRESERVE DESIGN UNITY. A VISUALLY PLEASING COLOR COMBINATION MAY BE CHOSEN FOR A ROOM'S COLOR PALETTE FOR A PARTICULAR AGE GROUP AND GENDER.

LUIS BARRAGAN HOUSE
1948
MEXICO CITY

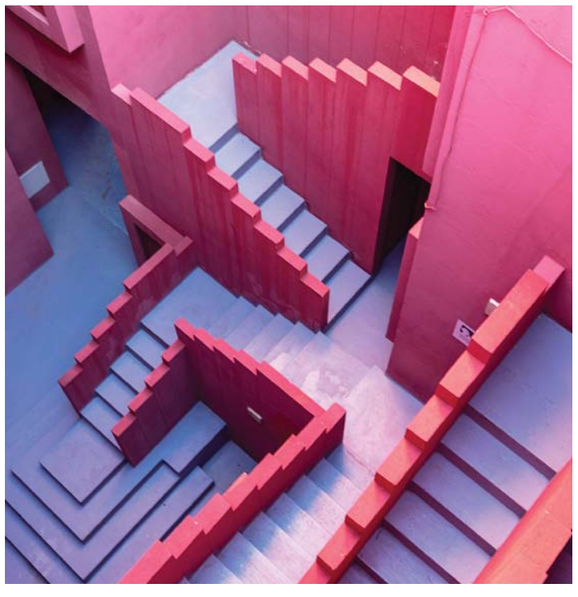
CASA GALVEZ
1954-55
SAN ANGEL, MEXICO
LUIS BARRAGAN





IT IS DESIGNED TO BE A FORTRESS-LIKE STRUCTURE WITH TALL RED WALLS SHIELDING A SERIES OF INTERNAL COURTYARDS, USING GEOMETRICAL REDUCTION, RADICAL SIMPLICITY AND VISUAL SEVERITY

LA MURALLA ROJA HOUSING ESTATE
1973 CALPE, SPAIN
RICARDO BOFILL

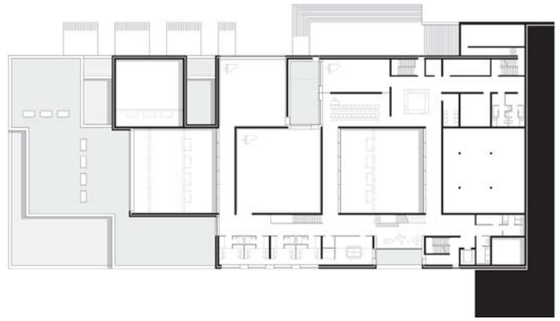


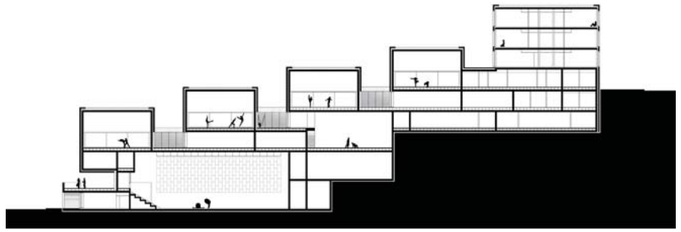
05 _PRACTICE

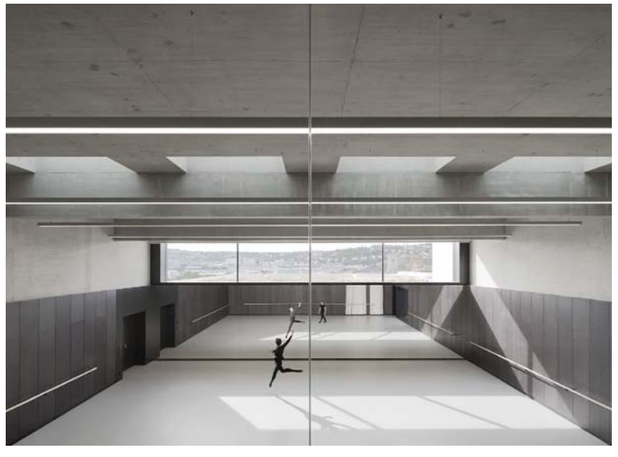
WHILE LOOKING AT THE EXAMPLES REPRESENTING THE LISTED DESIGN TOOLS' USAGE, YOU MIGHT HAVE THOUGHT YOURSELF SEVERAL TIMES: "I SEE OTHER TOOLS TOO..." AND YOU ARE RIGHT.
ARCHITECTS TRY TO APPLY THE ARCHITECTURAL LANGUAGE AS POLISHED AS POSSIBLE, AND THIS ALSO MEANS USING A VARIETY OF ARCHITECTURAL EXPRESSIONS. OF COURSE, THE RESULT CAN BE EITHER WAY: VERY CONTENT OR CHAOTICALLY OVEREXPLAINED, OR EVEN OVERDESIGNED, DECORATED.
NEVER FORGET TO CONTROL YOURSELF WHILE POLISHING YOUR DESIGN: "DO I ALL NEED THAT IN/ON MY BUILDING."
POLISHING YOUR DESIGN SHOULD RESULT IN MORE APPARENT FUNCTIONALITY AND ORGANIZATION OF SPACES, STRUCTURES, COHERENT MATERIALITY.
A QUOTE FROM ANTOINE DE SAINT-EXUPERY COMES HERE JUST RIGHT:
"A DESIGNER KNOWS HE HAS ACHIEVED PERFECTION NOT WHEN THERE IS NOTHING LEFT TO ADD, BUT WHEN THERE IS NOTHING LEFT TO TAKE AWAY."

« JOHN CRANKO BALLET SCHOOL
2020
STUTTGART
BURGER RUDACS ARCHITEKTEN

BEYOND AESTHETIC ASPECTS, URBAN AND TOPOGRAPHICAL PARAMETERS DETERMINE THE EXTENT, HEIGHT GRADUATION, AND BUILDING VOLUME.
THE SUPERIMPOSITION OF THE BUILDING FUNCTIONALITY AND ITS PROGRAM AND THE PROMINENT HILLSIDE LOCATION DIRECTLY BEHIND THE EXISTING CULTURAL INSTITUTIONS AND HOUSES IN STUTTGART CREATES A TERRACED STRUCTURE. FOUR CUBICAL VOLUMES ARE STAGGERED UPWARDS, BUILT ON THE REHEARSAL STAGE, PARALLEL TO THE SLOPE. EACH PART ACCOMMODATES A LARGE AND A SMALL BALLET HALL. THE HEIGHT OFFSET OF THIS REPEATING SEQUENCE OF ROOMS CREATES THE RHYTHM THAT GIVES THE BUILDING A THREE-DIMENSIONAL SHAPE AND OFFERS THE SCHOOL AN UNUSUALLY RICH AND SENSUAL INTERIOR QUALITY..







IT IS DESIGNED TO BE A FORTRESS-LIKE STRUCTURE WITH TALL RED WALLS SHIELDING A SERIES OF INTERNAL COURTYARDS, USING GEOMETRICAL REDUCTION, RADICAL SIMPLICITY AND VISUAL SEVERITY

JOHN CRANKO BALLET SCHOOL
2020
STUTTGART
BURGER RUDACS ARCHITEKTEN

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