

Student + Design + Competition:
Decoding the Competition Culture

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December 2011

Submitted towards the fulfillment of the requirements for the Doctor of Architecture Degree

School of Architecture
University of Hawai'i at Mānoa

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We certify that we have read this Doctorate Project and that, in our opinion, it is satisfactory in scope and quality in fulfillment as a Doctorate Project for the degree of Doctor of Architecture in the School of Architecture, University of Hawai'i at Mānoa.

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Lastly, this doctorate project is dedicated to the young and ambitious designer who wants to pursue a design competition and more.

“Infinite, embodied qualities await to be discovered and shared. We are on a journey to know and to be known.” –Nate Chung

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DECODING THE COMPETITION CULTURE

Abstract

Personal Statement

Methodology

Literature Review

Preface

ABSTRACT

It is believed that young¹ or undiscovered designers bring fresher and innovative ideas to the table of architectural competitions. For many aspiring and unrecognized young designers, a design competition is an opportunity to win public contracts and recognition through good, innovative design. Bjarke Ingels, Zaha Hadid, Alvar Aalto, Henry Hobson Richardson, Daniel Libeskind, Renzo Piano and Richard Rogers are all examples of well-known architects who gained recognition by entering and winning an architectural design competition, and thus catapulting their careers into the limelight.

The idea of competition is a very intriguing one. Competition brings forth passion, excitement, visionary ideas and the ambition to succeed. As an architecture student, it is very inspiring to discover the story of Maya Lin, who was a mere twenty-year-old undergraduate student at Yale University when her design for the Vietnam Veteran's Memorial triumphed over 1,420 other entries. More impressive than winning the competition as a student was that Maya Lin's design was actually constructed.

Maya Lin's story encourages young designers to compete side-by-side with prestigious architects. Yet some architects regard young designers with a lack of respect. They equate not having the architecture license as having inadequate

¹ For this investigation, the author will identify the term "young designer" as an undergraduate or graduate student studying at a university or college, an individual under forty years of age, or a newly established firm with less than five years of experience. In addition, the term "designer" replaces the identity of an "architect" as an individual cannot be given the title *architect* unless he or she is licensed.

knowledge of buildings. Maya Lin, however, was only a student without an architecture license when she won. Her strong and clear vision for the memorial was enough for her to triumph.²

PERSONAL STATEMENT

Analyzing architectural competitions offers a unique opportunity to investigate the relationship between the architectural profession and the young designer. Two major factors account for this: first, the significance that architectural design competition have as an institution both within the profession and in society; and, second, the fact that many built and un-built architectural works procured through the competition process were won by once young and undiscovered designers.

Competitions are a unique and well-defined arena for architectural activity and expression. This study does not focus on the history of architectural competitions, or on the specificity of the competition regulations, though it does touch on this matter. Instead, this study of architectural competitions brings together three personal interests: the interrelation of architectural history by studying historic competition works, architectural competitions as an academic procedure to strengthen a student's design development, and architecture from the point-of-view of a design student.

METHODOLOGY

The objective of *Student + Design + Competition: Decoding the Competition*

Culture is to explore the dual field of the design competition process and the academic implementation of the medium in order to shed some light on the values for young designers in an early pursuit of an elevated career through design competition.

There are five competition areas of investigation. The first concerns defining the topic of design competition in contrast to its counterpart of a traditionally commissioned design. This first section also begins to fragment the structure of the competition procedure. The second considers the evolution of the competition system in relation to historic architectural styles from its inception with the Greeks and Renaissance, to a few of the most current trends practiced in design today. The second parameter applies the interpretive-historical research method approach where architectural competitions for public building projects from around the world help chronologize the 2,500+ year history of design competitions.

The third discusses the implementation of architectural competition into the academia setting of design studio through a collection of student opinions conducted through the survey method. The fourth parameter analyzes the exciting Denmark Pavilion competition entries for the 2010 World Exposition in Shanghai, China. The fifth parameter analyzes two design competitions, in which the author took part during the interim of this research investigation and theses writing. Together these five parameters constitute a useful means to understanding the material in question. The overall culmination is a synthesis and a recommendation for students who will undertake competitions.

² *Maya Lin - A Strong Clear Vision*, dir. by Freida Lee Mock (New York: New Video Group, 2003 VHS).

LITERATURE REVIEW

This research investigation is for the young and undiscovered designer who wants to pursue a design competition. Thus, this research highlights specific competitions from the past where a young architect triumphed in the process. Sadly, in existing readings, the only information at most regarding the competition winner is a quick side comment about the victor being “young” and/or “undiscovered” prior to the arranged competition. Otherwise, no other published writing focuses on the potential of architectural competitions catapulting a young designer’s career; nor are there existing written documents geared specifically with the student population in mind.

This doctorate project hopes to become a spark for students who read it and, thus, learn and incorporate new research and ideas for future students to benefit.

Literature on architectural competitions as an area for graduate research is plentiful, yet remarkably difficult to trace. An abundance of existing books, periodicals, and online literature is available about specific competitions that have taken place in the course of history, yet only a small amount of information exists about the details surrounding the contest.

Existing writings about design competitions are an overlapping compilation of sources and ideas about the competition procedure being a political battlefield of pros and cons. Individual essays about the topic of competitions in *The Experimental Tradition* have been of immense value with respect to substantiating the societal background of competitions since its inception 2,500

years ago.³ Much of the research is predominantly Italian, French, British and American, and, not surprisingly, gives considerable weight to the history of competitions in those countries.

Here the study is selective and concentrates on clarifying and developing only that which is found in the available resources. General information about the design competition system, its history and procedure are from many written sources, whereas the specific case studies under investigation in this theses are from the design authors directly.

PREFACE

The ratio of winning an architectural design competition can parallel the chances of winning the lottery. For the hundreds of competitors who partake in the dream of winning a competition, there is always only *one winner*. If one analyzes a record of competition participants, the list of finalists, and then the winner and honorable mentions, oftentimes the names are not those of well-known designers. Many competitions have been won by previously unknown individuals. There are, of course, cases where an established and recognized architect of great importance was the winner. The point here is that architectural competitions attract design talent and stimulate all to perform at their best.

A long-term commitment is involved when a client decides to erect a building. Designers need to address specific requirements created by the client, who wants a project finished on time and within

³ Hélène Lipstadt, *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989).

budget. When a competition system is launched to find the right architect, the client has the benefit of seeing numerous design approaches. The client is able to evaluate and make objective decisions with the help of an esteemed panel of jurors to find a design that serves their best interests. In the scenario where a client goes directly to an architect with a commission, the client limits himself to only one specific approach; whereas in a competition system, numerous options are put forward to the client.

The architecture profession regards design competitions with mixed opinions. For an architectural design firm to run profitably, some form of compensation is required in return for design services, such as competitions. The architect's best interest is in the direct commission received from winning the competition. However when one objective of a design competition is to "identify new talent," architects cannot regard the design competition system as a commercially attractive proposition.⁴ For example, if a competition results in the winner being an unknown designer, that person becomes attractive to other clients and a potential rival for already established architects, who are competing for the same commissions. Although some architects want to limit design competitions strictly based on an architect's portfolio, other equally well-established professionals are supportive of the competition system and enable younger or newly established practices to compete.⁵

For these younger designers or newly established practices, an architectural

design competition is an outlet to challenge and to see how they stack against other designers both young and old. Thus, competitions bring out the best of both worlds as competitors range in age, skill, knowledge and experience. Some cases exemplify times when winning a design competition established the reputation of a total unknown; in other instances, winning a design competition confirmed the reputation of an already-prominent architect.⁶

⁴ Judith Strong, *Winning By Design: Architectural Competitions* (Boston: Butterworth-Heinemann, 1996), 30.

⁵ Judith Strong, *Winning By Design: Architectural Competitions* (Boston: Butterworth-Heinemann, 1996), 30.

⁶ Paul D. Spreiregen, *Design Competitions* (New York: McGraw-Hill, 1979), 85.

THE ANATOMY OF COMPETITIONS

Definition

Physiology

Format

Motives

Arguments

THE ANATOMY OF COMPETITIONS

The first parameter of this research defines the theme: *architectural design competition*. The intent is to introduce to the reader with an overview of the topic in order to grasp the remainder of this investigation.

In order to define and explain this broad theme, the subject matter is broken into five areas: definition, physiology, mode, motives and arguments. *Definition* characterizes the topic of design competition and differentiates the competitive process from the traditional method of a commissioned design. *Physiology* defines the framework of a design competition concerning the hierarchy of individuals who engage in the process and the means of communication between the client/sponsor and the competitors. *Format* delineates the different competition types by defining the client's purpose in executing a design contest, identifying the number of competition phases, and examining participant eligibility. *Motives* looks into the driving forces and the enthusiasm considered by competition clients and participants to pursue design competitions. *Arguments* discuss the criticism and reasons why competitions are romanticized, much of which have been extracted from the study of historic design competitions during this investigation.

DEFINITION

Within its 2,500-year history, architectural design competitions have been utilized as a system of selecting one architect or one design among many. Design competitions, by their nature, seek to distinguish design excellence to a given design challenge in an architect's quest for technical,

functional, social, or artistic innovation. Often inherent in these undertakings is the desire for architectural competitions to educate young designers and to stimulate the public interest about the importance of design in our society.⁷

By conventional acceptance, architecture competitions are differentiated from traditional (that is, non-competition) methods by the simultaneous design of the same project by several distinct designers. The American Institute of Architects (AIA) succinctly defines this essential difference: "A competition exists when two or more architects prepare sketches at the same time for the same project."⁸ A *competition* was first defined by the AIA Board of Directors and embodied in the second edition of the AIA Code of Ethics issued March 1, 1911. No specific definition of a competition existed prior to this date.

Moreover, the difference between competitive and commissioned design is that in competitions, the conceptual design process is specially highlighted and formalized into a rigorous and competitive procedure.

Hélène Lipstadt illustrates the setting of the competitive procedure in *The Experimental Tradition*, "Competitions are battlegrounds of opposing ambitions and antagonistic solutions, giant architecture classrooms with invisible boundaries and, often, open

enrollments."⁹ The general principles are that all competitors enter on an equal basis, that anonymity is observed throughout, and that assessment is made solely on merit.¹⁰

In the traditional practice of a commissioned design, an architect may be selected based on their past performance of other projects. On the other hand, a competition is a method of selecting an individual or design team because of merit. Hence, up-and-coming designers have an equal opportunity of success against already established architectural figures. A design competition is thus an encouraging direction for unknown designers to make a name for themselves.

PHYSIOLOGY

An architectural design competition is one method of finding a design of quality. It generates a broad search for the best solution to a particular building need. The architects, who compete for a prize or commission, each try to develop a design that answers the program requirements of the client/sponsor. To draw on the reservoir of talent and energy within the architectural profession, a design competition requires the following people: a competition client/sponsor, an able professional advisor, and a qualified jury.¹¹ The conscientious [student] competitor will be discussed in a later section.

⁷ National Endowment for the Arts, *Design Competition Manual III: A Guide for Sponsors* (Cambridge, Mass.: Vision, Center for Environmental Design and Education, 1984), 5.

⁸ A PDF version of this publication is available on Google Books (accessed August 20, 2011). American Institute of Architects, "Appendix 8: Report of the Committee on Competitions," in *Proceedings of the Fifty-First Annual Convention of the American Institute of Architects, Volume 51* (Philadelphia: American Institute of Architects, 1918), 116-118.

⁹ Hélène Lipstadt, "The Experimental Tradition," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 9.

¹⁰ George G. Wynne, "England," in *Winning Designs: The Competitions Renaissance* (New Brunswick, N.J.: Transaction Books, 1981), 34.

¹¹ *Handbook of Architectural Design Competitions* (Washington, D.C.: American Institute of Architects, 1982), 5.

The *client/sponsor's* (public or private) role is critical to the success of a design competition and often navigates the success or failure of the procedure. Such a result is determined by the rules and guidelines that are established by a client before the announcement of a design competition is even made public.

The rules of one competition may differ from another, but they all need to respect the guidelines set forth by the International Union of Architects and the local or national architecture organization representative. Such architectural chapters include the American Institute of Architects and the Royal Institute of British Architects. Competition guidelines help to aid the client in determining a framework for the upcoming competition and to provide direction on potential contest formats, eligibility conditions, jury composition, payments, awards, publication of results and other aspects of the procedure.

Competition guidelines delineate the responsibilities and procedures of all involved in the process, e.g. the client/sponsor, the professional advisor, the jurors and the competitors. A lack of both competition organization and financial resources to make the process feasible can create complexities that can undermine an entire project.¹²

¹² *Handbook of Architectural Design Competitions* (Washington, D.C.: American Institute of Architects, 1982), 5.

A competition opens when the client makes the design problem known. There are three primary ways for the sponsor to communicate with the potential competitor: the competition announcement, the competition conditions, and the competition program.

The *competition announcement* is the means for publicizing a contest, which triggers potential competitors to decide whether a competition is of interest. Competitions are announced in public and professional design journals, newsletters and websites. Sometimes a client will issue a competition announcement by direct mail. Through the announcement of the competition type, program content, format, eligibility, time schedule, fee and prizes, the sponsor indicates to potential competitors the general scope of the competition.¹³

The *competition conditions* reiterate the information previously revealed in the announcement and communicates further directions for technical and logistical aspects of the competition.¹⁴ The conditions of the competition may include the rules by which the contest is to be run, names of the jurors, the name of the competition advisor, the competition timeline, instructions on identifying design proposals to assure the maintenance of anonymity, details on submission requirements, the method of announcement of competition results, prizes and awards, a historical background of competitions, geographic and climatic information of the site, and maps and plans of the project site.

¹³ National Endowment for the Arts, *Design Competition Manual III: A Guide for Sponsors* (Cambridge, Mass.: Vision, Center for Environmental Design and Education, 1984), 7.

¹⁴ National Endowment for the Arts, *Design Competition Manual III: A Guide for Sponsors* (Cambridge, Mass.: Vision, Center for Environmental Design and Education, 1984), 8.

Competition conditions serve three specific objectives: (1) to describe the design problem to the extent necessary to give a fair and adequate representation of the scope of work involved; (2) to outline the evaluation criteria that will be used to compare and judge all design entries; and (3) to assure competitors that the competition process is sound and just, and therefore deserving of their best efforts.¹⁵ From this information, the potential competitor will decide whether to register to compete.

The *competition program* (known in some countries as a “brief”) is the primary vehicle for communicating the sponsor’s intentions and needs for the design problem. The competition program also ensures that every competitor receives exactly the same information on which to base ideas for a design solution.¹⁶

The competition program states the specific spatial, functional, technological and, sometimes, even the stylistic requirements of the building project in quantitative and qualitative information. Such data includes the building’s purpose; the general square footages; the site, if known; space program; any special design requirements or restrictions; budget limitations; local codes; and other references to information or data that may be helpful to the competitor on specialized topics pertinent to the project.¹⁷

¹⁵ National Endowment for the Arts, *Design Competition Manual III: A Guide for Sponsors* (Cambridge, Mass.: Vision, Center for Environmental Design and Education, 1984), 7.

¹⁶ *Handbook of Architectural Design Competitions* (Washington, D.C.: American Institute of Architects, 1982), 22.

¹⁷ George G. Wynne, "The Past Is Prologue," in *Winning Designs: The Competitions Renaissance* (New Brunswick, N.J.: Transaction Books, 1981), 2.

The degree of specificity of the competition program varies on the purpose of the design competition. Only a general program is required for Idea Competitions, whereas Project Competitions require a program that is more highly developed and technical in nature.¹⁸ These two types of competition formats will be discussed later in this section.

The *professional advisor* acts as a consultant to the client/sponsor and is directly responsible for the technical planning, coordination, supervision and operation of a design competition to ensure a successful procedure. An able professional advisor’s responsibilities consist of developing the competition announcement, the competition conditions, and the competition program; assessing the financial resources involved to make the competition feasible; exercising the question-and-answer phase with competitors to clarify program requirements and to provide as much accurate information as possible; assisting in the selection of highly qualified jury members who are able to exercise sound judgment; and seeing the competition through to its closing stages.

The competition advisor also accepts the role of a neutral liaison between the client, the jury and the competitors who engage in the rigorous process.¹⁹ To ensure impartiality, the role of a competition advisor must be an individual who is capable of approaching a competition objectively, with everyone’s welfare in

¹⁸ National Endowment for the Arts, *Design Competition Manual III: A Guide for Sponsors* (Cambridge, Mass.: Vision, Center for Environmental Design and Education, 1984), 8.

¹⁹ *Handbook of Architectural Design Competitions* (Washington, D.C.: American Institute of Architects, 1982), 7.

mind. Furthermore, the competition advisor prescreens and disqualifies any design entry that has not met competition regulations.

The evaluation of all eligible entries is conducted by *jurors* (or “assessors,” as they are sometimes called), who, through dialogue, discussion, and debate, assess the pool of competition submissions, and ultimately award one solution that best answers the criteria of the competition program set forth by the client.

In the traditional method of a commissioned design, a client normally hires an architect when choosing to construct a new building. In a typical competition procedure however, the client transfers that responsibility to a group of practiced professionals to study and evaluate the designs submitted for consideration.

Although design professionals form the majority of every jury, the sponsor may also invite technical consultants outside the branch of architecture, such as public authorities, community members, and other suitable candidates related to the specific building type set forth in the competition program.

Given that the jury member names and backgrounds are made known to the competitors, many people question whether participants tailor their design submissions, or tweak the presentation rhetorically, to canvass a particular architect on the jury committee. Opinions on this argument vary with some skeptics strongly believing that this must surely be the case.²⁰

²⁰ Barry Bergdoll mentions in *The Experimental Tradition* the 1839 competition for a new Royal Exchange “of the Grecian, Roman, or Italian style” when the jury was selected after all designs had been

The question has not been the subject of systematic study. However, one can presume that although participants try to anticipate the likes and dislikes of the jury, the impression is that competitors naturally struggle to devise an influential design that is the best possible solution to the problem.²¹

A similar thought can be wondered when a new architectural style is developed from a competition. For example, the Richardsonian Romanesque style after Henry Hobson Richardson’s Trinity Church. One can wonder whether and to what extent the features often attributed solely to the individual genius of the architect may have been prompted or even dictated by the competition instructions.²²

The makeup of a jury composition may have some effect to the competition outcome as each juror’s academic and professional experience, technical or theoretical outlook, aesthetic preferences, and group work dynamics may influence the deliberation proceedings.²³ Indubitably, the exercise of a qualified jury adds

submitted to prevent competitors from designing projects in anticipation of the jury’s taste. The competition was deemed an “unprecedented fiasco.” Barry Bergdoll, “Competing in the Academy and the Marketplace: European Architecture Competitions 1401-1927,” in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 41.

²¹ Elisabeth Tostrup, *Architecture and Rhetoric: Text and Design in Architectural Competitions, Oslo 1939-1997* (London: Andreas Papdakis Publisher, 1999), 20.

²² This strand of thought can be used as a topic for future research. Sarah Bradford Landau, “Coming to Terms: Architecture Competitions In America and the Emerging Profession, 1789 to 1922,” in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 63.

²³ National Endowment for the Arts, *Design Competition Manual III: A Guide for Sponsors* (Cambridge, Mass.: Vision, Center for Environmental Design and Education, 1984), 15.

knowledge and expert judgment to the competition selection process and furnishes the client with a level of design guidance not available in the traditional method of a commissioned project.²⁴

Overview

The method to finding the best possible solution to a design question begins with the client. With the enlisted help of a professional competition advisor, the client announces the design problem and a carefully tailored set of competition conditions that parallel the contest's regulations. The intents of the sponsor and the logistical conditions of the competition process help to ensure an even playing field among the competitors.

Within a given time schedule for competitor's to study the information, to clear up queries, and to develop a competition proposal, professional jurors evaluate and compare qualified projects to the competition program and to each other. At the end of the exhausting deliberation process, a winner is decided and a jury report is written-up to justify the decision. It is at that time when a sealed envelope containing the name of the winning designer is announced. A competition exhibition to the community soon follows to publicly highlight the winning solution and other design entries.

In a properly administered design competition, the client details the contest so that all stakeholders involved will revere and enforce the competition rules and conditions. For the competitor, defying any of the rules will result in disqualification.

A lack of support for the competition conditions from the client, the professional advisor or the jurors can weaken the whole project. The idea to develop a design competition originates from the client; therefore, it is the competition organizers responsibility for the honesty and accuracy of the statements announced in the competition.

²⁴ *Handbook of Architectural Design Competitions* (Washington, D.C.: American Institute of Architects, 1982), 14.

TYPES OF ANNOUNCEMENTS

Advertisements	Clients/sponsors may advertise in: <ul style="list-style-type: none">a. local, national or international design publications, professional journals, and newsletters, including:<ul style="list-style-type: none">- Architectural Record- Architectural Review- Architect Magazine- American Collegiate Schools of Architecture- Journal of Architectural Education- Metropolisb. local, national or international professional and academic associations, that can include:<ul style="list-style-type: none">- American Institute of Architects (AIA)- Royal Institute of British Architects (RIBA)- Student organizations in schools of architecture and design, in generalc. among the many architecture and design websites:<ul style="list-style-type: none">- Akichiatlas- Architectural Competition Concours d'Architecture- Bustler: Architecture Competitions- Competitions www.competitions.org/- SuckerPunch Competitions
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Direct Mail	Clients may announce competitions by direct mailing of: <ul style="list-style-type: none">a. a competition announcement poster to be sent and distributed around:<ul style="list-style-type: none">- design schools and departments- professional design firms- professional and student societies- cultural institutions- design magazine agencies- website sponsor/publishers
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Personal Contacts	In invited competitions, the client or professional advisor should contact potential participants directly by telephone, with a personal letter, or direct email
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Table 1: Types of Announcements. More than one type of announcement may be used to attract a broad spectrum of qualified designers

CONTENTS OF ANNOUNCEMENTS

Design Problem	<p>The design problem or challenge statement, should include:</p> <ul style="list-style-type: none"> a. major goals of the competition b. the significance of the design problem c. key constraints and design requirements
Awards	<p>The awards and prizes should be described, including:</p> <ul style="list-style-type: none"> a. the number and hierarchy of awards b. monetary prizes c. any commissions or contracts d. potential publication or exhibition of work
Deadlines	<p>The schedule should include the dates for:</p> <ul style="list-style-type: none"> a. opening and closing of registration b. distribution of program documents c. question and answer period d. receipt of design submissions e. jury deliberation period f. public announcement of the winners and other honors
Eligibility Criteria	<p>These should be stated prominently as each are determined and influenced by the competition format chosen by the client/sponsor</p>
Fees	<p>This section states the cost of registration and payment procedure</p>
Additional Information	<p>Whenever possible the announcement should contain:</p> <ul style="list-style-type: none"> a. the names of, and key information about the: <ul style="list-style-type: none"> - client/sponsor - professional advisor - individual jurors b. the anticipated presentation requirements c. the submission procedure of design entries d. implementation plans and post-competition activities

Table 2. Contents of Announcements. The intent of the announcement is to attract potential competitors. The typical content of the announcement is listed above

PROGRAM CONTENTS

Introduction	<p>This statement should include:</p> <ul style="list-style-type: none"> a. a brief description of the design problem b. the general structure of the competition c. the client's plans to use the competition results
Personnel	<p>The program should describe the authority, responsibilities and background of the persons who will conduct the competition, including:</p> <ul style="list-style-type: none"> a. the client/sponsor b. the professional advisor c. the jurors
Schedules and Deadlines	<p>The program must present the schedule of activities and precise deadlines, including dates for the:</p> <ul style="list-style-type: none"> a. the opening and closing of registration b. the distribution dates of the program documents c. receipt of questions and announcement of answers d. the receipt of design submissions e. the jury deliberation period f. announcement and notification of the winners
Eligibility Criteria	<p>The rules should describe:</p> <ul style="list-style-type: none"> a. any restrictions on eligibility b. special conditions, such as affiliations with other firms or members of the jury
Design Problem	<p>The heart of the program is the description of the design problem. This should contain:</p> <ul style="list-style-type: none"> a. the general goals and priorities b. specific aesthetic, functional and technical objectives c. design constraints and special conditions d. design components that are required, recommended or optional e. added information such as maps, diagrams, or site photographs; technical data; codes and regulations f. relevant commentary about the design problem by the client, professional advisor, or other competition staff
Presentation and Submission	<p>All presentation and submission requirements must be described precisely, including the:</p> <ul style="list-style-type: none"> a. types and scale of floor plans, elevations, sections b. dimensions of presentation boards c. method of final submission and whether projects will need to be postmarked or digitally submitted d. requirement of a narrative and word amount e. requirement of a physical scale model, if any

Table 3. Program Contents. The information above lists the basic categories of information contained in a typical design competition program. The contents vary with each type of competition

PROGRAM CONTENTS CONTINUED

Awards and Prizes	The program content must clearly describe the awards and prizes including:
	<ul style="list-style-type: none"> a. the hierarchy of awards and other special categories b. the type and amount of cash awards c. the procedures, if any, for awarding design commissions and other service contracts
Communication	In open, anonymous competitions, the procedures for communication between the competitors and the client/sponsor or professional advisor must be stated, including:
	<ul style="list-style-type: none"> a. anonymity and prohibiting the use of signatures when submitting questions or submissions b. competitors are given a unique number sequence after registration which is their only means of identification for the entire competition procedure c. competitors are prohibited to communicate with the sponsor or advisor other than during the prescribed question-and-answer procedure
	In invited competitions, there must be special provisions describing:
	<ul style="list-style-type: none"> d. client-competitor dialogue and regulations concerning the personnel who may be involved in such dialogue
Post-Competition Plans and Procedures	Post-competition plans normally address the use of winning and non-winning design solutions. The program generally contain statements concerning:
	<ul style="list-style-type: none"> a. the ownership of the submissions b. the ownership of the design ideas c. procedures to ensure that there will be no unauthorized use of design ideas d. the rights of the client and selected competitors regarding commissions, service contracts and construction contracts e. plans for keeping or returning winning and non-winning solutions f. the client's right to exhibit, reproduce or publish the submissions, and any plans for such activities
Competition Entry Form	An entry form should be part of the program document. This form should include specific instructions regarding its completion and delivery as part of the design submission

Table 3 (cont). Program Contents

COMPETITION FORMAT

	Type	Objective	When to use it	Anonymity
The first pair of competition formats is delineated by the client's main intent for executing a design competition	Project Competition	The client's main objective is to realize the winning design	Useful for when the client's intent is to realize the winning design in direct sequence with the competition	Competitor anonymity will vary with the other competition formats described below
	Idea Competition	Seeks a variety of solutions for a potential project	Useful for investigating a broad range of current design attitudes and theories	
The next pair of competition formats is delineated by the staging of the design competition	One-Stage Competition	Implies a single competitive design cycle; a winner is announced following the deliberation process	Useful for both project and idea competitions that have a small-to-moderate size design problem and program	Anonymity allows solutions to be judged based on merit, and not the past experience of the designer
	Two-Stage Competition	Characterized by two distinct, sequential, competitive design cycles, each of which is judged separately	Appropriate when the first stage is for a design idea and the second stage is a plan for implementation	The first phase is similar to an open, anonymous competition. The second half of a two-stage competition is similar to a closed competition
The last pair of competition formats is delineated by a competitor's eligibility in the design competition	Open Competition	The intent is to maximize the range of eligible competitors and to increase the number and variety of solutions	Especially useful when a broad range of design ideas is needed for a specific design problem	Open contests should be anonymous to de-emphasize the role of past experience
	Closed Competition	A closed (invited) competition should be based upon the complexity of the design problem and program, and the required expertise of the designer	Useful when sponsors require specific expertise. Helps to limit the number of entrants to a few highly selected competitors with demonstrated track records	Names of entrants are not necessarily kept secret in closed competition formats as there are so few competitors participating

Table 4: Competition Format. A client's objectives will determine and influence what competition format and structure is the most useful in a design competition

FORMAT

Competitions have produced projects of all types from office buildings and city halls, art museums and libraries, train stations and schools, memorials and parks, and small-scale residential dwellings to master plans of new cities. Design competitions have even helped to bring awareness and new purpose to once old and abandoned buildings. Hence, the design competition method is readily adaptable to generate a wide array of solutions to a variety of design problems of all types and scale.

This section delineates the six basic competition formats by defining the client's purpose in executing a design contest (project competition + idea competition), identifying the number of competition phases (one-stage or two-stage), and examining participant eligibility for a particular competition (an open or closed competition).

When considering the specific objectives of the client, there is a crucial question which, when answered, clearly delineates two formats for design competitions. The question is whether the client intends to build the winning design.

The basic distinction is between competitions for projects that are to be built, and for projects that are not. Projects that are not intended to be realized are thus put into the competition category for exploring design ideas. Thus, how the sponsor wants to use the results of the competition influences the structure of the procedure.

Project Competitions are organized for the purpose of selecting a design or designer with the intent of realizing the design. The

presumption is that the winner will be entrusted with its design and execution.²⁵

Project competition formats cover a range of subject matter and scale, in which the most common typology is a single or cluster of buildings.²⁶ Smaller scale projects can include art for public spaces, such as a wall mural or a sculpture. Sometimes it may be an industrial or commercial product, such as a light fixture, a chair or even an eating utensil. Larger scale projects suitable for a competition are the master plans for a university campus or the design for a new neighborhood development. Other topics for project competitions include outdoor spaces, such as playgrounds, parks, or urban plazas.

Idea Competitions can be perceived as a charrette to seek a variety of solutions for any of the following purposes: to better define the scope of a potential building project, to increase public awareness in advocacy situations, to clarify or to expand on current design trends and theories within the design community, to explore different approaches of using a building material, to investigate new building types and programs, or to search for alternative solutions for basic social needs and existing problems.²⁷

Idea competitions mainly benefit the client, who seeks a variety of innovative design

²⁵ George G. Wynne, "The Past Is Prologue," in *Winning Designs: The Competitions Renaissance* (New Brunswick, N.J.: Transaction Books, 1981), 2.

²⁶ National Endowment for the Arts, *Design Competition Manual III: A Guide for Sponsors* (Cambridge, Mass.: Vision, Center for Environmental Design and Education, 1984), 5.

²⁷ National Endowment for the Arts, *Design Competition Manual III: A Guide for Sponsors* (Cambridge, Mass.: Vision, Center for Environmental Design and Education, 1984), 6-7. Judith Strong, *Winning By Design: Architectural Competitions* (Boston: Butterworth-Heinemann, 1996), 26.

possibilities and solutions for a project. Hence, this competition format can be extremely self-serving and exploitative to the competitor. Without a firm objective to realize the winning design, the client can corner all the ideas of the competition and leave designers with only a meager sum for their time and efforts.²⁸ Unlike a project competition, which culminates in ultimately realizing the proposal, an idea competition does not; however, the client/sponsor may later decide to construct the project in the future.

The next pair of competition types is based on the staging of the contest. The basic division is whether the competition will be conducted in a single or two-stage design phase or as a two-stage contest. Both a project competition and an idea competition may be held in a one-stage format. However, only projects that are intended to be built are conducted as a two-stage competition, as greater design studies and refinement are needed to the original concept in order for the design to be fully realized.

One-stage Competitions select a winning design in a single sequence without seeking further work from any other designers.²⁹ Normally, a single-phase competition is sufficient for relatively focused design problems such as idea competitions and real projects of small-to-moderate size, where the time allotted is reasonable enough for design exploration.

Two-stage Competitions encourage selected competitors to explore promising design concepts in the first stage while

requiring further design development in the more rigorous second phase.³⁰ The two-stage competition requires additional time but is a more promising method to selecting both a good design and a good designer. A two-stage format gives the client the unique opportunity to explore the breadth of design concepts in the first stage and to assess the expertise of the designers during the second stage.³¹ Competitors who survive the first stage are commonly offered compensation for the time and effort required to participate in the second stage since only one design can be the winner.³²

A two-stage competition profits the client who is unlikely to accept a design exactly as submitted without additional modifications. Designers benefit from this format with the chance to view the design ideas of other competitors and to observe which ideas attract the client. Competitors can also use the comments of the client and jurors to refine their original conceptual designs from the first stage.³³ This favorable insight enables the finalists a sense of how to refine their submissions in

²⁸ Paul D. Spreiregen, *Design Competitions* (New York: McGraw-Hill, 1979), 119-120.

²⁹ *Handbook of Architectural Design Competitions* (Washington, D.C.: American Institute of Architects, 1982), 3.

³⁰ The first phase of a two-stage format helps to narrow the field of competitors to about six finalists and increases the competitors' chances of winning. National Endowment for the Arts, *Design Competition Manual III: A Guide for Sponsors* (Cambridge, Mass.: Vision, Center for Environmental Design and Education, 1984), 9. The identities of second-stage competitors are revealed to the client, but remain anonymous to the jurors until the final decision is made within the terms of the brief. George G. Wynne, "The Past Is Prologue," in *Winning Designs: The Competitions Renaissance* (New Brunswick, N.J.: Transaction Books, 1981), 2.

³¹ Lawrence Witzling and Jeffrey Ollswang, *The Planning and Administration of Design Competitions* (Milwaukee, Wis.: Midwest Institute for Design Research, 1986), 16.

³² George G. Wynne, "The Past Is Prologue," in *Winning Designs: The Competitions Renaissance* (New Brunswick, N.J.: Transaction Books, 1981), 2.

³³ *Handbook of Architectural Design Competitions* (Washington, D.C.: American Institute of Architects, 1982), 3.

order to capture the attention of the client and jurors.

An intriguing design competition relevant to this scenario is the 1992 Reichstag Competition for the renovation of the old Reichstag building in Berlin, Germany. Conducted as a two-stage open contest, English architect Sir Norman Foster won the commission with controversy over the building's cupola design. The controversy involves the Spanish architect Santiago Calatrava, who was the single designer of the three remaining finalists to comply with the competition requirements to include a dome in his initial design submittal.³⁴ Foster, however, did not incorporate a dome in his original proposal, but was later requested to develop an umbrella-like canopy (as Calatrava had done) to his entirely new second-round scheme. Although the only one in compliance with the requirements, Calatrava did not win the competition, yet his initial idea helped to propel his fellow competitor to a winning entry and eventual commission.

The last set of competition formats delineates the subject of competitor eligibility and the client's will in determining who is qualified to enter a competition. There are two ways to designate the field of potential competitors: open competitions or closed competitions.

Open Competitions imply that any interested designer such as an architect, an urban planner, a landscape architect, an industrial product designer, and even a student, may participate. There are no required qualifications for the competitor other than the fulfillment of the rules and

regulations stated in the competition conditions.³⁵ Thus, open competitions maximize the range of eligible competitors and allow the broadest and most outrageous exploration of potential design solutions.

All entries in an open design competition are submitted anonymously so no hint of the design author's name is visible to the jurors. The nature of the anonymous system suggests that all participants have an equal opportunity to be selected based on design merit, and not on previous design experience. Thus, a student may emerge from the competition as the champion.

One very well known and controversial case of a young designer winning a competition event was the 1981 Vietnam Veteran's Memorial Competition, won by twenty-year-old college student Maya Lin. In cases of an unlicensed designer winning a competition, such as Maya Lin's, the designer needs to collaborate with a qualified architect to carry out the design in direct sequence after the competition ends. Some clients worry that a designer who produced the best solution lacks some desirable skill or expertise that the client wants. This partnership between student designer and architect is merely assurance to a client that an experienced professional is involved to help the designer realize the winning design.

Many sponsors opt to use open competitions because the traditional designer selection method has not fulfilled the promise of design quality. Open competitions not only increase the number and variety of design solutions for a client

³⁴ Calatrava's dome design was a poetic flower-like skeletal structure above the Reichstag.

³⁵ National Endowment for the Arts, *Design Competition Manual III: A Guide for Sponsors* (Cambridge, Mass.: Vision, Center for Environmental Design and Education, 1984), 11.

to choose from; open competitions produce better solutions. On the other hand, some clients perceive the open competition format as riskier because there is an unknown factor as to whom and what designs will be submitted. Thus, some clients prefer the closed competition format because the latter resembles the traditional client-designer relationship.³⁶

Closed Competitions take place when a client personally invites selected designers to compete. Unlike an open competition where there is a “breadth of exploration,” closed contests limit “all that competitions can do for design.”³⁷ A closed competition can be further broken into two formats: limited and invited competitions with invited designers.

Limited Competitions restrict the eligibility and participation to a specific set of specialized firms or designers known to the client.³⁸ The qualifications of an architect for a limited competition may vary, such as designers who reside within a specified geographical location, are licensed to practice within a particular state or country, have prior experience with similar projects relevant to the competition at hand, or who satisfy other conditions. Although the client and jurors know the names of the competing designers, all entries in limited

competitions remain anonymous to deter unbiased judgment. Sometimes, however, an architect’s design style can easily reveal the designer’s identity.

Limited competitions held in a specific geographical region may be proposed for numerous reasons, such as a desire to utilize local design talent or to create awareness of and sensitivity to vernacular styles. A project may have a restricted budget and, therefore, does not have additional funds to invite international architects. A client’s budget will shape major decisions about the architecture competition. For example, an internationally advertised open contest may require more time and money than a local competition. In another instance, a competition that attracts a large pool of participants will expend added dues than a closed competition format with fewer competitors. Lastly, the competition budget will affect the monetary awards distributed to the winner and honorable mentions.³⁹

In addition, a client may want a local designer as they may have a better understanding of the climate and geographical conditions of the project site. A regional competition ensures jobs to local designers, rather than bidding the work to foreign practices. In many European countries, for instance, competitions limited to regional architects have shown to “strengthen a region’s design base, enabling younger architects to stay [home].”⁴⁰

³⁶ Lawrence Witzling and Jeffrey Ollswang, *The Planning and Administration of Design Competitions* (Milwaukee, Wis.: Midwest Institute for Design Research, 1986), 13.

³⁷ Paul D. Spreiregen, *Design Competitions* (New York: McGraw-Hill, 1979), 119-121.

³⁸ *Handbook of Architectural Design Competitions* (Washington, D.C.: American Institute of Architects, 1982), 3. Limited competitions are traditionally open to any designer who meet the requirements of an open competition, but are also joined by architects requested by the client. Elisabeth Tostrup, *Architecture and Rhetoric: Text and Design in Architectural Competitions, Oslo 1939-1997* (London: Andreas Papdakis Publisher, 1999), 19. Paul D. Spreiregen, *Design Competitions* (New York: McGraw-Hill, 1979), 122.

³⁹ National Endowment for the Arts, *Design Competition Manual III: A Guide for Sponsors* (Cambridge, Mass.: Vision, Center for Environmental Design and Education, 1984), 17.

⁴⁰ Judith Strong, *Winning By Design: Architectural Competitions* (Boston: Butterworth-Heinemann, 1996), 34.

Invited Competitions, on the other hand, limit the entries to a small number of usually no more than eight preferred firms to fabricate preliminary designs for the client.⁴¹ Normally a designer is selected because of their portfolio and skills. An architect could be invited because they have a unique stylistic range, they have a distinct quality of work, or they illustrate a specific technical expertise that the client wishes to explore.⁴² For example, a design practice may be invited to compete because of their expertise in a specific field of architecture, such as hospitality or residential design, or they have an understanding in a building typology with a complicated program, such as a medical facility or a courthouse. Clients may see this method as a means to select an architect whose portfolio of work is of interest to them and a means of evading the possibility of selecting an unknown or inexperienced designer.

In effect, this competition format follows similarly to the traditional practice of design selection when the client commissions the preparation of several design concepts. Under conventional (that is, non-competition) methods, the client must rely on the relative reputations of the architect under consideration. Closed competitions are often preferred because the client believes that inviting mainstream or more experienced designers assures the

highest quality solution.⁴³ This, however, is not always the case.

Invitations based on a sponsor's cursory review of architectural journals, for example, are not likely to be reliable. There is no guarantee that a firm invited to compete will assign the project to the same personnel responsible for the work which caught the eye of the [client]. Another fundamental error is to invite firms based upon political, social or professional relationships – a frequent occurrence in conventional practice [that] simply defeats the purpose of a competition based on design merit. Published photographs of buildings, personal contacts, or second-hand opinions are no substitute for a thorough confidential evaluation of designers and firms with appropriate credentials and references.⁴⁴

Whether a competitor's reputation is established by word-of-mouth or by more formal publicity, such as publications or awards, selection by reputation is likely to preclude the selection of a young, little-known designer, who may nevertheless possess enormous talent and the vision to produce a superior design.⁴⁵

Invited and limited competition formats are quantitative forms of each other by means of the client selecting a controlled number of designers. The American Institute of Architects defines the difference between

⁴¹ An invited competition addresses similar objectives as mentioned for a limited competition type and is only available to private clients in Europe and other countries within the General Agreement on Tariffs and Trade (GATT) and World Trade Organization (WTO) Treaty.

⁴² National Endowment for the Arts, *Design Competition Manual III: A Guide for Sponsors* (Cambridge, Mass.: Vision, Center for Environmental Design and Education, 1984), 11.

⁴³ Lawrence Witzling and Jeffrey Ollswang, *The Planning and Administration of Design Competitions* (Milwaukee, Wis.: Midwest Institute for Design Research, 1986), 14.

⁴⁴ Lawrence Witzling and Jeffrey Ollswang, *The Planning and Administration of Design Competitions* (Milwaukee, Wis.: Midwest Institute for Design Research, 1986), 14.

⁴⁵ George G. Wynne, "The Past Is Prologue," in *Winning Designs: The Competitions Renaissance* (New Brunswick, N.J.: Transaction Books, 1981), 1.

the two as that one (an invited competition) is, in effect, closed, while the other (the limited competition) is open, at least to architects in a particular region.⁴⁶ Unlike the open competition format, however, the closed competition format supplies the least design submittals from which the client has to choose a winner. This procedure is generally a more costly form of competition because it requires all competing firms a monetary incentive to cover the cost of their work and time.

Overview

The objectives of design competitions are myriad: to disclose new talent, to rethink about conventional wisdom, to create a dialogue, to increase public awareness, and to expand the boundaries of design. In a system of selecting one architect or one design among many, design competitions also seek to distinguish design excellence. However, the six design competition formats described in this section only point to one type above all others that welcomes its glory – the *open competition*.

As H el ene Lipstadt impressively declared in *The Experimental Tradition*, competitions are “giant architecture classrooms with invisible boundaries.”⁴⁷ Lipstadt must have been thinking about open design competitions when she wrote that statement. In the same quote, Lipstadt

⁴⁶ Limited competitions are traditionally open to any designer who meet the requirements of an open competition, but are also joined by architects requested by the client. Elisabeth Tostrup, *Architecture and Rhetoric: Text and Design in Architectural Competitions, Oslo 1939-1997* (London: Andreas Papdakis Publisher, 1999), 19. Paul D. Spreiregen, *Design Competitions* (New York: McGraw-Hill, 1979), 122.

⁴⁷ H el ene Lipstadt, "The Experimental Tradition," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 9.

also mentions that competitions are “open enrollments.”⁴⁸ Open enrollment suggests that any designer may enter a design competition with disregard to any pre-qualifications. Thus, competitions offer to clients the wildest explorations of conceptual and technical solutions. It also insinuates the nature of the format in that any designer who enters into competition will have an equal opportunity to win on the sole basis of merit. Thus, an open design competition can uncover a unique group of designers from both professional and amateur backgrounds, proving every underdog has a fighting chance at eminence.

For the young Maya Lin, a design competition was a means to step outside the academic setting and into the competition classroom of limitless possibilities. This was not the first occasion where an undiscovered talent won, but it was a tremendous achievement, especially for a student. The Vietnam Veteran’s Memorial Competition thus became a victory and symbol in revealing the unending probabilities of open design competitions, particularly for students.

There is a need to promote more open competitions to young designers and lesser-known architectural firms. For this reason, many already established professionals prefer competitions to be limited and for the winners to be strictly selected based on their body of work. For others, who do not have an extensive portfolio and have difficulties breaking into the profession, a competition is a means to do just that.

⁴⁸ H el ene Lipstadt, "The Experimental Tradition," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 9.

The prime reasons to support design competitions are to make known new talent, challenge traditional methods and ideas, to develop design dialogue between client, architect and community, and to push the limits of design through exploration. Although not necessarily reasons for implementation by the client, a design competition is a cheap way to get a lot of ideas and insights for the project. As open competitions do not leave anyone out, limited and invited competitions tend to exclude designers that are young and inexperienced, which the competition system is designed to support.⁴⁹

Young architects are not against limited competitions, but would like a chance to compete as well. Many advocates who support the idea of architecture competitions forming an integral part of the procurement system include well-established practices, competition advisors and competition assessors. They understand how it feels to be new and unknown as they were once in the same position. They would like to see the same opportunities opening up for younger talent. Simply speaking, open design competitions serve to furnish design and designer with the opportunity to advance.

Posed by author Paul D. Spreiregen in *Design Competitions*, one may wonder:

How much richer might the United States be in its architecture had we made use of public, open competitions in our last 200 years? How much might Frank Lloyd Wright have done? What might Louis Kahn have done had we held [more competitions that are public]? Aside from using our recognized architects,

how many still unrecognized talents might have been brought to public attention?⁵⁰

The point being conveyed here is that in the field of design, the competition procedure is the method for finding talent and ideas. The design competition winner or runner-up is an invaluable source to the public, to be identified as early as possible.⁵¹ Thus, competitions should be conducted fairly, as well as essentially be open, and public to *all* who have the talent and the ideas to put forward.

MOTIVES

An architectural design competition becomes the backdrop for the battles for one's personal best, a forum for team efforts forged in camaraderie, and, for the lucky minority, joyous public success and market. These beneficial or unfavorable enthusiasms are just a hint of why design competitions are practiced.

The Client/Sponsor

Whether a project is commissioned or acquired through competition, clients have always been faced with the ardent task of selecting the designer. Often times the client decides for an architect without having sufficient knowledge or familiarity. Moreover, in a competition procedure where the client enlists the help of practiced professionals to offer their thoughts and advice, some authorities have had their fingers burned, so to say, over competitions by ending up with schemes

⁴⁹ Judith Strong, *Winning By Design: Architectural Competitions* (Boston: Butterworth-Heinemann, 1996), 40-41.

⁵⁰ Paul D. Spreiregen, *Design Competitions* (New York: McGraw-Hill, 1979), 81.

⁵¹ George G. Wynne, "On Behalf of Competitions," in *Winning Designs: The Competitions Renaissance* (New Brunswick, N.J.: Transaction Books, 1981), 55.

they did not like very much.⁵² Nonetheless, clients welcome design competitions as a vehicle to find the best possible solution to their intents and needs.

The advantage of an architectural competition for a client is that the decision will be taken into thoughtful deliberation. A design competition procedure gives the client/sponsor the promises of a choice by comparison, confidence, merit, economy and marketing.

Choice: Design competitions give the client personal choice, helped by whatever professional advice is required, of the best solution from among a number of designs.

Confidence: A competition gives the client the self-assurance of knowing that he will find the most favorable solution to a building need because the range of design submissions allow the final decision to be made by comparison.

Merit: The anonymity factor of design competitions enable the procedure to be the only system of selecting a designer purely on the demonstration of skill, rather than prior experience, notoriety, or connections. Anonymity also tests one's merit in compliance with the program to the specific problem put forward by the client.

Economy: Many clients turn to an architectural competition to yield economical yet high-quality designs. The assessment of proposals by experienced professionals and experts is an excellent approach for clients to obtain the best solution in relation to money value.⁵³

⁵² George G. Wynne, "England," in *Winning Designs: The Competitions Renaissance* (New Brunswick, N.J.: Transaction Books, 1981), 33-34.

⁵³ George G. Wynne, "England," in *Winning Designs: The Competitions Renaissance* (New Brunswick, N.J.: Transaction Books, 1981), 34.

While the inexperienced client may assume that competitions add to the expense of a project because of administrative expenses and the need to compensate runners-up, experience in many countries has been that the total project cost is often less due to some innovative design or construction technology.⁵⁴

Marketing: A design competition can help to stimulate public awareness as well as initiate a marketing ploy for the client to get the project recognized even before the design is selected or built.

The motivations offered by the client will affect the number and types of competitors that participate in a competition. General incentives and awards are: (1) the intention of the client to construct the winning design; (2) monetary prizes for the winner and honorable mentions; (3) exposure through news articles, media coverage, exhibitions, and publications; (4) professional and public acknowledgment; (5) intention of the client to contract for possible future design services; (6) an opportunity to test one's ideas against their peers; (7) a prestigious jury panel composed principally of eminent design professionals and experts; and (8) anonymity, which offers the chance to be recognized strictly by merit of ideas rather than by their portfolio of work, prior experience, or affiliation.⁵⁵

⁵⁴ Obviously this is not always the case, as detractors of the Sydney Opera House competition in Australia are quick to point out. In the mid-1950s, the revolutionary design of Denmark's Jorn Utzon unfortunately called for a whole new order of technology for the construction of the building's sail-like roofs. The result was substantial delays in completion and massive cost-overruns. George G. Wynne, "The Past Is Prologue," in *Winning Designs: The Competitions Renaissance* (New Brunswick, N.J.: Transaction Books, 1981), 2-3, 43.

⁵⁵ National Endowment for the Arts, *Design Competition Manual III: A Guide for Sponsors*

The Competitor

Architectural competitions attract many eager designers for the chance that the client will realize their design. The second protagonist to be examined will be the competitor and their motives of practice other than the listed incentives offered by the client.

For design firms who specialize in highly technical building programs,⁵⁶ architectural competitions are pursued as a way of obtaining new work when the economy is slow. A designer's chance to move forward in competition increases when their portfolio includes the specific program and building typology similar to the competition program.

Other designers may observe a competition as a design charrette to expand their area of expertise. A lack of or holding no experience in a particular building typology can be detrimental to a firm who has never designed a prison, a courthouse, a hospital or any other building consisting of a complex program. In open competitions where a designer or an inexperienced firm did not win the first prize, an honorable mention or reference can be adequate to hoist the profile of a design practice. Thus, achieving credential in an architectural competition indicates enough knowledge to a specific line of work and the designer may later be seriously considered as a potential candidate for a future building project.

(Cambridge, Mass.: Vision, Center for Environmental Design and Education, 1984), 12.

⁵⁶ Building types that have highly technical programs include prisons and courthouses as they require a strong separation between public and private users. Other buildings are driven by the complexity and specificity of the program such as a hospital.

Akin to exploring a new typology of building design, another motivation to pursue competition may be due to a particularly unique and exciting project. A different type of design challenge may be the creative outlet for a designer to explore ideas he or she would otherwise not investigate on a day-to-day basis.⁵⁷ A chance to work on something different can help rejuvenate the morale within a quiet office or to invigorate the portfolio of a designer's overall body of work.

ARGUMENTS

Competitions help to stimulate public dialogue about architecture and design. As competitions make news, a competition can also be scrutinized under the same public eye. This argument stems from a higher level of expectations for the realization of a building through a competition procedure. As much as a winning entry is expected to be better than a traditionally commissioned building, it really is just that: an expectation and an attitude.

There is no guarantee a designer's competition design is an unflawed process with a picture perfect and award-winning result. There is no detailed research presented to indicate competitions producing better buildings. It is a fact, however, that the reputations of many internationally known architects were started and propelled by winning a competition.

Design competitions have proven that when properly planned and executed, the competition system can be an effective and

⁵⁷ Michael Berk and G. Stanley Collyer, *Competing Globally in Architecture Competitions* (England: Wiley-Academy, 2004), 13.

successful means of selecting a designer or design. On the other hand, however, competitions are frequently derided for occasional claims of favoritism, dishonesty, and the like.

Criticism is not a stranger to architectural competitions. Most comments opposed to the system are simply against specific contests believed to have turned out poorly. Basic arguments and comments are subjective and are based exclusively on the beauty and aesthetic aspect of the winning entry. One should understand that *beauty is in the eye of the beholder* and that when referring to good versus bad design, a successful building is not primarily based on its aesthetic character. Rather, one should take the “entire building in all its parts and in all its functions, including its costs during its life” into consideration.⁵⁸

The designer or any other participant in the building process usually does not have power over other arguments that come up. Whether it is a competition or a traditional commission, many other factors and conditions come into play, as architecture must constantly prove itself before the jury of public judgment.⁵⁹

Highly profiled buildings typically capture the media spotlight in order to generate interest towards a major architectural competition. For this reason, clients like to pursue the competition system rather than a traditional commission in order to gain public notice early and thus create hype to help the project get off the ground. When a competition begins to gain the public spotlight with positive and negative discussions, this overwhelming event becomes a test for the client/sponsor in his

commitment of whether or not the project will be realized.

An architectural design competition can be viewed as the method for finding a quality design. Yet, the system still follows the same procedure of implementation that a commissioned project goes through. Unlike other procurement methods of architect selection and design exploration, competitions are expected to produce better results – and so they seem to do. However, they cannot avoid typical obstacles in the construction industry, such as bad site planning or unpredictable building and materials costs.

Sometimes it is out of the architect’s control to overcome problems of bad management on the part of the client. As competitions are more publicized than normal commissions, competitions can, perhaps, highlight these problems.

Even with advancements in new technology and equipment, the responsibility of putting a building together will only become more complicated. Building designs are becoming more intricate as more people are getting involved in the process. In the United States as elsewhere, money is an overshadowing determinant of the marketplace that affects the implementation of a project. Many people argue that good design costs more, and sometimes it is true. Good design does cost money, but over time, bad design will usually be more expensive than good.

Conclusion

The fantasy of anonymity and equal opportunities secures the idea of competitions as a wide-ranging system within the design profession. They

⁵⁸ Paul D. Spreiregen, *Design Competitions* (New York: McGraw-Hill, 1979), 7.

⁵⁹ Paul D. Spreiregen, *Design Competitions* (New York: McGraw-Hill, 1979), 9.

constitute both a unique and encouraging opportunity to aspiring designers and practiced architect for airing their talents.

Competitions promise the client a choice to select a design based on merit. With professional advice made available to select the most economical and technical solution, the client has the confidence that within the pool of submissions, there will be one, if not a small few of potential solutions. Ultimately, a final decision will be determined.

As a marketplace for commissions, architectural competitions reward only very few architects as a direct result of winning. Champions of competitions regard the system as a means to nourish and recognize young designers. This may help to explain why young architects are so much in favor of competitions, which they see as their only route to recognition and commissions.⁶⁰

Part of the argument here is the source of the uneven regard that young and professional designers feel towards competitions. Enemies of competitions present them as pointless exercises that exploit the creative and financial resources of experienced professionals and younger designers.⁶¹ Although young designers believe that competitions do help them get work, experienced architects who participate in competitions “all the time” lose money. Since only one competitor can

win, participation thus becomes a costly practice.⁶²

The autonomy of competition design is free from the give-and-take exchange of the client relationship and the restrictions of the real building process. Competitions afford opportunities for experimentation with real projects on real sites. Hence, the appeal of competitions embodies the competitive mentality that permeates professional life.

Still, the purpose of competitions is much broader than just competition over one’s peers in the pursuit of creating the best solution. The purpose of competitions extends to the professional and public domain. The accompanying exhibition and publications can be of benefit to more designers than the winner of the first prize. Competitions are a source of self-inspiration and continual education, and may serve as the threshold to guaranteed success for the winners.⁶³

⁶⁰ George G. Wynne, "France," in *Winning Designs: The Competitions Renaissance* (New Brunswick, N.J.: Transaction Books, 1981), 19.

⁶¹ Complaints about the cost of competitions in relation to their value are not new. Elisabeth Tostrup, *Architecture and Rhetoric: Text and Design in Architectural Competitions, Oslo 1939-1997* (London: Andreas Papdakis Publisher, 1999), 21.

⁶² George G. Wynne, "France," in *Winning Designs: The Competitions Renaissance* (New Brunswick, N.J.: Transaction Books, 1981), 21.

⁶³ Hélène Lipstadt, "The Experimental Tradition," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 9.

THE EXPERIMENTAL TRADITION

Greek Agon

Renaissance Competition

Italo-French Academic Competition

French Academic Competition System

Political and Industrial Revolutions

Victorian Competition System

Architecture Competitions in American

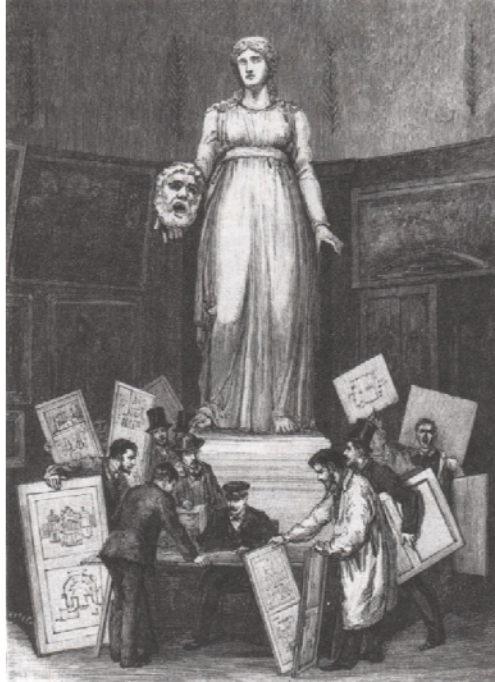


Figure 1. Lemaistre, Alexis. Before each monthly competition at the École des Beaux-Arts, drawings were registered in the Salle Melpomène, especially designed for the judging of competitions. The hall bears the name of the Muse of Tragedy. 1889.⁶⁴

THE EXPERIMENTAL TRADITION

The second area of research considers the tradition of architectural competitions. In order to realize the long and historic past of the competition system, the subject matter is broken down into two foci. The first focus reflects on the evolution of the competition process. The second focus will examine the competition method as a catalyst for forging new stylistic trends. Significant competition examples from the Greeks and Renaissance, to a few of the most current design trends being practiced today, have been selected (1) to chronologize the 2,500+ year history of design competitions, (2) to help illustrate the evolution of the process and (3) to extrapolate periods in history where a winning competition proposal may have helped to catapult a new trend in design.

The challenge of a history of architecture competitions lies not simply in recounting their historical role in the evolution of style and the role that historiographical perceptions have played in perpetuating the practice. The challenge is in ascertaining why the procedure came into prominence at particular stages of the evolution of the modern profession.

The competition process has evolved parallel to its very precondition from the gradual specialization within the building economy of the architect as an artist; that is, one who primarily provides designs rather than supervises construction. The competition procedure presupposes the possibility of working out projects abstractly and separately from the building process, communicating them to patron and builder by scale models or graphic representations that can be discussed, revised, compared, and ultimately put into

⁶⁴ Hélène Lipstadt, *The Experimental Tradition: Essays on Competitions in Architecture*, 10, poster.

competition with any number of other proposals.⁶⁵

GREEK AGON

The competition procedure of today originates from the classical Greek ideal of *agon*.⁶⁶ The earliest known design competition can be dated back to the Greeks in 448 B.C. for a war memorial on the Acropolis.⁶⁷ Noted by Barry Bergdoll in *The Experimental Tradition*, the *boule*⁶⁸ prescribed the scale for the designs to ensure fair competition conditions.⁶⁹ In Ancient Greece, *agon* were held as special state of affairs, thus, the laurels of winning a design competition helped to enhance the prestige and symbolic importance of a public undertaking.

RENAISSANCE COMPETITION

The Greek tradition of competition was revived in the early Renaissance of Florence. The Renaissance competition was a technique to assert one's genius in a community and to become an instrument

for guilds to gain prestige. The ambition to outdo rival artists and guilds was encouraged in the Renaissance competition practice, but infringed on ethical principles of that time.

The procedure involved the intellectual and political elite of the community in a public display of artistic discernment. The champion emerged as an individual distinct from those members of the building trades who would subsequently implement his winning design.⁷⁰

It is during the [fourteenth century] that we first find the public authorities, as representatives of the communes, making the awarding of commissions contingent on the results of an open competition. Rivalries between neighboring communes impelled the authorities to look to those solutions that would bring their towns most prestige – solutions that would be new, more 'modern,' and conspicuous quality – but would also be the most economical.⁷¹

According to Bergdoll, the celebrated competitions of 1401 and 1418 at Florence Cathedral initiated a progression of historic competitions. In reference to the celebrated Italian artist, writer, historian, and architect Giorgio Vasari, the 1401 competition for the second set of bronze doors to the Florence Baptistery marked the threshold of the Renaissance itself. The event not

⁶⁵ Barry Bergdoll, "Competing in the Academy and the Marketplace: European Architecture Competitions 1401-1927," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 23.

⁶⁶ Ancient Greek work; competition, contest.

⁶⁷ Barry Bergdoll, "Competing in the Academy and the Marketplace: European Architecture Competitions 1401-1927," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 24.

⁶⁸ The *boule* was an advisory citizen body of the Athenian democracy; ancient Greek council.

⁶⁹ Barry Bergdoll, "Competing in the Academy and the Marketplace: European Architecture Competitions 1401-1927," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 24.

⁷⁰ Barry Bergdoll, "Competing in the Academy and the Marketplace: European Architecture Competitions 1401-1927," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 24.

⁷¹ Antje Middeldorf Kosegarten, "The Origins of Artistic Competitions in Italy," in *Lorenzo Ghiberti nel suo Tempo*, 2 vols. (Florence: Leo S. Olschki, Editore, 1980), 176, 179.

only proclaimed revival of antique forms⁷² but also the antique love of the individual, the artist.

The design competition was the breakthrough for both the young Lorenzo Ghiberti and for the untried Filippo Brunelleschi;⁷³ the two artists would compete again in 1418 to solve the intricate equation of spanning the cathedral's crossing. The mythical status that these two Renaissance competitions have attained originates from the claims that competitions operate as a means of *discovering new talent* whose proposals are destined to have major influence.⁷⁴

Judging architectural drawings – the objects that characterize the profession – became highlighted in the early Renaissance competitions, according to Lipstadt.⁷⁵ The practice of *disegno*, an Italian word translated as 'drawing' or 'design', was a way for the competitor to show off his craft. *Disegno* elicited from artists helped jurors to compare

submissions and to select one quality design. As competitions were normally judged within an elite inner circle and without a verbal explanation of the design from the artist, it was presumed that drawings predicted the client's objectives. The means of "designing and projecting based on competition and selection," thus encouraged the participants to rethink the aesthetics of how to present ones work in order to gain individuality from others.⁷⁶

In the Renaissance academia, competitions taught students about the idea of composition as an artistic act of reason. Moreover, design competitions helped to doctrine the architectural plan as the formal solution of the program and as the generator of the building's form. Academic competitions were frequent and helped to guide students away from the literal reproduction of significant precedents. Accordingly, the process of judging competitions became an important aspect of the teacher's act of critique.⁷⁷

The Renaissance helped to differentiate the architect from other artists and builders. Architects were defined by their ability to design independently of buildings, to use techniques of representation and other conventions of *disegno*; and to integrate into their buildings a body of knowledge and values that existed independently of the craft of building, but emanated from architecture antiquity.⁷⁸

⁷² Hélène Lipstadt has described these early Renaissance competitions as: "the moment when the Trecento standard of judgment – that 'beauty and utility [were] considered virtually one and the same thing' – was replaced by the humanist standard of classical values derived from antiquity." Hélène Lipstadt, "The Experimental Tradition," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 14.

⁷³ According to Vasari, it was Brunelleschi who suggested a two-stage contest for a solution to spanning the crossing, thereby fundamentally transforming what had been an established consultative practice into a public competition.

⁷⁴ Barry Bergdoll, "Competing in the Academy and the Marketplace: European Architecture Competitions 1401-1927," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 23.

⁷⁵ Hélène Lipstadt, "The Experimental Tradition," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 14.

⁷⁶ Antje Middeldorf Kosegarten, "The Origins of Artistic Competitions in Italy," in *Lorenzo Ghiberti nel suo Tempo, 2 vols.* (Florence: Leo S. Olschki, Editore, 1980), 178.

⁷⁷ Barry Bergdoll, "Competing in the Academy and the Marketplace: European Architecture Competitions 1401-1927," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 25-26.

⁷⁸ Hélène Lipstadt, "The Experimental Tradition," in *The Experimental Tradition: Essays on*

The success of the Baptistery contest became an epitome for later Renaissance competitions that enhanced architecture's claim to a relative artistic autonomy.⁷⁹ Designers were treated as artists and their designs were admired as works of art. A designer who won a competition was not only recognized, but the superiority of the winner would be regarded as a principle for future contests. Thus, the emancipation of the artist-architect came to life during the Renaissance:

The celebrated social rise of the Renaissance artist took place on the public stage of civic life. Artistic achievement came to be rewarded with prestige and social standing, especially when this achievement was acknowledged as a contribution to the community...The individual found his place within the society and entered into competition with others; he could exercise direct influence on the course of events.⁸⁰

Individuals often exchanged the comfortable lifestyle as a guild member – with its duties, guarantees, privileges, and obligations – for a lifelong battle for individual excellence or greater fame than fellow artists had.⁸¹ Filippo Brunelleschi

Competitions in Architecture (New York, N.Y.: Princeton Architectural Press, 1989), 14.

⁷⁹According to Hans Belting, "At a certain level the [economic and social] competition was no longer governed by...market mechanisms...Artistic quality...constituted itself a quasi-sacral value. In the long run, the function of art became precisely its accepted lack of function, its aesthetic autonomy." Hans Belting, "Vasari and His Legacy: The History of Art as Process?" in *The End of the History of Art?* (Chicago: University Of Chicago Press, 1987), page number?.

⁸⁰ Hans Belting, "Vasari and His Legacy: The History of Art as Process?" in *The End of the History of Art?* (Chicago: University Of Chicago Press, 1987), 79-80.

⁸¹ H el ene Lipstadt, "The Experimental Tradition," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 15.

was one of these men. Brunelleschi traded his lifestyle as a goldsmith and the security attached to the position, in order to compete for individual mastery in the unknown path of competition limelight. Brunelleschi would achieve this feat in 1418 to design the dome of the Florence Cathedral.

Common to that period with large projects was that one generation often inherited the incomplete work of the previous group. The Florence Cathedral in Italy is one such case study where competitions helped to design and build various missing parts of the building. The celebrated competitions of 1401 and 1418 are part of a long history of sequential competitions for the Florence Cathedral's various parts. Later competitions would be initiated over the years to design the nave, the piers of the crossing and the lantern, among others.

Cathedrals continued to be built across Europe, first in the Romanesque, and later in the more decorative Gothic style. The latter style would give rise to Gothic revival in public architecture and are bracketed by the two great London competitions: the Houses of Parliament and the Royal Law Courts.⁸²

ITALO-FRENCH ACADEMIC COMPETITION

Architectural competitions evolved in the Italian and French academies from the sixteenth to nineteenth centuries. Academies evolved from small artist guilds in the Renaissance to powerful state

⁸² Barry Bergdoll, "Competing in the Academy and the Marketplace: European Architecture Competitions 1401-1927," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 23.

policies, and to international schools of design in baroque Europe.⁸³ Often organized in two stages – from the sketch, *l'esquisse*, to the fully developed *rendu* – competitions played a fundamental part in the education and training of designers and in perpetuating the Renaissance ideal of the artist-architect. Ideally, young architects combined practical training in the studio of an architect with attendance at the Academy.

The design competitions in Renaissance academies can be distinguished from the antique contests that they were modeled after. Prior to the competition method, there was the age-old tradition of working one's way up through the professional ladder, although, at least initially, students could combine academic instruction with apprenticeship in a building guild. Academic competitions represented a purely theoretical discourse on architecture divorced from the building site of the actual commission, and laid the basis for a system of education at the drafting board that became increasingly more sophisticated as a simulation of the act of architectural design.⁸⁴ Thus, competitions established a separate means to practice architecture.

The pedagogy of the competition process in antique schools for design was central to the notion of reproduction. The act of copying or imitating previous works was

⁸³ Barry Bergdoll, "Competing in the Academy and the Marketplace: European Architecture Competitions 1401-1927," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 25, 27.

⁸⁴ Barry Bergdoll, "Competing in the Academy and the Marketplace: European Architecture Competitions 1401-1927," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 25.

implicit at the heart of academies' concerns to cultivate adherence to accepted architectural norms and its usage of which they aspired to be the leader. The practice of architecture became an art form fostered by emulation rather than acquired by apprenticeship. Ideal models of emulation included portfolios of the most admired and influential antique and modern buildings and permeated competition projects. Objects for emulation were generally collected by the academy and stored in academic studios and libraries for use by students. Publications and monthly periodicals were to become later vehicles for this pedagogy.⁸⁵

It was not uncommon for a pupil to trace the drawings of his teachers. Students, however, were also encouraged to view precedent projects not as models to copy but as prototypes to be continually reworked and redesigned.⁸⁶ Interestingly, academic drawings have become a tangible record of the competition process of reinventing tradition.

FRENCH ACADEMIC COMPETITION SYSTEM

In France, the royal *Académie d'Architecture*⁸⁷ is where the competition

⁸⁵ Barry Bergdoll, "Competing in the Academy and the Marketplace: European Architecture Competitions 1401-1927," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 25.

⁸⁶ Barry Bergdoll, "Competing in the Academy and the Marketplace: European Architecture Competitions 1401-1927," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 27.

⁸⁷ The detailed history of the administration and organization of the academic tradition in its various phases is best summarized in: Arthur Drexler and Richard Chafee, "The Teaching of the *École des Beaux-Arts*," in *The Architecture of the École des*

procedure would evolve into a sophisticated means of discerning an architectural elite and forming an exclusive royal corps of architects. The *Académie d'Architecture* would become the first school dedicated to architecture. Like the Italo-French competitions before, the French academy adopted an elite advisory board and trained the royal architects.⁸⁸

The French were initially slow in organizing pedagogical competitions. Prior to the launch of annual competitions in 1720, the earliest recorded contest was organized in Paris in 1702 for a *hôtel particulier*. Surviving drawings from the competition revealed the practice of *enfilade* (a suite of rooms formally aligned with each other) – a common feature in grand European architecture from the Baroque period.

Competitions remained the core of French academic education. The major distinction to be drawn is between the Academy of the eighteenth century and its reconstitution in the nineteenth century, when architects were grouped with painters and sculptors to form the *Académie des Beaux-Arts*.⁸⁹ Following the reorganization of French academic education, the Academy surrendered direct control over the schools of painting, sculpture and architecture. The Academy, however, retained firm power

over the chief distinction offered to students at the *Ecole des Beaux-Arts*, the famous Rome Prize, or *Grand Prix*,⁹⁰ which was open exclusively to Frenchmen who had achieved success in the *Ecole des Beaux Arts*.



Figure 2. Lemaistre, Alexis. This Monôme, a student “rag” or stunt, occurred at the Ecole each year when the entrants in the esquisse phase of the Grand Prix competition left the loges in which they had been sequestered. The procession of competitors snaked through Paris. 1889. Firmin-Didot et Cie, Paris.⁹¹

Beaux-Arts (New York: Museum of Modern Art, 1975), 61-110.

⁸⁸ Barry Bergdoll, "Competing in the Academy and the Marketplace: European Architecture Competitions 1401-1927," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 28-29.

⁸⁹ The independent *Académie d'Architecture* of forty individuals of the *Ancien Régime* passed into the architectural section, a mere six members, in the post-Revolutionary *Académie des Beaux-Arts*. Its membership thus tended to be older and more conservative with respect to new trends in the nineteenth century.

⁹⁰ In French academies, there were events that were open to all and events that were restricted only to those with privileged statuses. Academic lectures, for example, were open to all; whereas, if one had the privileged status *élève de l'Académie*, the student had the right to compete in the *Grand Prix*. The ultimate honor of the Rome Prize competition was a prestigious five-year *pensionnat* at the French academy in Rome. Barry Bergdoll, "Competing in the Academy and the Marketplace: European Architecture Competitions 1401-1927," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 29.

⁹¹ Hélène Lipstadt, *The Experimental Tradition: Essays on Competitions in Architecture*, 14, poster.

A distinction between the French competition pedagogy and its Italian counterpart were the monthly competitions that made the preparation of projects for competitive judgment the core of daily architectural education. The idea of monthly competitions seem to originate with J.F. Blondel, who had organized regular contests in his private school of architecture from the 1740s, well before he was appointed professor of architecture at the Academy in 1762. In Blondel's private school, academicians who were practiced in judging design competitions, were representative of the most elite standards, and were established practicing architects, were invited to act as jurors. That is to say, his juries contained the type of clients sought by young designers, who could not rely on the royal and high aristocratic patronage that was almost guaranteed by success in the Academy's competitions.⁹²

Both the Academy and its nineteenth-century successor, the *Ecole des Beaux-Arts*, functioned as architecture schools.⁹³ Each provided academic lectures. Each possessed an excessive library collection of influential antique and modern buildings, as well as portfolios of permeated competition projects. They also provided students access to the all-important competition ritual. Had it not been for these academic societies and competitions, a student may have had to rely on working in a design office or in one of the teaching

⁹² Barry Bergdoll, "Competing in the Academy and the Marketplace: European Architecture Competitions 1401-1927," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 29-30.

⁹³ Barry Bergdoll, "Competing in the Academy and the Marketplace: European Architecture Competitions 1401-1927," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 31.

ateliers that developed outside the *Ecole*, to gain actual instruction and criticism of their work.

From 1763 onward, the core of architectural academia was augmented with the introduction of smaller-scale monthly *concours d'émulation*, as Bergdoll describes:

The monthly competitions provided initiation in a [completely] new range of less ambitious building programs and types, as a parallel to the grandiose schemes required for the Grand Prix that specifically tested the competence of students to design on the scale requisite for royal service. The emergence of the two-stage procedure made it an increasingly precise instrument for training young designers in the academic ethos of design in which the plan along with its characteristics of order, sequence, and hierarchy were of primary value. The sequence from sketch to rendered project, which was used at first in the Grand Prix and by the nineteenth century even in the more important monthly competitions, became an idealized simulation of the Academy's conception of design as an act of reason and artistic judgment.⁹⁴

Students of the *Académie d'architecture* would live in a continual state of preparation for competitions. The academy would dedicate more of its time to dialogue, discussion, and debate of the students' competition endeavors. Thus, the French competition method became a practice of education and an international

⁹⁴ Barry Bergdoll, "Competing in the Academy and the Marketplace: European Architecture Competitions 1401-1927," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 30.

model for other architectural academic institutions. Soon after, Paris would replace Rome as the hub of architectural culture.

Conclusion

A student's growth lay in the interdependence between architectural education and competitions. In the quest for recognition, designers needed to combine practical training in an architect's office with the Academy's outlets for lectures, collections, and competitions. As a nineteenth-century handbook to the choice of a profession explained in its 1880 edition, "to be precise, architecture is not taught at the *Ecole des Beaux-Arts*; one only ascertains, by means of competitions, progress which has been made outside the school."⁹⁵

A regular system of competitions continued as the central focus of training where the laureates awarded students books and drawing instruments. Moreover, the act of judging the student designs and selecting a competition victor – and at the crucial moment for a student's entire career – was in essence an act on the academician's role to define an official doctrine and to select a succession learning method. The aesthetic values and stylistic ideals of the academicians were assured continuity. In American architecture schools, the studio system became the successor to its nineteenth-century French counterpart. Hence, architectural education today was modeled on the French *École des Beaux Arts* system, the schooling that

⁹⁵ Barry Bergdoll, "Competing in the Academy and the Marketplace: European Architecture Competitions 1401-1927," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 31.

had its point of reference in design competitions.

POLITICAL AND INDUSTRIAL REVOLUTIONS

In the wake of the French Revolution and in response to the vast economic changes that occurred through the Industrial Revolution, the competition procedure was tailored into a democratic institution and a natural extension of the market economy. The competition procedure, which had been used in the academic setting to define an architectural elite, had evolved again into a means of increasing access to public commissions. The initial process, however, to transform the competition method into an official policy for selecting designers exposed the difficulties of the competition system as an open public practice.⁹⁶

Enthusiastic attacks on the Academy were due to its role as an institution of privilege⁹⁷ and as a closed "corporation" equivalent to the guilds whose restrictive membership had been challenged. It was in 1790⁹⁸ when painter Jacques-Louis David advocated to the National Convention to grant public commissions only to those "who had proven themselves in public competition."⁹⁹ Swept up by the spirit of

⁹⁶ Barry Bergdoll, "Competing in the Academy and the Marketplace: European Architecture Competitions 1401-1927," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 33.

⁹⁷ Academic privileges of the institution included prizes and prestigious official positions. Patronage and privilege, not the value of competition, were the objects of reformatory zeal.

⁹⁸ That same year, a law had been drafted in the city of Paris requiring all municipal commissions in painting, sculpture and architecture to be awarded through open competition.

⁹⁹ Barry Bergdoll, "Competing in the Academy and the Marketplace: European Architecture Competitions 1401-1927," in *The Experimental*

revolution, Academy students rebelled to compete under the existing statutes and relinquished their protected statuses as *élève de l'Académie*. The Academy's hold had been shattered and the *Grand Prix* was suspended until the following year. David would gain the support to end the Academy two years later.

Freed from patronage and the bastion of academic privilege, the competition system was celebrated as a fundamental principle of a new democracy of equal opportunity and judgment based on the virtue of merit. Members of the *Commune des Arts*, in a petition demanding the open public procedure, argued competitions as a means to open the architectural debate to new talents and new ideas, and to create a new architecture for a new society.¹⁰⁰

A new attention to utilitarian programs and building types became important when competitions could be celebrated as a procedure that addressed the needs of a broader public. The competition was openly advertised, thus, submissions could come from anyone.¹⁰¹ Programs were questioned for the first time and a two-stage competition began to be implemented. The jury was no longer a corporate body, but one that would be composed for the occasion. Competitors could even elect the jurors from a list of eligible citizens provided by the city. The laurels of competition continued; some

jurors even demanding more prize money so additional premiums “in recognition of talent and work invested” could be awarded to competitors.¹⁰²

The academic competition was implicitly acknowledged as a training method of quality and utility, and it was rebuked as a tired routine. On the other hand, the revolutionary competition was celebrated as an open invitation to a democratic definition of republican architecture as it became the early beginnings of the modern open competition.¹⁰³

Figure 3. Poster announcing the prize winners in the architectural competitions of the Year II.¹⁰⁴

Tradition: Essays on Competitions in Architecture (New York, N.Y.: Princeton Architectural Press, 1989), 33.

¹⁰⁰ Barry Bergdoll, "Competing in the Academy and the Marketplace: European Architecture Competitions 1401-1927," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 34.

¹⁰¹ The open availability of public competitions to different styles and talent often encouraged amateurs and speculators, whom trained architects loathed to recognize as worthy competitors.

¹⁰² Barry Bergdoll, "Competing in the Academy and the Marketplace: European Architecture Competitions 1401-1927," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 36.

¹⁰³ Barry Bergdoll, "Competing in the Academy and the Marketplace: European Architecture Competitions 1401-1927," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 35.

¹⁰⁴ Hélène Lipstadt, *The Experimental Tradition: Essays on Competitions in Architecture*, 34, poster.

In the wake of political and economic revolutions, the reconstitution of the competition system as an open forum prompted established architects to redefine the profession.¹⁰⁵ The Academy had been broken and there was no one to impose a hierarchy. As architecture undoubtedly had an impact on the public realm and a budget far beyond any other art, architecture demanded the greatest special expertise to assess. Architecture required not only the capacity to read two-dimensional representations of buildings, but also technical knowledge and fluency in appreciating and judging an abstract formal language. Yet anyone could declare himself an architect as no legal distinction of the profession existed on paper. In fact, all that was required in France to declare oneself an “architect” was the payment of a professional tax.¹⁰⁶

The role that the revolutionary competitions played in chance careers for designers should also be viewed with skepticism. As Bergdoll best illustrates:

The youngest generations of Grand Prix winners, who had seen their guarantees of official kudos and employment dashed by the events of 1789, turned out, not surprisingly, to dominate among the laureates. Not only were they seasoned in presenting projects in competition; but [also] they had mastered the stylistic idiom that the Revolution hoped to adapt to its own representational needs. Many

¹⁰⁵ The Renaissance helped to differentiate the architect from other artists and builders in the eighteenth century. In this chapter, refer to *The Renaissance Competition* segment to read the essential characteristics about the profession.

¹⁰⁶ Barry Bergdoll, "Competing in the Academy and the Marketplace: European Architecture Competitions 1401-1927," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 35.

suspected that the competitions were partly intended to advance that generation whose careers had been cut prematurely short.¹⁰⁷

Political alignments and risks deterred many established architects from competing. As sculptor Jean Antoine Houdon protested, already established architects were more hesitant to invest their time and to gamble their chances in a lottery of talent compared to younger artists. Parallel to the ideal of the revolutionary competition, an open contest was a rare sampling of talent, but reflected the number of designers still in search of a project commission.

While conceding that the competition system may reveal an unknown talent, Houdon remarked that a successful public monument was more than a brilliant sketch: “Genius,” he reminded, “conceives, but it can only execute with experience.”¹⁰⁸ Prophetic of many occasions when a young designer has been obliged to execute their winning design with an established architect, Houdon’s remark also extrapolates the attitude of competition as a principle for encouraging youth, a principle

¹⁰⁷ Barry Bergdoll, "Competing in the Academy and the Marketplace: European Architecture Competitions 1401-1927," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 37.

¹⁰⁸ Houdon proposed that artists compete on the basis of a lifetime’s work rather than in response to a specific program. However, the revolution was meant to celebrate the competition as a new democracy of equal opportunity, thus embracing the judgment of designs for a specific program based on merit alone. Barry Bergdoll, "Competing in the Academy and the Marketplace: European Architecture Competitions 1401-1927," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 37.

of pedagogy and formation, but not a reliable means of hiring architects.¹⁰⁹

The process to turn the competition method into an official doctrine exposed many difficulties and resulted in limited success. For example, winning submissions were rarely realized or even seriously considered. Second, despite laurels of competition being numerous and generous, the payment of premiums by the government was never immediately available. Normally the government could not afford to pay until years later, and by then, the value of the premium had dwindled with the unstable economy. Third, a range of utilitarian programs and building types were explored, however, the range of solutions were remarkably uniform to the responses procured through the academic competitions for similar programs.

Were young designers aiming to please the professional jury? Were they merely seeking a novel effect in an accepted system? From the time of its inception, the open competition aspired towards the tendency to invite original treatments of current styles and novel responses to the brief. Although new building types and programs were solicited, these competitions barely served as forums for unprecedented ideas.

Retrospectively, these competitions foreshadowed what would later be the “idea” competition. Rather than to solicit an architect for a commission, the idea competition was exercised by French ministries in the nineteenth century to

¹⁰⁹ Barry Bergdoll, "Competing in the Academy and the Marketplace: European Architecture Competitions 1401-1927," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 37.

solicit a wide reflection of new building types or programs.

VICTORIAN COMPETITION SYSTEM

England did not have an academy or centralizing bureaucracy to institutionalize an architectural elite like in Italy and France. In England, the practice of architectural design competitions became widely used for every scale of project during the nineteenth century. A new breed of middle-class clients adhered to the competitive system as “sound business.”¹¹⁰ As a feature of the expanding Victorian market liberalism, competitions became daily affairs from the 1840s onward. By the century’s end, the rate of at least one competition per week had doubled.¹¹¹

Accounts of the rise of the Gothic Revival in public architecture are bracketed by the two great London competitions: the Houses of Parliament (1832) and the Royal Law Courts (1867).¹¹²

The competition for the Houses of Parliament after the fire in 1834 is notorious for the roles played by the national press and public opinion. Such pamphlet warfare helped to stir debate over the choice to rely exclusively on amateurs

¹¹⁰ Middle-class clients often acted on behalf of an institution. Their procedure of choice, which was widely regarded as sound business practice, resembled the process of competitive construction bids.

¹¹¹ As noted by Bergdoll, statistics and other data illustrating the frequency of competitions can be found in Roger H. Harper, “Victorian Architectural Competitions: An Index to British and Irish Architectural Competitions,” in *The Builder, 1843-1900* (London: Mansell, 1983).

¹¹² Barry Bergdoll, "Competing in the Academy and the Marketplace: European Architecture Competitions 1401-1927," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 23.

to decide the winner of what was probably the most prestigious and intricate program ever put to open competition up to that time.

Men with little technical expertise were entrusted the responsibility to judge architectural competitions. The new role of the client as the central order thus gave clients an upper hand in the competition process. It was also revealed in the competition for the Houses of Parliament that none of the jurors had checked whether or not the submissions even met the complex requirements of the program.

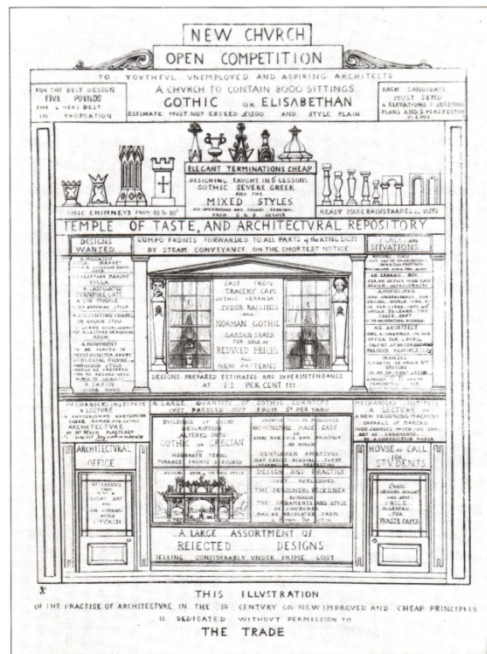


Figure 4. Pugin, A.W.N. Satirical poster announcing a new church competition from his *Contrasts*, 1836.¹¹³

French architect Augustus Charles Pugin was quick to parody the competition with polemical wit with a satirical illustration of

¹¹³ Hélène Lipstadt, *The Experimental Tradition: Essays on Competitions in Architecture*, 38, poster.

a mock poster and shop window proclaiming a new church competition in “Gothic or Elizabethan.” Pugin was in a privileged position to make parody the competition as he was hired by both Charles Barry and Gillespie Graham to enhance their competition entries for the Houses of Parliament contest.¹¹⁴ Apparently the competition was the first to prescribe the use of a particular historical style – the sanction of either Gothic or Elizabethan as the style representative of English institutions and traditions.

Unprecedentedly, however, warfare in the national press involving the taint of trade and how competitions were run was pursued with mounting intensity for the rest of the century. As Bergdoll adds, the competition system became an inescapable element of professional life, more often referred to in criticism than in praise by Victorian architects.¹¹⁵

The intensity of public criticism towards design competitions troubled the Royal Institute of British Architects (RIBA). Problems included a lack of instructions or obscurity in the competition brief, misleading drawings and renderings in submitted proposals,¹¹⁶ false budget

¹¹⁴ Barry Bergdoll, "Competing in the Academy and the Marketplace: European Architecture Competitions 1401-1927," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 39-40.

¹¹⁵ Barry Bergdoll, "Competing in the Academy and the Marketplace: European Architecture Competitions 1401-1927," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 38.

¹¹⁶ Perspective views had become a British area of expertise and appealed greatly to the jurors of competition. In contrast, perspectives drawings were outlawed in the academia by the Ecole des Beaux-Arts. They were believed to falsify building information and were unessential representations of the architectural concept. Barry Bergdoll,

estimates, and other masterful yet common scams were reported, according to Bergdoll. Other tribulations involved the amateur and inexperienced jurors who were often fooled in selecting a design without suspicion as if they had been mesmerized by the “meretricious allurements of the artist.”¹¹⁷

The dignity and autonomy that the Royal Institute of British Architects hoped to preserve for the profession was in jeopardy. Hence, the following decades prompted the appointment of special committees to discuss and make recommendations in the system’s reform. The main objective was to improve competition management and execution to better justly serve both architects and clients.¹¹⁸

By 1872, the RIBA had established a professional code of conduct for the systematic planning, coordination, supervision and operation of design competitions. The remarkable feature about this new policy was the degree to which the fundamental conditions of academic competition were echoed in the Victorian competition system. This opened a new epoch where members of the profession could mandate the entire competition procedure from formulating a program to

reviewing the design entries. The regulations that were drafted by the Royal Institute of British Architects coincided with parallel efforts to professional associations in France, Germany, Austria and America. Their efforts would outline the principal features of today’s *modern competition*: an open, anonymous, two-stage procedure, based on a brief, with a thorough set of rules and deadlines, endowed with reasonable prizes and awards, and reviewed by a qualified group of professional experts.

ARCHITECTURE COMPETITIONS IN AMERICA

The earliest recorded American architecture competition was held in 1789, the first year the federal government began to function. It was a primitive affair. Following established European practice, the directors of the Philadelphia Library Company placed a brief advertisement in the *Pennsylvania Packet and Daily Advertiser* soliciting designs for a new library building. The premium was to be a single share in the library and the decision was to be made in less than two weeks. According to the notice, several designs had already been sent in. However, not even waiting for its decision, the building committee immediately began ordering construction materials.¹¹⁹

The instructions, as stated in the notice, were meager, specifying only the length, width, and number of stories of the building. The competition brief also stated that present funds prohibited any kind of

"Competing in the Academy and the Marketplace: European Architecture Competitions 1401-1927," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 43.

¹¹⁷ Barry Bergdoll, "Competing in the Academy and the Marketplace: European Architecture Competitions 1401-1927," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 40.

¹¹⁸ Barry Bergdoll, "Competing in the Academy and the Marketplace: European Architecture Competitions 1401-1927," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 40.

¹¹⁹ Sarah Bradford Landau, "Coming to Terms: Architecture Competitions In America and the Emerging Profession, 1789 to 1922," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 54.

turret or cupola. The time allowed for preparing the entries was absurdly short. There was no mention of any intent to engage the winner to supervise construction, but in this period, a licensed master mechanic normally handled that task.¹²⁰

The first prize went to Dr. William Thornton, a young physician born in the West Indies and a recent arrival to Philadelphia. Thornton's Library Hall (1789-90) was a well-proportioned brick and stone building in the neo-Palladian style featuring a suppressed portico with giant Ionic columns. Thornton benefited from the library competition, which was his first, and recognized Thornton with special consideration in the competition for the design of the United States Capitol held three years later.¹²¹

As the young American nation was detached from European rule, it continued to apply the historic competition system to solving design and building problems. The first order of business was a competition to find the right architect to design the nation's first and foremost monuments in a free society. In 1792, Thomas Jefferson proclaimed that designs for the President's House and the new capitol city of Washington, D.C. to be solicited through a nationally advertised competition. Both competitions were held concurrently.¹²²

¹²⁰ Sarah Bradford Landau, "Coming to Terms: Architecture Competitions In America and the Emerging Profession, 1789 to 1922," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 54-55.

¹²¹ Sarah Bradford Landau, "Coming to Terms: Architecture Competitions In America and the Emerging Profession, 1789 to 1922," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 54-55.

¹²² For a detailed analysis of the Capitol contest, see Sarah Bradford Landau, "Coming to Terms:

The conditions for the President's House competition were far from perfect. For example, the announcement for the President's House offered very little requirements in comparison to the Philadelphia Library Company contest in 1789. The contest conditions required participants to submit section drawings, elevations and plans, all due within the four-month time limit set from the date of the announcement. The first prize was the choice of \$400 or a medal.¹²³

Irish-born architect James Hoban was the frontrunner for the President's House competition. Hoban chose the medal as his award instead of the cash prize. Perhaps due to opposition to the location of the new capitol city in Washington, D.C., none of the nine entries submitted for the President's House competition came from Philadelphia or New York.¹²⁴ Hoban was required to modify his winning scheme. The contest advertisement did not stipulate about the winner becoming the project architect, but Hoban was appointed the task for a salary of 300 guineas a year.¹²⁵

Architecture Competitions In America and the Emerging Profession, 1789 to 1922," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 53, 55.

¹²³ Sarah Bradford Landau, "Coming to Terms: Architecture Competitions In America and the Emerging Profession, 1789 to 1922," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 55.

¹²⁴ Sarah Bradford Landau, "Coming to Terms: Architecture Competitions In America and the Emerging Profession, 1789 to 1922," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 55.

¹²⁵ Sarah Bradford Landau, "Coming to Terms: Architecture Competitions In America and the Emerging Profession, 1789 to 1922," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 55.

Despite the trial and errors of this early American competition, the contests for the President's House and the new capitol city of Washington, D.C. were significant events in competition history. One may even refer to them as the first modern competitions as they were open to anybody who could fulfill the competition conditions and program.¹²⁶ Furthermore, the two contests helped to launch the competition system in the new Republic.¹²⁷

The competition procedure saw a jolt in the 1830s with an increasing number of architects and a growing American population.¹²⁸ The need for large public buildings helped to propel the system forward with new building competitions to meet the population's needs. Still, formal competitions in America remained a system of trial and error as it continued to be in Europe.

A constraint in the early competition process was that competitors were given only a meager few weeks to draft up designs that adhered to a complex and detailed set of instructions. One could argue that the preparation time allotted to design was ridiculously short and would undoubtedly have an effect on the competition outcome. Designs that were

not "exceptional" were ridiculed as lacking the specifics to making a design work, and therefore unsuitable; or they were overly designed and deemed too expensive to build. Hence, competitors were provoked to using artistic tricks to make their submissions seemingly complete. One can only imagine what the competition results may have been if the time given to designers were prolonged.

Another problem in the early competition system was the often common ending of a competition when a winning scheme was not built. Such example is the 1859 church competition for the Reverend Henry Ward Beecher in Brooklyn.

This recurrent conclusion discouraged established professionals from being involved in competitions. Conversely, some were okay to tolerate the gamble. Unknown designers seeking work were encouraged by the results of other competitions where a virtual unknown excelled in the process. A leading example is the 1861 contest for the National Academy of Design in New York, where the anonymous Peter B. Wight triumphed over recognized architects who were invited to compete.¹²⁹

On occasion, there was sometimes no clear competition winner. It was not uncommon to split the premiums among several entries when it was determined by the jurors that the first, second, and third prize designs were all equally suitable for construction. Thus, it was also a common practice to combine the most likable features of the permeated plans to develop a composite

¹²⁶ Barry Bergdoll, "Competing in the Academy and the Marketplace: European Architecture Competitions 1401-1927," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 34.

¹²⁷ Sarah Bradford Landau, "Coming to Terms: Architecture Competitions In America and the Emerging Profession, 1789 to 1922," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 55.

¹²⁸ Sarah Bradford Landau, "Coming to Terms: Architecture Competitions In America and the Emerging Profession, 1789 to 1922," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 56.

¹²⁹ Sarah Bradford Landau, "Coming to Terms: Architecture Competitions In America and the Emerging Profession, 1789 to 1922," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 59.

drawing. This led to angry claims of favoritism, dishonesty, nepotism and that competitions were negatively praised as “ill-run” and “rigged.”

The story of the 1838-39 competition for the Ohio Capitol is an example of such negative claims. This nationwide competition attracted more than sixty entries and resulted in a stalemate. Despite the mixed authorship of the final design, some suggest that the odd change of mind in selecting the ultimate design was influenced by the friendship between a finalist and one of the commissioners. Another competition example displaying loose standards was the outcome of the Smithsonian Institution contest of 1846. The claim here was that the committee had already guaranteed a winner while they shrewdly kept their options open for other potential designs.¹³⁰

Critique of the American competition system became parallel to the criticism about the English process. Technical advice and criticism were made known to the public by means of the press.

An 1835 editorial in the *Architectural Magazine*, a well-liked English journal also read by American architects, suggested that an invited and paid contest was the means of avoiding the financial loss suffered by unpremiated competitors in the open contest format. The *Architectural Magazine* also urged a six-month minimum as the appropriate window to prepare design entries. Moreover, architects were scrutinized for unfair practices such as identifying themselves to the jury. To

¹³⁰ Sarah Bradford Landau, "Coming to Terms: Architecture Competitions In America and the Emerging Profession, 1789 to 1922," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 56.

curtail this issue of unfairness, the magazine suggested anonymously marked submissions as the fair approach to submit and vote on designs.¹³¹ Competition jurors were criticized for their vulnerability to beautiful renderings and lack of attention to the design technicalities of an entry. Hence, the inclusion of two or three reputable architects on the jury panel was favored.

Similar strategies would be reiterated in the American press and professional journals such as *Architects' and Mechanics' Journal*, published from 1859 to 1860, and the *AIA Proceedings*, begun in 1868.¹³²

With the formation of the American Institute of Architects (AIA) in 1857, the American competition system was a step closer towards establishing a competition code of ethics. However, not much changed in the competition system after the AIA was formed. The institute's membership was too little; too many architects remained outside the organization; the profession itself was still too weak; and the Civil War was underway during this period. Hence, progress was slow to grasp the authority and respect necessary for the profession.¹³³

¹³¹ An early and major American competition to implement anonymous submissions was for New York's Central Park held in 1857-58. Lured by the generous prizes (\$2,000 and \$1,000), thirty-three competitors entered designs. Sarah Bradford Landau, "Coming to Terms: Architecture Competitions In America and the Emerging Profession, 1789 to 1922," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 57.

¹³² Sarah Bradford Landau, "Coming to Terms: Architecture Competitions In America and the Emerging Profession, 1789 to 1922," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 57.

¹³³ Sarah Bradford Landau, "Coming to Terms: Architecture Competitions In America and the Emerging Profession, 1789 to 1922," in *The*

Many professionals held a strong disregard to the competition system, including former AIA President Richard Upjohn. Yet there was an obligation for the AIA to establish a foothold on the process and to think of ways to enforce such regulations. It was not until after the 1867 first annual AIA meeting in Philadelphia when a schedule of terms was written up and would be adopted a few years later at the annual AIA convention in November of 1870.¹³⁴ At this event, a number of specifics were detailed to provide solutions to the frequently present problems in the early trial and error stages of the American competition system.¹³⁵ A brief summary of the problems and the recommendations that the AIA expressed follows:

A problem in the early system was after the rigorous procedure when it did not result in the full realization of a new building.

The first premium should be at least equal to the customary architect's fee for such work; and an equal amount should be divided among all the architects who were invited to submit drawings, whether winners or not.¹³⁶

Experimental Tradition: Essays on Competitions in Architecture (New York, N.Y.: Princeton Architectural Press, 1989), 58, 61.

¹³⁴ Sarah Bradford Landau, "Coming to Terms: Architecture Competitions In America and the Emerging Profession, 1789 to 1922," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 61.

¹³⁵ The following specifics were noted by Landau as originating from the American Institute of Architects, *Proceedings of the Fourth Annual Convention of the American Institute of Architects, Volume 4* (Philadelphia: American Institute of Architects, 1870), 239-240. Sarah Bradford Landau, "Coming to Terms: Architecture Competitions In America and the Emerging Profession, 1789 to 1922," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 61.

¹³⁶ Sarah Bradford Landau, "Coming to Terms: Architecture Competitions In America and the

Another crisis was when there was no clear competition winner. Hence, the premiums were split among several entries and often the most liked features of the permeated designs were combined into a new composite drawing.

The winner must be the supervising architect of construction, and if parts of other competitive designs were used in any way, their authors must be paid regardless of any awards they might have received in the competition.¹³⁷

Jury members were claimed to have tilted the balance of the competition outcome due to favoritism, dishonesty, and other misdeeds.

Half the jury should be architects; and in open competitions, these should be selected by the AIA or its board of trustees.¹³⁸

Architects were scrutinized for unfair practices such as identifying themselves to the jury.

The jury should be named in the instructions, and no one personally connected with any design submitted should serve on it. Drawings should

Emerging Profession, 1789 to 1922," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 61.

¹³⁷ Sarah Bradford Landau, "Coming to Terms: Architecture Competitions In America and the Emerging Profession, 1789 to 1922," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 61.

¹³⁸ Sarah Bradford Landau, "Coming to Terms: Architecture Competitions In America and the Emerging Profession, 1789 to 1922," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 61.

not be identified with the architects' names.¹³⁹

In 1876, more than half a decade after the AIA had written a detailed set of competition conditions, the organization issued a tract assessing the different competition types – open, limited (invited), and a mixed system¹⁴⁰ combining the limited and the open competition formats. The open contest was regarded as an exercise for beginner architects. The limited format would only benefit professionals and was deemed the best type for obtaining the best designs. In fact, the American Institute of Architects encouraged contest organizers to implement more limited competitions.

This procedure may have been stimulated by the AIA to ensure the client the surest method of obtaining the services of an experienced architect capable of providing specialized facilities, state-of-the-art construction techniques, and a prestigious corporate image.¹⁴¹ By understanding how much the profession disliked the competition system, it is a good probability

¹³⁹ Sarah Bradford Landau, "Coming to Terms: Architecture Competitions In America and the Emerging Profession, 1789 to 1922," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 61.

¹⁴⁰ A mixed competition system seemed advantageous for new designers and professional architects. On the other hand, a mixed system also discouraged competitors from taking part for rivalry reasons between the two generations eagerly vying for the same prize. Sarah Bradford Landau, "Coming to Terms: Architecture Competitions In America and the Emerging Profession, 1789 to 1922," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 61.

¹⁴¹ Sarah Bradford Landau, "Coming to Terms: Architecture Competitions In America and the Emerging Profession, 1789 to 1922," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 63.

to assume the motivation to enforce limited competitions was to encourage and benefit the same general people who contradicted the process to begin with.

In parallel to the events of reform, the number of competitions dramatically increased in the 1890s.¹⁴² As the young American nation began prospering in economics and population, there developed a need for civic buildings such as churches, museums and libraries. In New York, early skyscraper buildings such as the Western Union (1872), Tribune (1872), and American Surety (1893), began to take rise through limited, paid competitions.

More importantly, the United States had produced a breed of trained architects who were ready to take on the challenge of building their nation. Many architects like American designer Henry Hobson Richardson were trained at the *Ecole des Beaux-Arts* and were aware of the competition procedure through their schooling. The academic competition system enabled a knowledgeable group to be skilled at designing large and complex public buildings. Young architects from the *Ecole des Beaux-Arts* and emerging designers from American architecture schools helped create a new level of professionalism in the United States. The Massachusetts Institute of Technology and Columbia University held architectural programs influenced by the French system.¹⁴³ The competition system would

¹⁴² Sarah Bradford Landau, "Coming to Terms: Architecture Competitions In America and the Emerging Profession, 1789 to 1922," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 54.

¹⁴³ Sarah Bradford Landau, "Coming to Terms: Architecture Competitions In America and the Emerging Profession, 1789 to 1922," in *The Experimental Tradition: Essays on Competitions in*

be rejuvenated with favorable building outcomes.

Limited competitions helped to point out the elite presence of *Ecole des Beaux-Arts*-trained American architects. Moreover, with the support and encouragement of the limited competition format by the American Institute of Architects, clients favored this method of commission for obtaining designs for their future building projects.

An example of a limited competition from the early 1870s made architectural history because of its momentous outcome and aftermath. The 1872 contest for the new Trinity Church in Boston is epitomized for yielding a young and unknown American designer named Henry Hobson Richardson and catapulting his successful career. Moreover, the competition gave birth to a new American architectural style; a style that would be copied and reworked in many later design contests.

The 1872 Trinity Church competition was a limited affair between six invited architects that ranged from established professionals to those who were “up-and-coming.” According to author Sarah Bradford Landau, the contest instructions stipulated that architects not include their identities on the entries. Although this action complied with the American Institute of Architect’s 1870 resolution, this procedure was hardly meaningful with only a few participating entries.¹⁴⁴

Architecture (New York, N.Y.: Princeton Architectural Press, 1989), 54.

¹⁴⁴ The rule would be omitted in 1876 by the AIA with regard to the limited competition format. Sarah Bradford Landau, “Coming to Terms: Architecture Competitions In America and the Emerging Profession, 1789 to 1922,” in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 61, 63.

The competition program detailed a religious structure large enough to seat 1,350 persons and an adjoining parish house for 500 additional seating. Competitors were required to turn in a perspective, six architectural drawings and a cost estimate of their design. The preparation time was a short six weeks and each of the participants would be given a \$300 incentive for their work. The Romanesque-influenced design by former *Ecole des Beaux-Arts* student Henry Hobson Richardson would win the competition, inaugurating a new style that helped make its designer internationally recognized.

The Richardsonian Romanesque style, as it was named after the architect of the Trinity Church masterpiece, would influence other designers in upcoming church competitions like the 1888-89 contest for the Cathedral of St. John the Divine in New York. This competition affair was conducted in a two-stage format. The first stage was a mixed competition between fourteen American architects who were invited to compete (each were paid \$500) and the general design public.¹⁴⁵ The second phase was a runoff between the four finalists of the first competition. These included Potter & Robertson, William Halsey Wood, Heins & Lafarge, and Huss & Buck. Only Robertson and Wood had been invited to compete; the other two were young,

¹⁴⁵ The more than sixty-eight design entries submitted for the Cathedral of St. John the Divine competition were drawn mostly from American architects and a handful arriving from Canada and Europe. Many designs featured a huge crossing tower or dome and seemed to be influenced by Richardson’s Trinity Church or by the entries in the first Liverpool Cathedral contest, held in 1885-86. Sarah Bradford Landau, “Coming to Terms: Architecture Competitions In America and the Emerging Profession, 1789 to 1922,” in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 64.

unknown firms with no architectural training abroad. Architects were allowed to revise and resubmit their designs for the second round.

As competitions uncovered a wealth of designers who studied at the *Ecole*, the procedure also revealed a treasure trove of design styles that these talented individuals brought to the drafting table.

Potter & Robertson submitted a Girona Cathedral-inspired design. William Halsey Wood's eclectic scheme combined a central plan with Early English Gothic detailing and an enormous, neo-Byzantine domed crossing tower. Huss & Buck's English Gothic influenced design mimicked the towers from York Cathedral and Salisbury Cathedral. Heins & Lafarge combined traditional and contemporary styles with Romanesque styling and a Richardsonian crossing tower reminiscent of Trinity Church.¹⁴⁶ Here, the young and unknown duo from New York, Heins & Lafarge, triumphed over the competition. Once again, the competition system successfully proved its significance as an instrument of promoting young and new talent.

National competitions unveiled the wealth of architects who were schooled and trained abroad. Towards the end of the nineteenth century, more Americans began to live, study, and travel globally. Back at home, the system evolved into an international affair as a result of the local profession's dissatisfaction with the procedure and the nation's desire to obtain

¹⁴⁶ Sarah Bradford Landau, "Coming to Terms: Architecture Competitions In America and the Emerging Profession, 1789 to 1922," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 64-65.

monuments of equal quality to those of Europe.

The 1813 competition for the Washington Monument in Baltimore, won by native born architect Robert Mills, is noted for being the first international contest in America. Another competition event that was set on a global scale was the 1887 contest for the Indiana Soldiers and Sailors Monument, which was won by Berlin architect Bruno Schmitz. The Grant Monument (Grant's Tomb) in New York was a third internationally publicized competition in 1888-89. Nearly two-thirds of the sixty-five designs submitted came from abroad,¹⁴⁷ but the winner was an American architect named John Hemenway Duncan. Interesting to note, the Statue of Liberty may have inspired the latter two monument competitions to find an international talent.¹⁴⁸

¹⁴⁷ Sarah Bradford Landau, "Coming to Terms: Architecture Competitions In America and the Emerging Profession, 1789 to 1922," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 63-64.

¹⁴⁸ Sarah Bradford Landau, "Coming to Terms: Architecture Competitions In America and the Emerging Profession, 1789 to 1922," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 76. A young Frenchman named Paul Philippe Cret was skilled in the competition method through *Beaux-Arts* training and as a numerous student prizewinner. Moreover, Cret had already participated with success in an American competition immediately upon his arrival in the United States in 1903. Cret, along with his partner Kelsey, had volunteered a design for the 1907 competition for the International Bureau of the American Republics Building in Washington, D.C. (the Pan-American Union). The duo was unanimously selected from about eighty entries. The young Frenchman would continue on to win six and place in ten of the twenty-five competitions that he entered during his long career. Sarah Bradford Landau, "Coming to Terms: Architecture Competitions In America and the Emerging Profession, 1789 to 1922," in *The Experimental Tradition: Essays on Competitions in Architecture*

In contrast to design competitions that sought for an internationally acclaimed architect, other contests were organized in hopes to seek out ideas by a national designer. The New York Public Library contest of 1897 is an example that issued a two-stage competition to serve that purpose.

New York Public Library Director John S. Billings, assisted by the eminent architectural educator William Robert Ware as the competition advisor, carefully prepared the competition program. In the first stage of the competition, the names of those who would serve as assessors were announced in advance. Architects who continued into the second phase were permitted to elect three architects to serve on their jury, which also included three library trustees and the library's director. In both phases, the program was carefully understood and respected by the jury panel containing no less than five experts.

Eighty-eight entries were collected from the first competition phase and, once again, the majority of the entries were received from recent *Beaux-Arts* students. Twelve designs were permeated at \$400 each, and half of those would become second-round finalists on the basis of the "professional training and experience" of their authors.¹⁴⁹

In addition to those who had survived the first round of competition, six additional firms were invited by the trustee to participate in the second competition, including the unknown firm of Carrère and Hastings whose *Beaux-Arts* design would

(New York, N.Y.: Princeton Architectural Press, 1989), 69.

¹⁴⁹ Sarah Bradford Landau, "Coming to Terms: Architecture Competitions In America and the Emerging Profession, 1789 to 1922," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 66.

be selected and constructed. Carrère and Hastings' *Beaux-Arts* design would conclude as the largest marble structure up to that time in the United States.

At the turn of the new century, the American Institute of Architects adopted an "experimental" code to become the standard of competition programs.¹⁵⁰ Professor William Robert Ware was noted to have aroused support at the institute's annual convention in 1899. Having been involved in numerous architectural design competitions, Ware was able to deliver his paper on the topic with an authoritative voice and a positive outlook.

Ware's ideas were not new, but the points he addressed commanded attention. Pointing out the advantages of the procedure to both clients and architects, Ware delivered that the competition system could reduce the "evils" inherent in the direct commission of an architect since the client could see in advance, what he was getting.¹⁵¹ In addition, Ware also observed the process as a valuable tool for a young architects training and a method for obtaining work and recognition from his peers, the public and the profession.¹⁵²

¹⁵⁰ Sarah Bradford Landau, "Coming to Terms: Architecture Competitions In America and the Emerging Profession, 1789 to 1922," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 67.

¹⁵¹ Sarah Bradford Landau, "Coming to Terms: Architecture Competitions In America and the Emerging Profession, 1789 to 1922," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 68.

¹⁵² Sarah Bradford Landau, "Coming to Terms: Architecture Competitions In America and the Emerging Profession, 1789 to 1922," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 68.

Summary

Throughout the historic evolution of the competition system, the procedure has been observed in both positive and negative retrospectives. The results of competition not only yielded many buildings and monuments, but also a long list of capable designers whose careers evolved into those of success. On the opposite spectrum, its very reputation for unfairness and exploitation has tainted the competition concept.

The same struggles of the competition concept were witnessed in the young American nation as it moved forward into the early Twentieth Century. At the time of the Trinity Church contest of 1872 and the New York Public Library contest of 1897, the value of architectural design competitions was measured as a successful instrument of promoting young and new talent. Although both competitions resulted in good design and most notably the birth of the Richardsonian Romanesque style for the Trinity Church competition, the system's effectiveness for insuring the selection of the best possible design was still questioned by some.

This question cannot be easily measured in qualitative or quantitative means. However, one can delineate that the competition procedure has ensured the client of the potential possibilities, and with the aid of professional recommendations and the latter option of design development, a client may not have been able to encounter such choices if the process had been conducted without a competition procedure. Even today, these arguments are provoked with parallel claims that some competitions are rigged because of politics, favoritism, dishonesty, and nepotism.

However, Landau argues that even if the building results from these early competitions have not always been the epitome of what could have been, many are recognized as monuments that symbolize the highest aspirations of American government and public being.¹⁵³ Landau's argument includes that the competition system, which promises equal opportunity (to an extent in limited and invited competitions) and a chance to move up the professional ladder, can be seen as complementing the image of a free and equal society and has certainly boosted many a career.¹⁵⁴

¹⁵³ Sarah Bradford Landau, "Coming to Terms: Architecture Competitions In America and the Emerging Profession, 1789 to 1922," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 72-73.

¹⁵⁴ Sarah Bradford Landau, "Coming to Terms: Architecture Competitions In America and the Emerging Profession, 1789 to 1922," in *The Experimental Tradition: Essays on Competitions in Architecture* (New York, N.Y.: Princeton Architectural Press, 1989), 72-73.

COMPETITION CHRONOLOGY

Renaissance

Neoclassicism

Gothic Revival

Richardsonian Romanesque

Structural Expressionism

Sesession

National Romanticism

Modernism

Expressionism

Postmodernism

High-Tech

Post Structuralism

Deconstructivism

Blobitecture

Sustainable – Adaptive Use

COMPETITION CHRONOLOGY

Following is a visual chronology of selected competitions illustrating how architectural design competitions have transcended time. The following sequence of competitions illustrate how competitions have been used as a means of obtaining designs to solve a specific problem and how competitions are a means to find the most innovative and unique design that complies with the competition brief. Each of the winning projects noted are organized based on an architectural style that spans from the Renaissance to the more recent trends of deconstructivism, blobitecture, and so forth. With the progression of knowledge, skills, technology, and the means to move forward into uncovering the next phase of architectural style, more participants of present-day design competitions are taking bigger design risks and stepping out of the “modern” box.

This visual chronology reveals in many ways how the idea and communication of competitions has evolved overtime with technology. Historic contests were announced by means of local periodicals and word of mouth, and therefore, only available to architects of the local region. As communication technologies developed, competition announcements have become more widespread, especially with the internet. Similarly, technology dictates an architect’s process of putting together a submittal package. Architects who participated in historic competitions before the 20th century used pencil and paper to draw their renderings, in contrast to the present time. Now, the computer quickly allows one to forge the architectural form and to produce realistic renderings with ease and time. Likewise, the evolution of technology is transcended into the capability of constructing a

winning competition proposal and digital submissions.

Each of the projects listed below have one primary thing in common: they all won first place in the competition and designed by a rather young or unknown designer. With the hope to unveil how competitions have developed overtime with architectural styles, the chart also looks to give insights on the mind of the architect and the jury panel, in relation to the competition brief. Each winning design was selected because they relate strongly to their specific architectural style. A specific type of architecture that was happening during that specific time influenced the winning design. Many are very well-known buildings, such as the White House, but one might have never guessed the design was selected through an architectural competition.

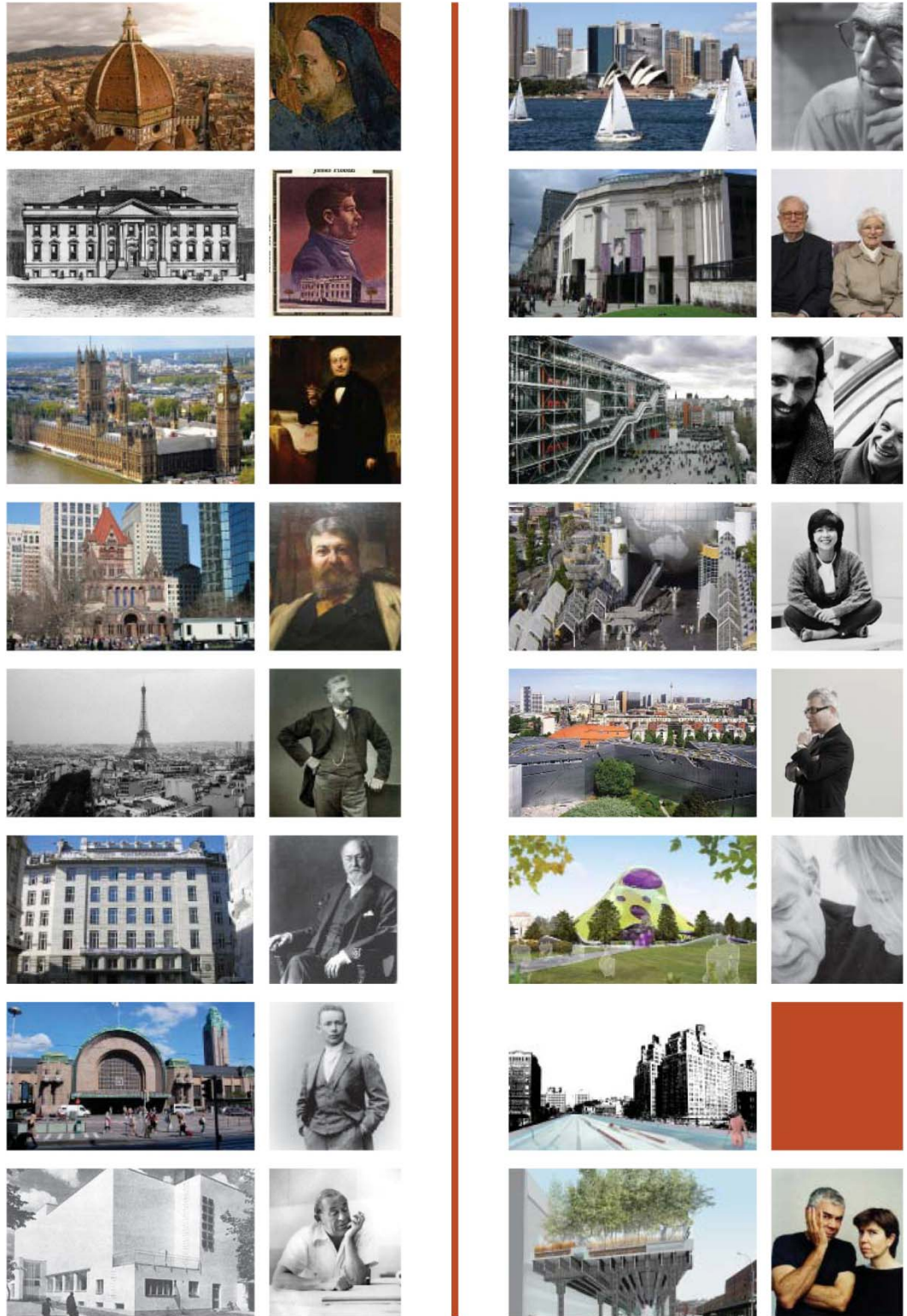


Figure 5. Summary of Competition Chronology



Figure 6. The Dome of Florence Cathedral¹⁵⁵

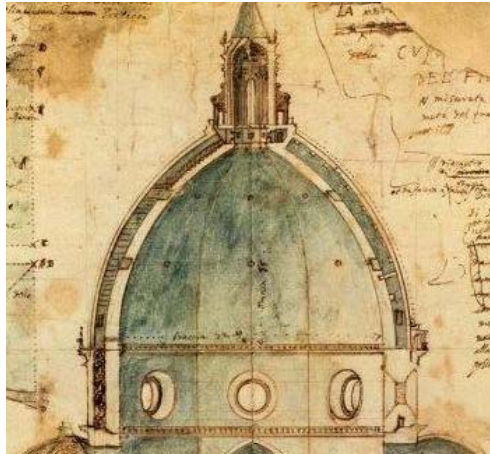


Figure 7. Architectural drawing of the dome of Florence Cathedral, made nearly a century after construction of the dome¹⁵⁶



Figure 8. A presumed depiction of Architect Filippo Brunelleschi (located far right), by Italian Renaissance painter Masaccio¹⁵⁷

¹⁵⁵ Andrew Charles Bly. "Andrew Charles Bly: Firenze Sulla Mente." *Andrew Charles Bly*, JPG, www.acbly.blogspot.com/2011/05/firenze-sulla-mente.html

¹⁵⁶ Howard Morland. "Florence Dome Drawing." *Wikimedia Commons*, JPG, www.commonswikimedia.org/wiki/File:Florence_dome_drawing.jpg

¹⁵⁷ Carolyn McDowall. "On Beauty and Progressing the Arts - Leon Battista Alberti." *The Culture Concept*, JPG, www.thecultureconcept.com/circle/leon-battista-alberti-on-beauty-and-the-progress-of-the-arts

RENAISSANCE (15TH CENTURY)

The word Renaissance refers to a "re-birth" or revival of ancient classical values. The fundamental ideas involved an intellectual movement known as Humanism and became influential in philosophy, politics, and the Arts. The early invention of the printing press allowed this shift in education and communication.

The Competition

1419 - The Dome of Florence Cathedral, Florence, Italy – Design of the dome of the Florence Cathedral.

The medieval architects of the Cathedral of Florence (designed by Italian architect Arnolfo di Cambio) had intended a dome to be built over the crossing, but the problem of how to erect such a massive dome had never been solved. A competition was announced to solve this challenge.

The Winner

Filippo Brunelleschi won the competition¹⁵⁸ to design the dome. Brunelleschi, a member of the Silk Guild trained as a goldsmith, painter, and sculptor, made a revolutionary proposal to the board: the dome or "cupola" could be built with limited use of wooden scaffolding.

To deflect the lateral thrusts, Brunelleschi made a curving rib-lattice structure with an

¹⁵⁸ The two most important competitors were Filippo Brunelleschi and his rival Lorenzo Ghiberti as the two had competed against each other earlier for the design of a pair of bronze doors at the Baptistery of San Giovanni in Florence, which Ghiberti won.

outer and inner dome of brick laid in herringbone fashion to ensure cohesion.

Brunelleschi's dome is the first 'octagonal' dome in history to be built without a wooden supporting frame. The Pantheon, a circular dome, was built in 118-128 AD also without support structures. Brunelleschi's dome was the largest dome built at the time and is still the largest masonry dome in the world. Another competition was held to design the lantern for the new dome, won by Brunelleschi.

Significance

The competition to design a dome for the Florence Cathedral was among the earliest public competitions in architecture history.

Filippo Brunelleschi (1377-1446) would later be regarded the first Italian architect and the father of Renaissance architecture. The innovative engineering of Brunelleschi's dome inspired the development of later dome structures as well as the mechanics to erect and assemble these structures.

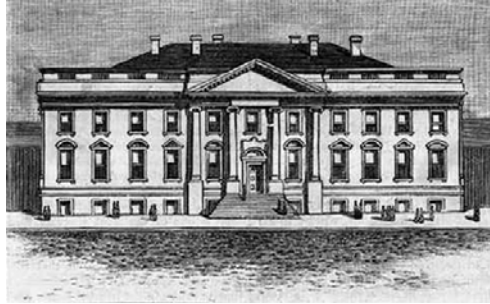


Figure 9. The original design of the White House in 1800 (Library of Congress)¹⁵⁹



Figure 10: An artist's interpretation of the construction in 1792 (Smithsonian Institution)¹⁶⁰

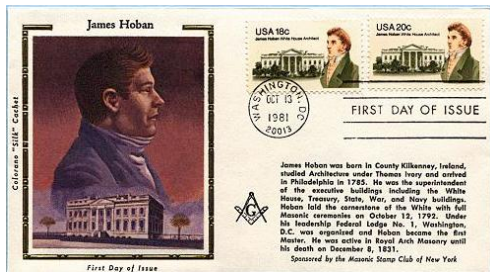


Figure 11. Stamp portrait of James Hoban¹⁶¹

¹⁵⁹ "Residence Construction: 1792-1800." *White House Museum*, JPG, www.whitehousemuseum.org/special/renovation-1792.htm

¹⁶⁰ "Residence Construction: 1792-1800." *White House Museum*, JPG, www.whitehousemuseum.org/special/renovation-1792.htm

¹⁶¹ "American Heroes: James Hoban - Architect of the U.S. White House." *Phoenixmasonry*, JPG, www.phoenixmasonry.org/masonicmuseum/american_heros_fdcs.htm

NEOCLASSICISM (LATE 18TH – EARLY 19TH CENTURY)

Neoclassicism shared the Enlightenment's spirit of reform that challenged the extravagancies of the architectural movements like Baroque and Rococo – two styles believed to have distanced architecture from its Classical origins. Neoclassicism thus became an architectural movement resulting in the interest of discovering the origins of architecture.¹⁶²

Neoclassical architecture is influenced by ancient Greece and Rome, as well as Renaissance ideology (itself inspired by Greco-Roman architecture). It is characterized by widespread use of Greek and Roman orders and decorative motifs, strong geometric symmetrical compositions, the subordination of detail to simple, and the frequent shallowness of relief in ornamental treatment of façades.

The Competition

1792 – The White House, Washington D.C., USA – To design a residence for the President of the United States.

The competition was advertised in a modest newspaper article dated in March 1792. The announcement contained only eighteen-lines and asked participants to submit the 'best design for a presidential dwelling' and as an award, the winner would receive a 500-dollar prize.¹⁶³

¹⁶² Jeremy Melvin, *Isms: Understanding Architectural Styles* (New York, NY: Universe Publishing, 2006), 72.

¹⁶³ Hilde de Haan and Ids Haagsma, *Architects in Competition: International Architectural Competitions of the Last 200 Years* (London: Thames and Hudson, 1988), 22.

Participants were to submit floor plans and drawings of elevations and cross sections. The house design had to be suitable for the selected site and was to take into account the possibility of a future extension to the main dwelling. Brick and masonry were to be the basic building material, thus, participants were required to submit an estimate of the masonry amount needed. The members of the competition jury was not mentioned in the advertisement, however, it is believed that President George Washington was one of the panel members in consultation with the Government Commission for the District of Columbia – the governing body that had published the competition.¹⁶⁴

Participants had four months to submit a design for the competition. Eight design submissions were received; however, one entry became disqualified when it arrived after the closing date. The field of competitors was small as the architectural profession was still developing in the newly independent America and only a few individuals received proper professional training in Europe. Many were amateur and self-taught – such as, Thomas Jefferson – from related building fields like carpentry.¹⁶⁵ Among the eight entries received for the competition, Stephen Hallet from Philadelphia and James Hoban

from Charleston were the only two professionally trained architects.¹⁶⁶

The Winner

Irish-born architect James Hoban won the commission and the prize money to design the President's House. However, one may question whether Hoban was deserving of the honor. Hoban travelled to Philadelphia after hearing about the competition and asked a mutual colleague for an introduction to President Washington. From that point, one can assume that the “*ensuing conversation concerned the competition and that Washington himself made his wishes known.*”¹⁶⁷ Seemingly even more unfair to the other participants, the President introduced Hoban to prominent figures of the government commission who happened to be organizers of the competition. Hoban had the means to inform these individuals of his plans and to gather information he may have deemed useful in developing his design.¹⁶⁸

This competition can be deemed as injustice because of Hoban's fraternizing with competition organizers. However, Hoban did not disobey any competition regulations. His designs, too, shows evidence of thorough artisanship, as he was only one of two architects who participated

¹⁶⁴ Hilde de Haan and Ids Haagsma, *Architects in Competition: International Architectural Competitions of the Last 200 Years* (London: Thames and Hudson, 1988), 22.

¹⁶⁵ The competition entries for the president's house reflected this situation and the methods that the competitors prepared their designs were as divergent as their trade of work. Overall, as expressed by Hilde de Haan and Ids Haagsma in *Architects in Competition: International Architectural Competitions of the Last 200 Years*, “The style of the drawings was simple and straightforward, with an uninhibited application of detail.” Hilde de Haan and Ids Haagsma, *Architects in Competition: International Architectural Competitions of the Last 200 Years* (London: Thames and Hudson, 1988), 24.

¹⁶⁶ Hilde de Haan and Ids Haagsma, *Architects in Competition: International Architectural Competitions of the Last 200 Years* (London: Thames and Hudson, 1988), 26.

¹⁶⁷ Hilde de Haan and Ids Haagsma, *Architects in Competition: International Architectural Competitions of the Last 200 Years* (London: Thames and Hudson, 1988), 26.

¹⁶⁸ Hilde de Haan and Ids Haagsma, *Architects in Competition: International Architectural Competitions of the Last 200 Years* (London: Thames and Hudson, 1988), 26.

in the competition with prior professional training and knowledge.¹⁶⁹

Hoban's design seems to have been influenced by the architecture of his home town of Charleston, South Carolina. The city hall in Charleston was a plain, elongated building, with an Ionic portico in the middle. On the other hand, controversy struck Hoban as his design was dubbed plagiaristic by architect Benjamin Henry Latrobe whose bitterness towards the proposal was described as a “mutilated copy of a badly designed building near Dublin” – a reference to the Duke of Leinster's palace.¹⁷⁰ Whether the Charleston City Hall or a palace in Dublin inspired Hoban's first place design is difficult to pinpoint. Therefore, it would be fairer to note that Hoban borrowed architectural elements from existing buildings and then translated those features into a new composition. This is a common design practice in architecture even today.

Hoban's design is also said to have been very similar to a plan from James Gibbs' *Book of Architecture*, which was published in 1728. The composition is almost identical: a rusticated base with windows, an upper floor on which alternate windows have a fronton, a mezzanine, a cornice and a parapet. The iconic central pilaster strip, the perron and the hipped roof are also alike. The eagle on the fronton was a personal touch.

¹⁶⁹ Hilde de Haan and Ids Haagsma, *Architects in Competition: International Architectural Competitions of the Last 200 Years* (London: Thames and Hudson, 1988), 27.

¹⁷⁰ Latrobe became the acting architect of the presidential house during the years when Hoban was working elsewhere in 1806. Hilde de Haan and Ids Haagsma, *Architects in Competition: International Architectural Competitions of the Last 200 Years* (London: Thames and Hudson, 1988), 27.

Early Western architecture, like the White House, bore English influences based strongly on the symmetry, perspective and orders of ancient Greek and Roman classical architecture. The Palladian style (also referred to as Palladian Neoclassicism) by Venetian architect Andrea Palladio is such example with classical roots and was adopted for the design of the President's House by the architect. James Hoban based the proportions of the floor plan on the mathematical design of Palladio's villas, so that the proportions and mutual distances of the all the elevations complied with the laws prevailing in classical architecture.¹⁷¹

Significance

The White House competition is considered the first ‘modern’ competition in architecture history.

The competition is also significant in that the building was modified from Hoban's original design numerous times during the century. The current White House has withstood fires and vandals, raids and revolutions, with no expense spared to save it for posterity.¹⁷²

¹⁷¹ Hilde de Haan and Ids Haagsma, *Architects in Competition: International Architectural Competitions of the Last 200 Years* (London: Thames and Hudson, 1988), 28.

¹⁷² The name ‘The White House’ came into use only after the Civil War, 1861-1865. Hilde de Haan and Ids Haagsma, *Architects in Competition: International Architectural Competitions of the Last 200 Years* (London: Thames and Hudson, 1988), 29.



Figure 12: The Houses of Parliament and Big Ben from the Millennium Eye Ferris Wheel¹⁷³

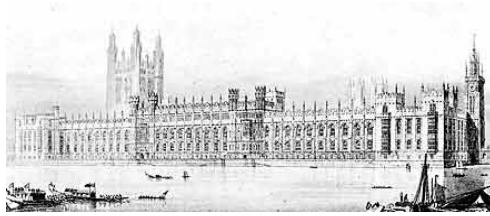


Figure 13. Houses of Parliament



Figure 14. Portrait of Sir Charles Barry by English painter Sir John Prescott Knight¹⁷⁴

GOTHIC REVIVAL (LATE 18TH – 20TH CENTURY)

The Gothic Period of architecture preceded the Renaissance. Gothic Revival is known as the House Style of Victorian Britain and is driven by Christianity – Gothic was a style highly applied to cathedral architecture in Europe. Young English talents viewed Gothic style as a liberating force from what young designers at that time saw as the constricting forms of Classicism.

The Competition

1835 - Houses of Parliament, London, United Kingdom – An open competition was determined most appropriate for a building which was to house the representatives of the British people.

Architects were asked to submit designs for the new Houses of Parliament, in Gothic or Elizabethan style. The Gothic style was characteristic of the glorious early years of parliament, a period which Westminster Hall and nearby Westminster Abbey had been built. Gothic was seen as a typically British style, which seemed appropriate for a British national symbol.

This anonymous competition required participants to submit their designs under a pseudonym. The use of color was prohibited, in order to prevent entries from being arbitrated on irrelevant aesthetic characteristics.

Participants had five months to submit a design. 91 entries were received.

¹⁷³ Rick & Shona. "London - Day 2." *Our European Vacation*, JPG, www.thirskseuropeanvacation.blogspot.com/2010/05/london-day-2.html

¹⁷⁴ "Charles Barry." *Wikipedia, The Free Encyclopedia*, JPG, www.en.wikipedia.org/wiki/Charles_Barry

The Winner

The competition for the Houses of Parliament was won by Sir Charles Barry. Barry's winning design had an incessant façade along the Thames, which hid the libraries and halls of assembly behind. The design followed the slanting lines between Westminster Hall and St. Stephen's, causing a wedge-shaped floor plan to develop.

Barry later straightened out the wedge shape design with the aid of his fellow competitor's proposal, David Hamilton, who was awarded third prize. The resulting design opened the House of Lords and the House of Commons into a central hall.

English architect Augustus Welby Northmore Pugin was chosen to be Barry's advisor after the competition commission was granted. Pugin was a leading Gothic expert who took charge of the exterior gothic detailing and the richly embellished interiors.

Significance

Considered the first architecture design competition to specify an architectural style. The style of the Houses of Parliament would influence later British government buildings, thus, developing a national style.



Figure 15. Trinity Church in Boston, Massachusetts¹⁷⁵



Figure 16. Historical photograph illustrating the exterior overview of the front elevation¹⁷⁶



Figure 17. Painting of Henry Hobson Richardson by British painter Hubert von Herkomer¹⁷⁷

¹⁷⁵ Garrett Wollman. "Trinity Church, Boston." *Index of Photo Galleries*, JPG, www.gallery.bostonradio.org/2007-04/back-bay/252-5294-med.html

¹⁷⁶ "Trinity Church - Henry Hobson Richardson." *Great Buildings Online*, JPG, www.greatbuildings.com/buildings/Trinity_Church.html

¹⁷⁷ "Henry Hobson Richardson." *Wikipedia, The Free Encyclopedia*, JPG, www.en.wikipedia.org/wiki/Henry_Hobson_Richardson

RICHARDSONIAN ROMANESQUE (EARLY 19TH CENTURY)

Richardsonian Romanesque is a type of architecture identified with American architect Henry Hobson Richardson. This form of Revival borrows elements from 11th and 12th century southern French, Spanish and Italian Romanesque style.

The Competition

1872 - Trinity Church, Boston, Massachusetts – The design and construction of a religious structure.

Architects were asked that the church have 1000 seating on the ground floor and 350 chairs in the galleries of the main building. The competition also requested the design for a Parish Building, to include a Lecture Room and a Sunday School Room. Architects were obliged to put forward a feasibility estimate with their drawings.

This competition was a restricted competition. Six firms were invited to participate.

The Winner

Henry Hobson Richardson's design was chosen for Trinity Church. He had the disadvantage of not being a local Boston architect. Before Trinity Church, Hobson was an anonymous architect based in New York.

The design proposed by Richardson tailored a number of distinguished 11th-century French Romanesque churches and the Provençal church at Saint-Gilles-du-Gard. The silhouette of the main tower is reminiscent of Salamanca Cathedral in Spain.

Significance

Henry Hobson Richardson is credited to developing a new American Romanesque style. And had an impact on the Chicago School.



Figure 18. View of the Eiffel Tower from the Arc de Triomphe¹⁷⁸

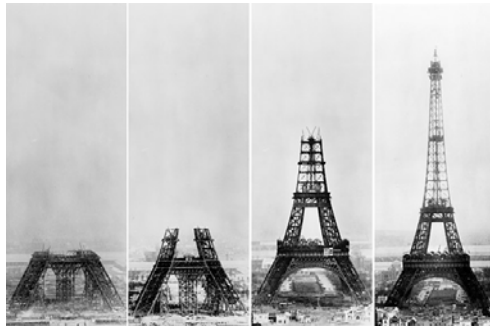


Figure 19. The Eiffel Tower photographed during different construction stages¹⁷⁹



Figure 20. Portrait of Gustave Eiffel¹⁸⁰

STRUCTURAL EXPRESSIONISM (LATE 19TH CENTURY)

Structural Expressionism emerged in a period when the designer-engineer became liberated and a growing appreciation for the structural aspect of design developed. Architects were no longer seen as the engineers' superiors but as their equals.

The Competition

1889 - World Exhibition, Paris, France – To design an area which would include a 300-meter-high iron tower to be built on the exposition grounds.

Architects and engineers had a seventeen day period to enter their designs. The commissioner received 107 entries.

The Winner

Gustave Eiffel and his engineers had a head start on the tower design even before the competition was announced. The tower idea was not Eiffel's to begin with and should be accredited to the two engineers and an architect whom all worked in Eiffel's office. Their tower design consisted of four framework posts, placed at the corners of a square base, and tapering towards one another at the top.

Significance

Eiffel's expertise as an engineer of large-scale bridges, viaducts, and roofing structures, had no effect when calculating the technicalities of executing his winning proposal. Eiffel's biggest challenge was public opinion. Many deemed the structure as a threat to French art. Today, the Eiffel Tower has become an icon of France, although there was plans to demolish the Eiffel Tower after the World Exposition ended.

¹⁷⁸ "View of the Eiffel Tower from the Arc de Triomphe." *Flickr - Kelly-Bell's Photostream*, JPG, www.flickr.com/photos/kellyj2777/2344080045/

¹⁷⁹ "Biography from Alexandre Gustave Eiffel." *Travel to France*, JPG, www.traveltofrancelevel2.blogspot.com/p/biography-from-alexandre-gustave-eiffel.html

¹⁸⁰ "M. Gustave Eiffel Only Needed 18,000 Parts." *Blubabalu*, JPG, www.blubabalu.blogspot.com/2011/05/had-it-not-been-m-gustave-eiffel-who.html



Figure 21. Postal Office Savings Bank Building, Vienna (1894-1902)¹⁸¹

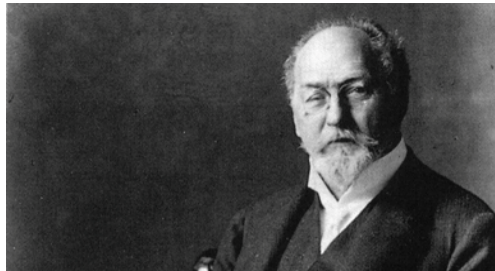


Figure 22. Portrait of Austrian architect Otto Wagner¹⁸²

SESESSION – AUSTRIAN VERSION OF ART NOUVEAU (20TH CENTURY)

Art Nouveau stressed creativity; a style characterized by sinuous organic shapes and plantlike motif, a complicated balance of materials, and an interlacing of structure and ornamental detail. Art Nouveau architects challenged the supremacy of French-Beaux-Arts and English Victorian styles. Art Nouveau architects included Antoni Gaudí (Spain), Peter Behrens (Germany), and Otto Wagner (Austria).

The Competition

1903 - Post Office Savings Bank, Vienna, Austria – The design of a new building on the site of the former Emperor Franz Joseph Barracks, which was flattened to make way for the Ringstasse.

Participants had two months to submit a design. Architects were not required to submit their designs anonymously. 32 entries were received. Many were renowned architects.

The Winner

Of 32 entries submitted, the competition was narrowed down to five. The proposals ranged from Viennese Style, Neo-Baroque and Beaux-Arts influences. The proposal submitted by Otto Wagner was purchased for execution. Wagner's design was the most modern entry at that time.

Otto Wagner's motto was "Artis sola domina necessitas". In translation, "Art is ruled only by function". He propagated the use of iron structures and argued that the interior structure of a building should be visible from the exterior.

Significance

The architectural style influenced other buildings in Austria.

¹⁸¹ "Otto Wagner." *Wikipedia, The Free Encyclopedia*, JPG,

www.en.wikipedia.org/wiki/Otto_Wagner

¹⁸² "Otto Wagner." *JBDesign*, JPG,

www.jbdesign.it/idesignpro/Otto%20Wagner.html



Figure 23. Helsinki's rail station was designed by famed architect Saarinen who has American connection through his later work and his famed son, Eero Saarinen¹⁸³



Figure 24. Portrait of Finnish architect Eliel Saarinen¹⁸⁴

NATIONAL ROMANTICISM – FINNISH VERSION OF ART NOUVEAU (20TH CENTURY)

National Romanticism was the dominant architectural style in Finland around 1900. Architecture was undergoing radical change throughout Europe and architects were shaking off the bonds of academic rules and regulations.

In Finland, Finnish historical architecture formed another source of inspiration and association into Finnish heritage, which was part of the independence movement. Wood, rusticated stone and saddle roofs are characteristic features of this style.

The Competition

1903 - Helsinki Station, Helsinki, Finland – The design of a combined station and administration building, with an imperial waiting room for the Tsar.

The station building was to have a U-shaped floor plan to "embrace" the train tracks design by C.O. Gleim in 1903. The commissioners also stipulated that the architects incorporate Bruno Granholm's floor plan for the station.

Participants had five months to submit a design. 21 entries were received. Each was anonymous entries, identified only by a phrase to describe their design.

The Winner

The first prize was unanimously given to Finnish architect Eliel Saarinen. After his win, Saarinen toured Europe to gain insight into station architecture developments abroad. Saarinen's original competition

¹⁸³ TLCOhio. "Helsinki Advice." *Cruise Critic Message Boards*, JPG, www.boards.cruisecritic.com/showthread.php?t=1454657

¹⁸⁴ "Eliel Saarinen 1873 – 1950." *Museovirasto*, JPG, www.nba.fi/en/hvittrask_en_eliel

design had a Finnish character; his revised final design was inspired by Art Nouveau.

Saarinen's original design and other submitted proposals featured a tower. It is believed the idea was based on the National Museum of Finland. Just two years prior to the Helsinki Station competition, a design contest for the National Museum was held – won by the team of Saarinen, Armas Lindgren and Herman Gesellius.

Significance

Part of identity forming before the independence (1917). The Finnish version of Art Nouveau, National Romanticism, became considered “the Finnish” style like neo-Gothicism was “English”.



Figure 25. Photograph of the Viipuri Municipal Library taken by Gustav Welin¹⁸⁵



Figure 26. A physical model illustrating the Municipal Library in Viipuri¹⁸⁶



Figure 27. Portrait of Finnish architect and designer Alvar Aalto¹⁸⁷

¹⁸⁵ Gustav Welin. "Viborg: Architectural Heritage of the Modern Movement IV - Alvar Aalto." *Heritage Protection*, JPG, www.heritage-protection.com/de/Projects/Viborg/Alvar_Aalto

¹⁸⁶ "Viipuri City Library, Viipuri, Finland (now Vyborg, Russia)." *Alvar Aalto*, JPG, www.moma.org/m/explore/collection/object_image/1010.iphone_ajax

¹⁸⁷ "Cult Classics: The Pioneer of Scandinavian Design, Alvar Aalto." *HFOC: Home Furniture on Consignment*, JPG,

MODERNISM (20TH CENTURY)

Modernism is the most dominant movement in architecture since the early 20th century. It is also the most difficult to define as the many themes that branch from modernism vary greatly. One thing in common is the radical break with past forms: the ballast of literal historical allusions is thrown out the window.

The Competition

1927 - Municipal Library Viipuri, Vyborg, Russia (in 1927 part of Finland) – The design and construction of a public library in Viipuri.

Participants had seven months and 23 entries were received; one was excluded from the competition as incomplete.

The Winner

Alvar Aalto won the first prize, Hilding Ekelund won second prize and Georg Jägerroos the third. Aalto won the competition with a classicist entry titled "W.W.W." Aalto was 29 years old.

Aalto's design for the Viipuri Library took on three schemes after the original competition proposal. The first scheme won first prize in the 1927 competition and was largely influenced by the Stockholm Municipal Library by Gunnar Asplund in Neo-Classicism style. The second scheme took on a more International style influenced by Le Corbusier's *Les 5 Points d'une Architecture Nouvelle*. The third and fourth schemes appeared in the interpretation of Functionalism.

Significance

Alvar Aalto was sometimes referred to in the Nordic countries as the "Father of Modernism".

www.hfoc.wordpress.com/2011/05/31/cult-classics-the-pioneer-of-scandinavian-design-alvar-aalto/



Figure 28. Jørn Utzon's sketch for the Sydney Opera House¹⁸⁸



Figure 29. Opera House and Sailboats in Sydney, Australia¹⁸⁹

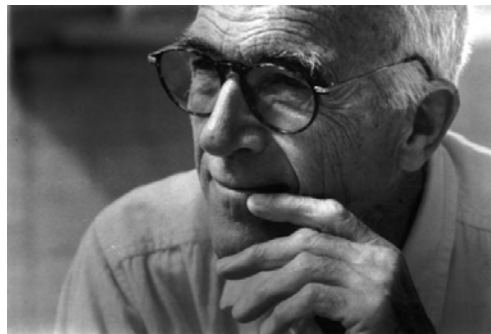


Figure 30. Danish architect Jørn Utzon¹⁹⁰

¹⁸⁸ "Sydney Opera House." *Sydney Architecture*, JPG, www.flickr.com/photos/edschonsett/2366877876/lightbox/

¹⁸⁹ "0909 Opera House And Sailboats Sydney Australia." *Flickr - Edschonsett's Photostream*, JPG, www.flickr.com/photos/edschonsett/2366877876/lightbox/

¹⁹⁰ "Sydney Opera House Architect Dies." *Sydney Morning Herald*, JPG, www.smh.com.au/news/photogallery/world/sydney-opera-house-architect-dies/2008/11/30/1227979824178.html

EXPRESSIONISM (20TH CENTURY)

Expressionism arose from the assumption that a building could convey an individual idea or thought without mediation by architectural conventions or styles. Based in the early 20th Century expressionism.

The Competition

1956 - Opera House, Sydney, Australia – The design of a venue for opera and other theatrical and art events.

Architects were asked that the main auditorium seat 3,500 people and the small auditorium, 1,200 people. A restaurant, a café and other secondary facilities were required.

Open, international competition. Participants had seven months to submit a design. All drawings had to be line drawings. 233 entries were received.

The Winner

The design submitted by the Danish architect Jørn Utzon is topped with a characteristic shell structure reminiscent of Sydney's harbor, where the sails of thousands of yachts flap against the open sky.

It is rumored that one of the rejected designs caught the eye of one of the jurors, Eero Saarinen, because its daring structure coincided with Saarinen's own approach to architecture. Upon returning the design to the jury for assessment, he is known to have said: "Gentlemen, here is the winner." The design had been submitted by the Danish architect Jørn Utzon.

The jury ruled that Utzon's solution had a greater aesthetic appeal than the cube-on-a-block approach taken by many other participants. Utzon put Sydney on the architectural map. He gave the city a new face and conceived a roof, which had a new form and function, a fact often neglected by Modernists.

Significance

Jørn Utzon was a pupil to early Modernist architects Alvar Aalto and Frank Lloyd Wright. Utzon was also influenced by the works of Mies van der Rohe, using similar materials and applied the concept of organic structure. It is a landmark building, and now a global trend.



Figure 31. The Sainsbury wing of the National Gallery, London, UK¹⁹¹



Figure 32. Façade illustrating window frames and sills, but no windows¹⁹²



Figure 33. Robert Venturi and Denise Scott Brown¹⁹³

¹⁹¹ Richard George. "National Gallery London Sainsbury Wing." *Wikipedia, The Free Encyclopedia*, JPG, www.en.wikipedia.org/wiki/File:National_Gallery_London_Sainsbury_Wing_2006-04-17.jpg

¹⁹² Adelina M. "Postmodern Architecture." *Ballade Pour Adelina*, JPG, www.ballade-pour-adelina.blogspot.com/2011/06/postmodern-architecture.html

¹⁹³ "Robert Venturi." *Google*, JPG, www.wallpaper.com/images/214_mentors_venturi_jp101208_a.jpg

POSTMODERNISM (20TH CENTURY)

Postmodernism evolved in the United States in the late 1960s as a rebellion against the clean, functional and formalized style of modernism. Influenced by Pop Art, postmodernism introduced new aesthetics of architecture and emphasized the experimentation of cultural and historical references to new building design. New type of historicism with free references to historic precedents by "architectural joking."

The Competition

1985 - Sainsbury Wing, National Gallery, London, England – The design of an extension for the National Gallery at Trafalgar Square.

In 1981, *The Sunday Times* announced a contest for the extension of the National Gallery on a former furniture shop adjacent to the museum. 79 entries were received, but only 7 were selected for further refinement. The winning design came from Ahrens Burton and Koralek but was not realized due to the influence of the Prince of Wales.

Thus in 1985, a new contest was announced as a limited competition. Only architects renowned in museum design were invited. The six groups of architects were Piers Gough, Henry Nichols Cobb, Jeremy Dixon & Building Design Partnership (Royal Opera House extension), James Stirling, Michael Wilford & Associates, Colquhoun and Miller (Whitechapel Art Gallery extension in London), and Robert Venturi, Rauch and Scott Brown.

The Winner

The task to design “a building of an exceptional architectural distinction in order to complete the historic [Trafalgar] Square” was won by Philadelphia-based firm Robert Venturi, Rauch and Scott Brown.

The Sainsbury Wing is designed to connect to and reflect the classical architecture of William Wilkins’ 1838 National Gallery building. Vocabulary is copied from the 1830s building, but jazzed up in order to have its own identity as a work of contemporary architecture.



Figure 34. Venturi believes in the ‘inclusion’ of historical data and features to the new building rather than rejecting any influence from the past, like modernists did. The building is therefore made out of the same Portland stone and uses the same Corinthian pilasters as William Wilkin’s original design¹⁹⁴



Figure 35. The classical facade ‘peels’ as the building stretches towards Pall Mall Street¹⁹⁵

¹⁹⁴ Adelina M. "Postmodern Architecture." *Ballade Pour Adelina*, JPG, www.ballade-pour-adelina.blogspot.com/2011/06/postmodern-architecture.html

¹⁹⁵ Adelina M. "Postmodern Architecture." *Ballade Pour Adelina*, JPG, www.ballade-pour-adelina.blogspot.com/2011/06/postmodern-architecture.html

For example, the rhythm of the vertical columns and pilasters of the old façade are replicated onto the new building as a continuation of its existing counterpart. Not to copy it exactly, the rhythm is unevenly placed to reflect the neighboring buildings within the piazza.

Significance

American architect Robert Venturi is a pioneer in postmodernism. He coined the term “Less is a bore” from modernist architect Mies van der Rohe’s “Less is more” expression. Venturi believed the straight and clean approach was too boring and uninteresting, and did not express any historical symbolism from the specific region, which the design was to be built.

Author of *Contradiction and Complexity in Architecture* and *Learning from Las Vegas*, etc. Venturi’s writings even more than design had a great impact on the “divorce from modernist purity” for many architects.

adelina.blogspot.com/2011/06/postmodern-architecture.html



Figure 36. Pompidou Centre, Paris ¹⁹⁶



Figure 37. The Pompidou's exposed skeleton of mechanical systems is brightly colored ¹⁹⁷



Figure 38. Renzo Piano and Richard Rogers ¹⁹⁸

HIGH-TECH (TECHNOISM) (20TH CENTURY)

High-tech style developed during the 1980s. The term is a combination of "high-style" and "technology", implying that this architectural movement is interested in both design and structure. Aesthetics and structure are not separate entities, but form an integrated whole, where the aesthetic features of an object are determined by its technical structure. Vocabulary of machinery.

The Competition

1970-1971 - Centre Georges Pompidou, Paris, France – The design of a museum of modern art and centre for culture and information.

The Centre Georges Pompidou originates around a new concept of research and integration of the arts. This unknown notion prompted competition participants to create an innovative plan where an assortment of art forms had to be gathered under a single roof. This new hub was to contain a museum of modern art, a nucleus for industrial design, a library, and a music center.

Open, international competition. Participants had six months to submit a design. 681 entries were received – a quarter of the participating architects were French.

The Winner

First prize was honored to the Italian and British duo of Renzo Piano and Richard Rogers.

¹⁹⁶ Ajacoblevin. "The Crisis of Architecture and the New Imaginary." *Sputnik Shuffle*, JPG, www.mfareview.wordpress.com/2011/10/16/the-crisis-of-architecture-and-the-new-imaginary/

¹⁹⁷ Geof Wilson. "Centre Georges Pompidou." *Flickr - Geoftheref's Photostream*, JPG, www.flickr.com/photos/geoftheref/315945147/

¹⁹⁸ HerveLine. "History of Thirty." *Design*, JPG, www.design.20minutes-blogs.fr/archive/2007/08/index.html

Piano and Rogers used only partial site at Plateau Beaubourg for the actual building; the other half became a square – an extension of the Centre Pompidou where cultural productions and performances are organized to enhance the urban function of the entire district.



Figure 39. Pompidou Centre, Paris. Photograph taken by Andrew Meredith¹⁹⁹

Significance

The Centre Pompidou is regarded as a model of the high-tech style. It is the first building in which all structural aspects are visible from the exterior – the escalators, air-conditioning ducts and antennae are all noticeable elements of the design.

The high-tech movement was popular in Great Britain, the home country of its advocates: Richard Rogers, Norman Foster, Sir Nicholas Grimshaw and Michael Hopkins.

Impact on museum design, not anymore isolated “fortresses,” but centers of activities.

¹⁹⁹ Andrew Meredith. "Architecture: Pompidou Centre, Paris." *Andrew Meredith Photographer*, JPG, www.meredithphoto.com/portfolio/architecture.html



Figure 40. Shonandai Cultural Centre taken from neighboring apartment building²⁰⁰



Figure 41. Shonandai Cultural Centre²⁰¹



Figure 42. Photograph of Japanese architect Itsuko Hasegawa²⁰²

²⁰⁰ Photograph taken by the author, Richard Rivera, in June 2006

²⁰¹ Photograph taken by the author, Richard Rivera, in June 2006

²⁰² "Film Evening Focused on Modern and Contemporary Japanese Architecture." *Jaroslav Fragner Gallery*, JPG, www.gjf.cz/vystavy/filmovyveceren.html

POST STRUCTURALISM (20TH CENTURY)

Mentor to both Itsuko Hasegawa and Toyo Ito, architect Kazuo Shinohara is one of the masters of post-war Japanese architecture (of which Kenzo Tange is better known). Shinohara developed an architectural idiom based on nature and tradition and helped to establish a new Japanese architecture movement referred to as post-Structuralism. Characterized by wild, primitive, and especially anti-hierarchical features, this movement glorifies rustic pleasures, simplicity and industrial materials.

The Competition

1985-1986 - Shonandai Cultural Centre, Fujisawa, Japan – The design of a municipal cultural center.

The design of the new city center was based on three themes: children, community, and communication. One of its main attractions would be a planetarium. A civic hall and auditorium were planned for the adult population. The area beneath the complex would serve as a car park.

The Winner

After five rounds of reviewing design competition submittals, Itsuko Hasegawa was awarded first place for her provocative design. In a male-dominated profession, Hasegawa was a female and worked independently as she was not employed in a design office.

Itsuko Hasegawa's community center design proposal illustrated an aluminum and concrete landscape. The complex resembles a valley with rock gardens, a

stream, trees and even perforated aluminum (one of her favorite materials) clouds. Architecture is presented as an alternative experience where forms are abstracted from nature.

Significance

Itsuko Hasegawa is an avant-garde female architect in a profession dominated by males.



Figure 43. View of the Jewish Museum with both existing and new addition in Berlin²⁰³



Figure 44. Jewish Museum Berlin²⁰⁴



Figure 45. American architect Daniel Libeskind²⁰⁵

²⁰³ "Jewish Museum by Daniel Libeskind, Berlin, Germany." *ARCHIDE*, JPG, www.archide.wordpress.com/2008/11/10/jewish-museum-by-daniel-libeskind-berlin-germany/

²⁰⁴ Coronare Modestus Faust. "Architect Daniel Libeskind - Brilliantly Never Met A Right Angle He Liked." *Faustian urGe*, JPG, www.spfaust.wordpress.com/2011/07/19/architect-daniel-libeskind-brilliantly-never-met-a-right-angle-he-liked/

²⁰⁵ Eri Ishiwaki. "Daniel Libeskind." *Another+*, JPG, www.another29.exblog.jp/6495940/

DECONSTRUCTIVISM (PRESENT)

Deconstructivism is a style characterized by radical freedom of form. Traditional conventions in design are challenged. The aesthetic appearance of a building does not conform to design elements such as grids. Form does not necessarily need to pay strict attention to functional concerns. Deconstructivism is based on the ideas of French philosopher, Jacques Derrida, and his colleagues about deconstructing text.

The Competition

1988 - Jewish Museum, Berlin, Germany – The design of a new wing for the Jewish department of the Berlin Museum.

The plans for the new museum were comprehensive. The collection was to be divided amongst three departments.

A mixed competition was organized: There was an open, national competition restricted to West German architects only, and a closed, international competition where eight foreign architects were invited to participate. Participants had five months to submit a design. A total of 165 entries were received.

The Winner

Daniel Libeskind – a Milan-based Jewish architect born in Poland – submitted the most striking design worthy of first prize. His entry was entitled "Between the Lines". Libeskind is one of the deconstructivist architects who became first known at the MoMA exhibit *Deconstructivist Architecture* in 1988 which crystallized the movement, and brought fame and notoriety to its key

practitioners. Other architects profiled in the exhibition included Peter Eisenman, Zaha Hadid, Frank Gehry, Coop Himmelblau, Rem Koolhaas, and Bernard Tschumi.



Figure 46. Façade detail of the museum²⁰⁶

One line symbolizes a thunderbolt, which is a dominant feature of the museum's building envelope. Another is a straight axis, which runs the entire length of the museum, marked by a series of wells to symbolize the "voids" left by the Holocaust. A third line represents an interrupted axis to represent the broken spine of the German nation. The layout depicts a system of triangles to form an invisible and irrational Star of David.

Significance

After the competition of the Jewish Museum in Berlin in 1999, Libeskind was commissioned to design other Jewish Museums around the world – the Danish Jewish Museum in Copenhagen, Denmark (2003) and more recently the Contemporary Jewish Museum in San Francisco, California (2008). Libeskind's distinct style has made him a household name in the architecture profession.

²⁰⁶ Joe McNeill. "I Do Berlin, Too." *Genova Joe*, JPG, www.genovajoe.wordpress.com/2011/03/25/i-do-berlin-too/



Figure 47. National Library of the Czech Republic²⁰⁷



Figure 48. National Library of the Czech Republic²⁰⁸



Figure 49. London-based design practice Future Systems²⁰⁹

²⁰⁷ Lloyd Alter. "Future Systems Wins Czech National Library Competition." *TreeHugger*, JPG, www.treehugger.com/sustainable-product-design/future-systems-wins-czech-national-library-competition.html

²⁰⁸ Lloyd Alter. "Future Systems Wins Czech National Library Competition." *TreeHugger*, JPG, www.treehugger.com/sustainable-product-design/future-systems-wins-czech-national-library-competition.html

²⁰⁹ "Future Systems | Design Office United Kingdom." *The Furniture Book*, JPG, www.woont.com/en/organizations/Design-Office/United-Kingdom/Future-Systems-London-11938

BLOBITECTURE (PRESENT)

Blobitecture = "blob" and "architecture". Blobitecture flows towards a more organic, voluptuous, inventive style of architecture.

The Competition

2007 - National Library of the Czech Republic, Prague – The design of the urban, architectural, technical and operational solutions for the new building of the National Library of the Czech Republic in Prague.

The competition for the National Library of the Czech Republic was announced as an open, international competition that would take place in 2 phases.

Stage I participants had four months to submit a design. 355 entries were received and a maximum of 8 projects were invited back by the jury for further development in the next competition phase. The 8 finalists competing in Stage II had three months to improve their original ideas. All entries were anonymous submissions.

The Winner

First prize was awarded to London-based design practice Future Systems. Future Systems' design was viewed by the jury as unique, exciting, progressive and inviting.

The jury was very impressed by the gentle relationship of the building with its park surroundings and was the only proposal that dealt successfully with the park. In contrast to the existing building, the new design is open and sociable. The building addresses the importance of views from the site to the city with its "eye" onto the

historical core of Prague and Prague Castle.

Putting the book storage and National Archive Collection in the basement structure reduced the above ground mass. Its compact volume should represent in its final resolution a very environmentally appropriate building that fits the site. Considered a representative of modern technology, the design is regarded as a building of the 21st century.

Significance

As more architects break away from established geometrical forms, architects and architectural students today rely on numerous CAD software programs to construct blob architecture. Digital modeling programs will generate infinite forms of blobitecture in both exterior and interior design. Many ambitious architects are exploiting blobism to push architecture to its outermost limits. Such examples of blobitecture includes Frank Gehry's Experience Music Project in Seattle, Washington, and Gehry's Guggenheim Museum in Bilbao, Spain.



Figure 50. An idea proposal for the reuse of the High Line – a mile long lap pool submitted by Nathalie Rinne, an architecture student in Vienna²¹⁰

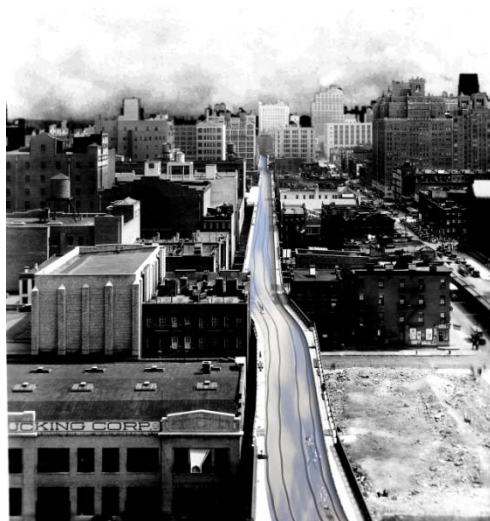


Figure 51. Lap pool design submission for the 2003 Ideas Competition²¹¹

SUSTAINABLE – ADAPTIVE USE (PRESENT)

Adaptive use is the most flexible intervention strategy of sustainability. It involves the freedom to assign a new use to a historic property, while emphasizing the retention and repair of components that give a property its character. Adaptive reuse is a different style to the conventional historic preservation.

Adaptive use preserves features that convey the structure’s historical, cultural, or architectural values. Exterior changes are usually minimal to maintain the building’s historic integrity. Changes are most radical on the interior, where new mechanical systems or handicapped-accessible features are added.

The Competition

2003 - Designing the High Line, New York City, New York – An ideas competition soliciting innovative proposals for the High Line's reuse.

The intent for the Designing the High Line Competition was to revitalize the neglected above-grade rail structure on Manhattan’s West Side into a public open space built for pedestrian use. Friends of the High Line (FHL) and the City of New York sought to generate ideas of fun, bold and imaginative visions. Entrants were encouraged to be forward-thinking.

An open, international, ideas competition. Participants had three months to submit a design. 720 entries were received.

²¹⁰ “My Favorite Pool – Swimming Pools Part II.” *High Line Blog*, JPG, www.friendsofthehighline.wordpress.com/2008/04/22/my-favorite-pool-swimming-pools-part-ii/

²¹¹ “My Favorite Pool – Swimming Pools Part II.” *High Line Blog*, JPG, www.friendsofthehighline.wordpress.com/2008/04/22/my-favorite-pool-swimming-pools-part-ii/

The Winner

Four designs were selected to be co-winners in this ideas competition. Three special award winners, ten honorable mentions, and more than 150 noteworthy proposals were displayed at Grand Central Terminal in New York at the conclusion of the competition.

Among the many innovative and interesting ideas imagined, one proposal was to transform the High Line into a 1.5-mile-long lap pool. Nathalie Rinne's eccentric swimming pool proposal was one of the four winning ideas.

Although the primary intent of the 2003 Ideas Competition for Designing the High Line was to breed fun and playful visions for rejuvenation of the abandoned rail line, the key purpose was to promote public awareness and to encourage support to bring new life into an old and unused piece of New York City infrastructure.

Significance

The significance of the 2003 - Designing the High Line Ideas Competition was to fuel public awareness about the project and to generate ideas for potential adaptive reuse. The 2003 competition thus resulted in a project competition a year later.



Figure 52. Rendering of the The High Line from Gansevoort Plaza²¹²



Figure 53. Rendering of the The High Line from Gansevoort Plaza²¹³



Figure 54. Architect's Ricardo Scofidio and Elizabeth Diller of New York City based architectural firm Diller Scofidio + Renfro²¹⁴

²¹² "Design Slideshow 2008." *The High Line*, JPG, www.thehighline.org/galleries/images/design-slideshow

²¹³ "Design Slideshow 2008." *The High Line*, JPG, www.thehighline.org/galleries/images/design-slideshow

²¹⁴ "SJO4A AND SJO4B- Plan Drawings (Architect Diller and Scofidio)." *Me vs Architecture*, JPG, www.slutmuffin-mevsarchitecture.blogspot.com/2010/10/sjo4a-and-sjo4b-plan-drawingsarchitect.html

SUSTAINABLE – ADAPTIVE USE (PRESENT)

Second Stage of The Competition

2004 - Designing the High Line Team Selection, New York City, New York – The design of the High Line Master Plan.

Participants were asked to present a vision that could be achieved in phases. Designs were to execute environmental awareness. Access to the High Line had to be taken into thought on the ground level to the pedestrian platform throughout all seasons of the year. An expression of both below and above the elevated, linear structure had to be taken into point.

An international competition. 52 entries were received and were narrowed to four finalist teams that included Zaha Hadid, Steven Holl, and Michael Van Valkenburgh Associates. The selection process ran for six months.

The Winner

The team of James Corner Field Operations (landscape architecture) and Diller Scofidio + Renfro (architecture) were selected to begin design work on the High Line.

The winning proposal defined the original 1.5-mile-long public open space into a comprehensive vision for reuse by offering the High Line visitor layers of ecological and built environments to build a rich series of experiences.



Figure 55. A Railroad Artifact, 30th Street, May 2000. Photograph taken by Joel Sternfeld²¹⁵



Figure 56. Rendering of the 23rd Street Lawn at the High Line Park²¹⁶



Figure 57. Typical Landscape with Planking System²¹⁷

Along the length of the composition, visitors would be able to experience physical elements – pit, plains, mound,

bridge, flyover, ramp – with the natural settings of marshland, tall and mixed perennial meadow, wetland, and woodland thicket. Linked by a series of boardwalks along the entire stretch, various vertical access points allow visitors to reach the elevated promenade

Significance

The High Line park would not only rejuvenate an old abandoned infrastructure in the city, but the livelihood of the community as well, prompting future developments adjacent to the green promenade.

The High Line's success in New York has sparked a broader discussion about whether or not elevated parks can succeed in American cities in general. The High Line's success has inspired or encouraged similar projects in Philadelphia (The Reading Viaduct), Chicago (The Bloomingdale Trail), St. Louis (The Trestle), and Jersey City (The Embankment).

²¹⁵ Sternfeld, Joel. "Joel Sternfeld." *The High Line*, JPG, www.thehighline.org/galleries/images/joel-sternfeld

²¹⁶ "Design Slideshow 2008." *The High Line*, JPG, www.thehighline.org/galleries/images/design-slideshow

²¹⁷ "Design Slideshow 2008." *The High Line*, JPG, www.thehighline.org/galleries/images/design-slideshow

Conclusion

With advancements in communication media, the transmittal of competitions has also evolved. A century ago, building design competitions did not have much of a public appeal and only a limited amount of exposure was given to winning entries that had been constructed. With the evolution of internet technology, architecture and design blogs and websites have been established to become an up-to-date medium for competition information. The availability of competitions is more publicized, allowing any and all types of people to enter. Not just regionally in one specific location, but more towards the international design community. The Internet has played a big role in communications in informing the willing candidate about the competition who would not have known about it if she or he only browsed through their local newspaper.

The submission of an entry has also developed over time. Participants were once required to postmark on the deadline date and mail their competition requirements (often including a set of presentation boards that had been plotted and mounted on foam core) to the competition committee. Today, digital submissions have become the norm of submitting a design competition. This not only gives the participant more time to prepare his submittals, but shows that any person, no matter where in the world he or she may be, is able to participate in a design competition with the easy click of a computer mouse.

Moreover, the role of technology has not only played an important aspect in the evolution of the competition process. Interestingly, historic competitions from the late 18th Century to now have

illustrated the chronology of architectural styles and how technology has played an essential character in the designs that participants submit to a competition. In the 18th and early 19th Centuries, the primary medium for developing a design was by hand-drawing with a pencil and paper. Today, computer programs such as AutoCAD and Rhinoceros enable the design competition participant to create new building styles and forms that transcend the ideas of architecture. Still, it is the mind that creates and not necessarily, the tool as the tool is only as good as its designer. In addition, computer programs enable competitors to submit striking digital renderings, physical models and presentation boards to evoke their “big idea.” After all, architectural competitions become mediums of informing the public and generating dialogue about building construction, context, and style, among others.

A BRANCH OF THE
ACADEMIC COMPETITION
TRADITION

A BRANCH OF THE ACADEMIC COMPETITION TRADITION

In order to find out why the University of Hawai'i at Mānoa School of Architecture students are not more active in participating in competitions, the attitude of the students regarding competitions was determined with an online questionnaire conducted through the website surveymonkey.com. Seventy-two students from the University of Hawai'i at Mānoa School of Architecture replied in the anonymous poll.

The questionnaire included ten questions that were divided into three categories. The first category was to determine if students had previous experience in a design competition, how students are informed about contests, and the initial thoughts regarding competitions. The second category was to determine student attitude about the possible idea of integrating a design competition into a design studio. *Chapter 7: A Student Design Competition Studio* will cover this category of the questionnaire. The third category of the questionnaire was to determine student attitude about design competitions after they had participated in the survey.

The three categories and questions are:

Category One: About Design Competitions

1. What are your initial thoughts about design competitions?
2. How are you informed of student design competitions?
3. Do you have previous experience in a student design competition?
4. Do you feel that winning a student design competition (whether it be first place, second place, third place, or honorable mention) will give you confidence?

Category Two: Design Studio + Design Competition

5. Would you sign-up for a design studio if you knew the studio project would be a design competition?
6. What do you think about having a design studio that is focused on a student design competition as your semester project?

Category Three: Who Are You?

7. Which design studio level are you currently taking?
8. After this questionnaire, are you more aware of student design competitions?
9. How likely are you to attempt a student design competition?

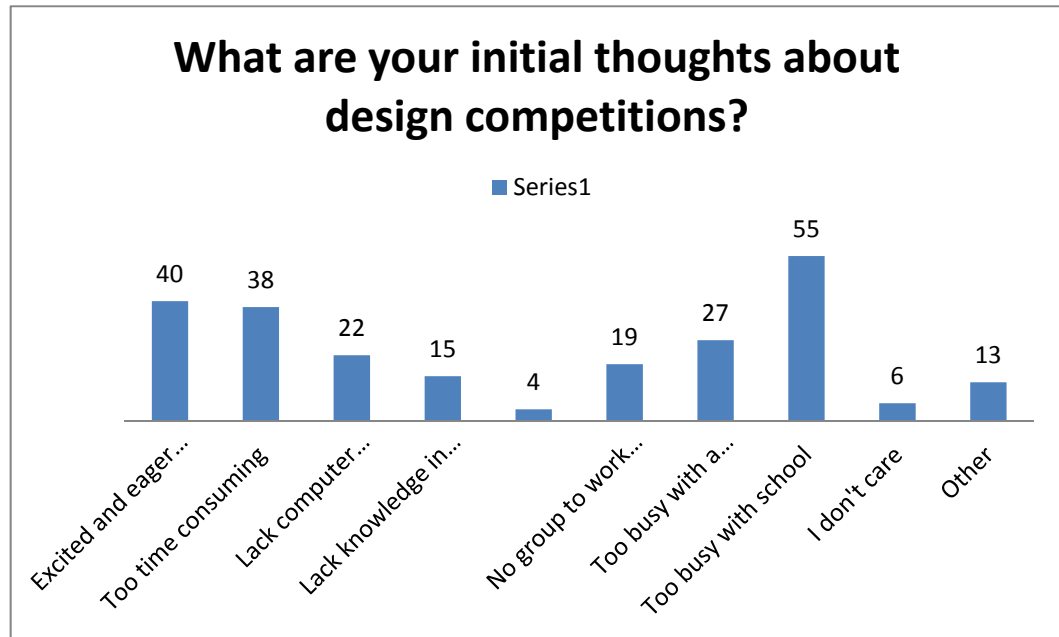


Table 5: What are your initial thoughts about design competitions? Students were not limited to selecting one answer and could choose all that applied.

At first, the students were asked about their initial thoughts on design competitions. Fifty-four students felt they are too busy with school to participate in a competition and thirty-four students felt that design competitions are too time consuming. Part-time work and no free time were primary reasons as one student quoted, “the most difficult in participating in [a design] competition is to commit, which keeps me away from even considering to participate.”

Design competitions do spark student interest, since forty of the seventy-two students expressed excitement and eagerness to participate. Twenty-one students acknowledged a lack of self-confidence in their dexterity to generate computer-aided design. Likewise, fourteen students felt lacking in materials knowledge – wood, steel, concrete, etc. – and their ability to envision the structural

aspect of their design. Four students expressed they did not have enough resources available to them such as faculty and books. Majority of the students expressed thoughts of excitement and worries about design competitions. Six students simply had an “I don’t care” impulse to the topic.

A rationale for the “I don’t care” attitude could be to Hawai‘i being perceived as a haven for rest and relaxation, therefore, possibly shaping the mentality of a student’s competitive work performance and the mentality perceived by those who have never been in Hawai‘i as claimed. The University of Hawai‘i at Mānoa School of Architecture is cultivating itself to become a place for architecture in the Asia-Pacific region, whereas now, it is a playground for the fields of marine biology and science.

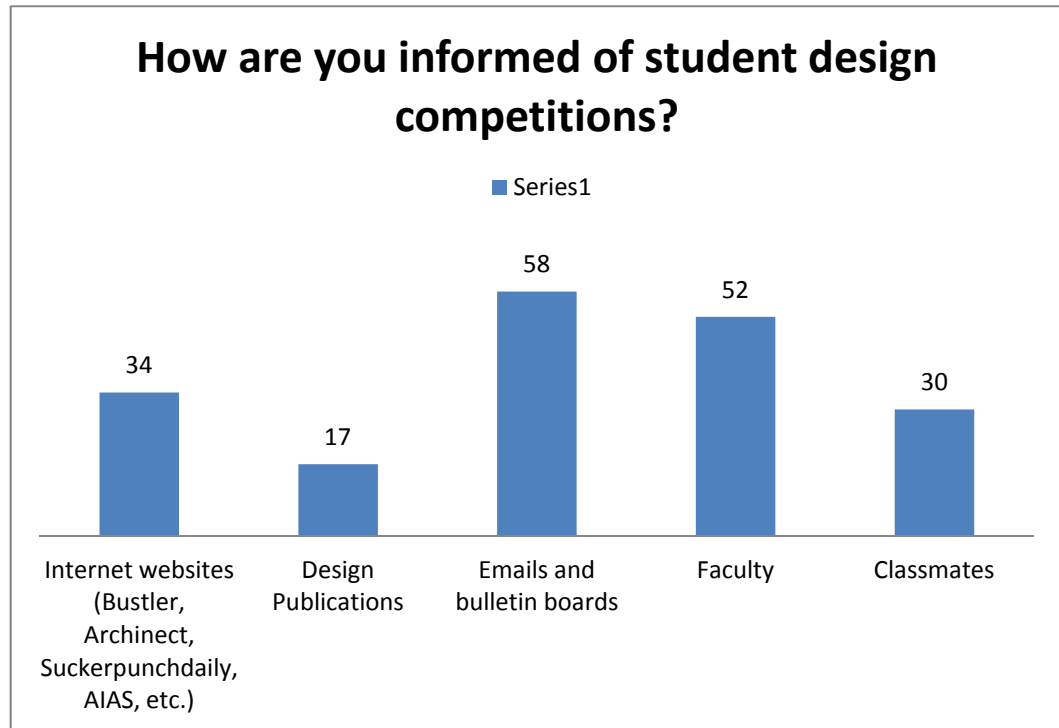


Table 6: How are you informed of student design competitions? Students were not limited to selecting one answer and could choose all that applied.

The purpose of the next question was to find out how the University of Hawai‘i at Mānoa School of Architecture students get their information about design competitions. Survey results show the primary means where that students receive their information about competitions is through email bulletins sent out by the School of Architecture, followed by faculty members who help relay the information. The internet was the median in the results, followed by student word of mouth. Last in the poll were publications such as design magazines.

Results show that technology – the internet and email – plays an important role in delivering news to students about design competitions, whereas written print does not. The portability of computer technology and the wifi has changed the routine of students so they can access

information anywhere at any time. Emails and the latest news can be checked more frequently via internet, whereas, publications normally occur monthly. Students can track down updated competition announcements more instantly in comparison to sending a notification via mail carrier or reaching a person by telephone. Likewise, faculty members and other students help to deliver competition information received by students quicker through the internet network.

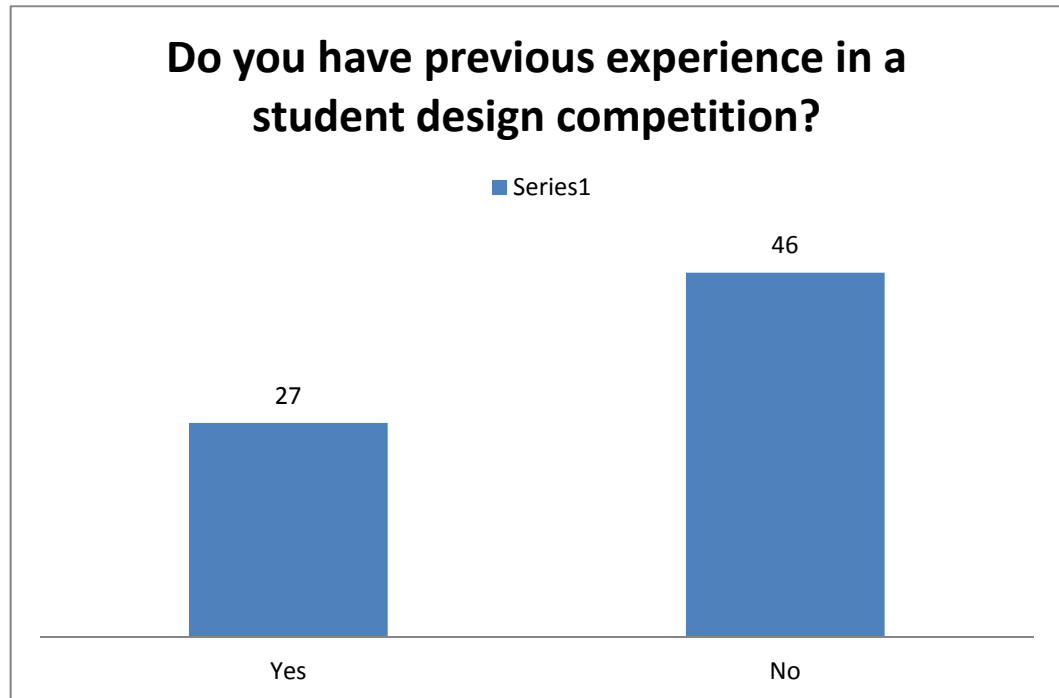


Table 7: Do you have previous experience in a student design competition?

As for the students' previous experience of design competitions, the survey shows that forty-six of the seventy-two students who participated in the study do not have previous experience in a design competition, whereas twenty-seven students do.

When asked what competitions students with previous experience had partaken in, the most frequent contest was the Hawai'i Law Enforcement Memorial Foundation – a local competition open only to students at the University of Hawai'i at Mānoa. The Hawai'i Law Enforcement Memorial Foundation competition was held in the Fall 2010 semester prior to when this survey was distributed. It started as a design charette and all School of Architecture students were encouraged to participate. In 41% of the survey responses, the Hawai'i Law Enforcement Memorial Foundation was the only competition noted by students.

Local competitions were most common than with student replies and included the School of Architecture Courtyard Competition, the 2010 Interisland Terminal Design Competition for Ballet Hawai'i, and numerous esquisses held at the University of Hawai'i at Mānoa School of Architecture. Only a few national and international design competitions were noted. These include the Evolo Skyscraper Competition, the UIA 2011 Tokyo Design Competition, Disney Imagination, and the USGBC 2010 Natural Talent Design Competition.

Students are more frequent to participating in local competitions because they are normally approached by the competition organizers instead of a student having to search online for a contest that tailors their schedule and interest. Although students have the decision to participate or not, local competitions are more sensitive to a local institutions school schedule.

Advantages and drawbacks of entering in a design competition as a student

Design competitions can be both nerve-racking and electrifying. For someone who has already graduated or never gone to school at all but works in the field, the individual has an advantage over students entering the same competition because 1) the individual will probably have more knowledge and work experience; and 2) the individual will possibly have experiences from previous competitions. Yet, in a practice of procurement highly dominated by design professionals, students are the underdogs of the design competition process with nothing to lose and a lot to gain. Of the issues in the survey, the following will show the benefits and drawbacks of entering in a design competition as a student in comparison to a professional.

Time feasibility. A benefit and a drawback to students participating in competition is time. School and a part-time job are reasons to why a student has no free time for participating in a competition. A design competition seems more feasible during college but varies with each student. In the profession, design firms may have more time to designate specifically on a design competition with a diversified array of talented workers while getting compensated for their work. Like a design firm who devotes specific time to work on a design competition, students too can make time feasible if studio projects were actually competition projects. However, as everyone works hard to win a design contest, a student can get into trouble trying to keep up if they happen to have a difficult schedule.

Technology. Another advantage that students have is a quickness at designing and executing ideas with technology and

sketch, whereas the older and more experienced designer is more perceptive in contextualizing their ideas through hand-drawing. Students are also keener to new computer gadgets and are frequent followers of cutting edge architecture bloggers. Students have a fresh take on the design field as they are aware of the most up-to-date design ideas with the help of internet and technology.

Creativity flow. Despite the notion that students have a lack of knowledge and experience in the field, students possess the qualities of innocence, which can lead to a more liberated design solution. The student is not yet jaded by the technicalities of design experience, whereas, a professional who is no longer in school would incorporate more realistic ideas over fantasies. A student who knows as much precedence as possible will be able to drive new concepts. As a student noted, “I feel like those in the professional world have more experience, but maybe those in school still have drive towards innovative ideas.”

Cooperative learning atmosphere. A group competition enables students to learn from each other while being as creative as possible, whereas the benefits of working individually would be to see where you are competitively amongst others in college. A student who partakes in a design competition during internship can learn from professionals of various backgrounds.

Access to resources. Although students do have less knowledge and experience about design, construction, and presentation materials, students can benefit from their faculty mentors for guidance while having access to design resources – plotters, the laser cutter, and student licensed design software – available to them at the School of Architecture. An instructor can lend a

hand to a student in the competition instead of working individually or with peers only. However, a disadvantage is that faculty can be seen to influence the concept, and therefore it is not the student's work.

Networking. Winning a design competition can lead to the possibility of opening career doors for a student. Having a winning entry or an honorable mention placement will help to put a student's name out while gaining exposure in the field.

Gaining competition experience. As a student, the learning process gained from doing a competition will be beneficial in future studio projects and design competitions with practice, process experience, and the ability to identify what is needed to win. As a student noted, "Better to learn the process in college so you're prepared for the real world." Whereas another student noted that college would be a great opportunity to maximize ones skills in design and competitions.

Conclusion

The study shows thoughts of excitement as well as personal doubts from students about partaking in a contest. However, students do realize the benefits and the impact one gains from taking the initial step to participate.

One of the benefits is that as a student, you enter with the same chance of winning as everyone else. Students do not necessarily need to worry about winning the competition whereas, design firms use competitions to gain work. In addition, working on a competition in a design firm is a great expense when paying for employees, whereas, college students participating in a design competition work for the benefit of learning. However, one

disadvantage is that a student's design and production skills may not be as advanced as those of a professional. On the other hand, if the focus of a design competition studio is the life-long learning experience of the competition, rather than winning, then there are simply no disadvantages at all.

University of Hawai'i at Mānoa School of Architecture students also expressed nervousness, their winning chances being "slim to none", and low self-confidence in their design capabilities. The cause for this low self-esteem is due to competition and intimidation from United States mainland and international design peers. As our institution continues to grow its prestige and exposure "at the global scale [with a prime focus] in the Asia-Pacific region,"²¹⁸ the school currently lacks in several important factors – school funding, resources that include guest lectures, and a national and global exposure – compared to its mainland and international counterparts. A solution for these shortcomings would be design competitions.

To conclude, one student noted, "While I will always lack something [and I] am always too busy with school [, despite design competitions taking] too much time... I am still excited to participate because when working on many school projects, we work under the premise that out work is for our own growth."

²¹⁸ University of Hawai'i at Mānoa School of Architecture, "Vision," University of Hawai'i at Mānoa School of Architecture, www.arch.Hawai'i.edu/ (accessed March 2011).

COMPETITION CASE
STUDY: 2010 WORLD
EXPOSITION DENMARK
PAVILION

Bjarke Ingels Group

3XN

Arkitema

CEBRA

Henning Larsen Architects

Lundgaard + Tranberg

Dissing + Weitling & Spektrum Arkitekter

KHR Architects + MAPT

**COMPETITION CASE STUDY:
2010 WORLD EXPOSITION
DENMARK PAVILION**

The fourth parameter analyzes an exciting competition case study of the competition process: the first being the 2010 Denmark Pavilion for the Shanghai World Exposition, which was won by a relatively young designer, Bjarke Ingles, and his firm – Bjarke Ingles Group (BIG).

The Competition

A restricted design competition between eight highly skilled and diversified teams – all selected through prequalification – was initiated in February 2008 to find the physical design and exhibition concept of the Expo 2010 Danish pavilion.

The eight design proposals varied in form and content, each putting forward interesting and relevant concepts to showcase the country of Denmark to the international stage at the 2010 World Exposition in Shanghai, China. Each proposal in its own way is striking – the graphics able to capture the attention of the viewers. The array of ideas made it much more significant for the competition panel to have a clear starting point for evaluation so to not judge the proposals against biased objectives. Each scheme was assessed against three central principles: cultural concepts, architectural evaluation, and engineering assessment. As the following basis for analysis is used to judge the individual proposals, the schemes are sifted thru in order to unveil the most appropriate design to represent Denmark at the 2010 World Exposition in Shanghai, China.

Concept

The official theme of the World Exposition Shanghai China 2010 is “Better City, Better Life”. Great importance was attached to the pavilion design to present an impression of Denmark and Danish cities in a simple and accessible way, while illustrating a clear and powerful statement in the context of the Expo theme. Next, it was an important aspect to assess how the signals operate and are likely perceived by a predominantly Chinese audience and only 10% being foreign visitors, although this study certainly cannot be fully determined.



Figure 58. Site location for the proposed Denmark Pavilion at the Shanghai Expo²¹⁹

Site

Three of the proposals use the default option of connecting pathways to the pavilion EXPO Boulevard, while one scheme proposes an escape route only option. Two other proposals strategically placed their access from the EXPO Boulevard and increased visibility to the Danish Pavilion. Likewise, audience flow in the exhibition area was enhanced.

²¹⁹ Image courtesy of Enterprise and Construction Authority + Economic and Business Affairs, commissioners for the Expo 2010 Danish Pavilion Competition

The elliptical Denmark Pavilion sits between the Sweden Pavilion to the west and the Finnish Pavilion to the east. The site faces a busy promenade connecting the Denmark Pavilion and the Estonia Pavilion directly to the north. This public thoroughfare is the main route, which thousands of visitors will take as they stroll through the Nordic village of Zone C. Directly behind the site, is an elevated boulevard, which obstructs the building from any south views but allows bird's eye views of the pavilion.

Exterior Architecture

The most significant visual image of Denmark at the Shanghai World Expo is the architectural design of the nation's pavilion. Each architectural design proposals are no less varied, but can be categorized with respect to some identifiable outline.

As the eight design proposals vary in architectural form, each are also contextually different. Characteristic to a majority of the schemes feature a kind of visual metaphor in which the design of the pavilion and its contents are fused with iconic and easily recognizable imagery. This visual metaphor can, in various ways, represent and fuse the exhibition theme “Better City, Better Life” and the concepts of Danish and Chinese culture into an artistic and tangible expression. In contrast to the strategy of using an easily recognizable icon, some proposals use an idiom to achieve an abstract, yet striking design without direct contextual references to China or Denmark. In other proposals, the most tangible and visible ambassador of Denmark – the architecture – becomes the backdrop as landscape and planting dominate the design.

All proposals came with statements about sustainability and how the short-term structure can balance environmental issues such as the expected temperature fluctuations and persistent rainfall during the Expo period. In addition to the notion of structures, materials, and the technical solutions to solve these concerns, there is great disparity in the aspiration and working level of the proposed engineering concepts. Many have not been able to convince, while others presented realistic solutions to foreseen circumstances.

Interior Architecture

In another aspect, each proposal introduces a new precedence between traditional exhibition space and more untailored functions. Some of the proposed works contrast with an architecture that is 'tailored' to a proposed content. Others reorganize priorities completely. Some entries are very specific and detailed. Other proposals suggest content or primarily establish flexible areas. Similarly, there is a wide spread in the physical interpretation of space sequence, to large interior space, partial outdoor spaces - and even whole outdoor areas.

Conclusion

All things considered, the most striking projects in this competition are those who have a boundless and powerful architectural appearance. The winning design was unanimously selected based on the degree of simplicity and elegance that make their content and function - and not least their ideological momentum - 'understandable' for the audience, without requiring a conscious decoding or reading symbolic layers.

Competition Information

Project	Exhibition pavilion
Site	Shanghai, China
Type	National, restricted, anonymous competition
Dates	Prequalification 11Dec07–14Jan08
	Competition initiated 29Feb08
	Submission deadline 16May08
	Jury deliberation 22May– 19Jun08
	Publication of results 10Sep08
Commissioner	Enterprise and Construction Authority + Economic and Business Affairs
Number of entries	33 prequalified 8 invited finalists

Evaluation Criteria

The proposals were evaluated on their technical exhibition, architectural, functional and technical solutions in relation to the wishes and requirements. Emphasis was placed on the likelihood that the proposals could be realized within the economic framework for the project.

1st Prize

Bjarke Ingels Group (BIG) with 2 +1 Ideas Agency, Arup AGU, London, and Leif Hansen Consulting Engineers

Completed 2010

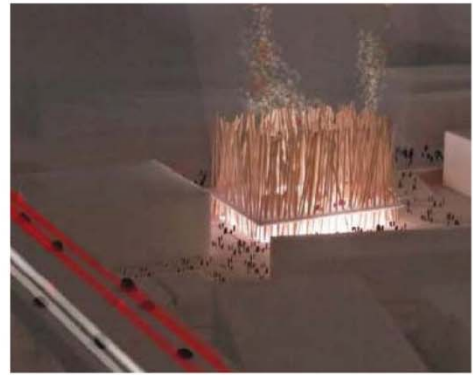


Figure 59. Summary of 8 entries for the Denmark Pavilion Competition



Figure 60. Bjarke Ingels Group²²⁰

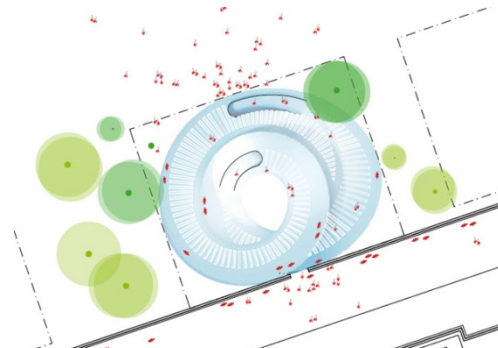


Figure 61. Site Plan of BIG's Denmark Pavilion²²¹

BJARKE INGELS GROUP (BIG) COMPETITION WINNER

Design Concept

The bicycle and the Little Mermaid statue are two significant icons of Denmark. The Danes are active cyclists, and they promote this healthy practice with free bike programs and an extensive network of routes to decrease the need for motor vehicles in daily Copenhagen life. The Little Mermaid statue is a major tourist attraction and one of the most visited sites in Copenhagen.

Bjarke Ingels Group (BIG) brings these two icons together in their design for the Shanghai 2010 World Exposition. First, a number of bicycles are made accessible for use – visitors can bike around the exhibition pavilion – with the aim of restoring the bicycle as a status symbol in China. Next, the design calls for the temporary relocation of the Hans Christian Anderson fairytale-inspired Little Mermaid statue from Copenhagen Harbor to Shanghai. Doing so will in turn allow a Chinese artist to install a piece at the now empty space in the harbor as a sign of international collaboration.²²²

In its design, BIG illustrates the environmentally friendly contribution the bicycle makes to the urban environment. The Denmark Pavilion reintroduces bicycles as part of a healthier city and lifestyle, particularly in China where bicycles used to be the primary means of transportation before the current economic boom.

²²⁰ "BIG Wins Danish Pavilion for 2010 World Expo in Shanghai." *Bustler*, JPG,

www.bustler.net/index.php/article/big_wins_danish_pavilion_for_2010_world_expo_in_shanghai

²²¹ "Welfairytales: The Danish Expo 2010 Pavilion." *EXPO 2010*, JPG,

www.arkitektforeningen.dk/sites/arkitektforeningen.dk/files/Welfairytales-The-Danish-Expo-2010-pavilion.pdf

²²² "XPO | EXPO 2010 Danish Pavilion." BIG | Bjarke Ingels Group. www.big.dk/projects/xpo/ (accessed March 3, 2011).

Architectural Design

BIG designed an elliptical scheme based around two Danish icons: the bicycle and the Little Mermaid statue. An architectural landscape in the form of a double-helix extrudes from the ground plane and a void is left in the center of the loop for a water feature. A scene from Denmark is recreated in this central void including a pool for the Little Mermaid. In turn, the spiraling sequence becomes a bike path and an area for display. With a geometric shape, they solve multiple complex problems: way finding, sighting, exhibition spaces, activities, etc.

The structure gradually slopes upward from the ground plane and creates a fifteen-foot opening at the pavilion entrance. The dim light under the low lying foyer is contrasted by a halo of sunlight coming from above, highlighting the mermaid sitting in a shallow pond of seawater.

Mermaids are not only part of Danish culture, but also China's. According to ancient Chinese legend, mermaids were skillful knitters who produced beautiful silk textiles made from a rare magical yarn that repelled water. Mermaids were desired by humans because their teardrops transformed into rare and precious pearls. Believed to live in the South China Sea, ancient Chinese fishermen longing to catch mermaids would throw their fishing nets into the deep water. According to legend, the mermaids' voices often lulled fisherman to sleep.²²³

²²³ "Shark man." Baidu. www.baik.baidu.com/view/210682.htm%20english (accessed March 3, 2011).



Figure 62. Exterior view night rendering²²⁴

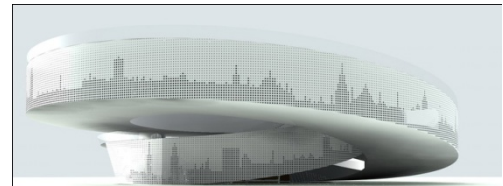


Figure 63. Exterior²²⁵



Figure 64. Massing model

As for the environmental performance, white steel sheets that form the building's skin feature a perforated silhouette of some sort of city skyline. The light color of the building reflects heat from the sun's rays during the humid summer months in China. The perforations are about six inches in diameter and create a pixelated image. They also allow natural ventilation and day

²²⁴ "BIG Wins Danish Pavilion for 2010 World Expo in Shanghai." *Bustler*, JPG, www.bustler.net/index.php/article/big_wins_danish_pavilion_for_2010_world_expo_in_shanghai

²²⁵ David Basulto. "Denmark Pavillion for Shanghai Expo 2010 / BIG." *ArchDaily*, JPG, www.archdaily.com/6465/denmark-pavillion-for-shanghai-expo-2010-big/

lighting as well as a sense of transparency between inside and outside.

The building's exterior also visually reinforces Chinese tales of mermaids by evoking the net fisherman used to catch them, although here the net is meant to lure visitors into the Danish Pavilion. BIG uses the strategy of visual character to underscore cultural relationships with China. These are in turn technical design solutions for creating indoor comfort.

White in color, the building also represents the "Danish sailing tradition and sits upon a lagoon of water transplanted from Copenhagen Harbor."²²⁶ Copenhagen Harbor is famous for its pure water as one can even swim there. Copenhagen is a metropolis that relies on this natural yet fragile resource for transportation and recreation. BIG is not the only firm to incorporate water into their design. Yet, their integration of this element is the most simple and poetic of all the other competition proposals.

The monolithic steel structure was proposed to be constructed in a Danish shipyard and then transferred to Shanghai. However, the jury considered it inappropriate to produce steelwork in Denmark when the Chinese are skilled at it and the steel often comes from China. The jurors proposed the logic of local production in the host country of the expo.²²⁷

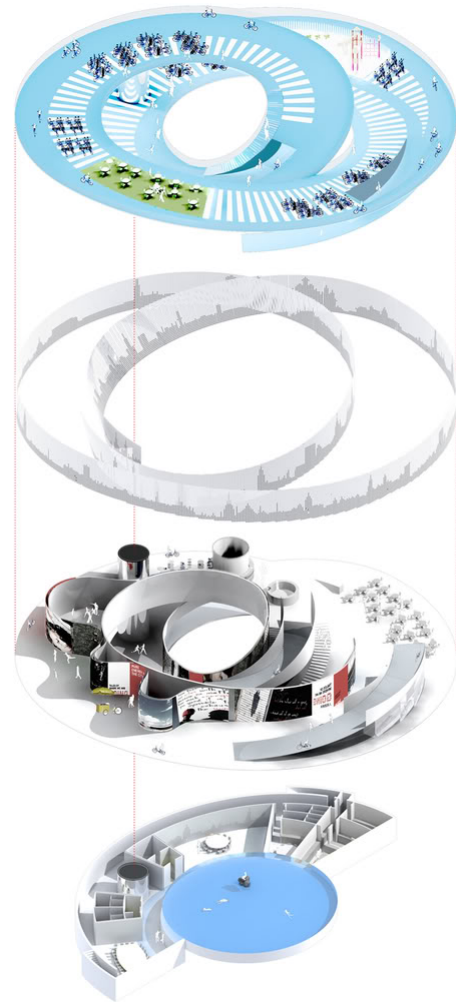


Figure 65. Axonometric²²⁸

²²⁶ Carlosdev, "Denmark Pavilion," Thank Blog It's Friday, www.fridaycdv.wordpress.com/2010/12/08/denmark-pavilion/ (accessed March 2011).

²²⁷ Danish Architects' Association. "EXPO 2010 | Architectural Association." Architectural Association. www.arkitektforeningen.dk/expo-2010 (accessed April 2, 2011).

²²⁸ "BIG - Danish Pavilion in Expo 2010." *AI: Arch Innovations*, JPG, www.archinnovations.com/featured-projects/sports-facilities/big-danish-pavilion-in-expo-2010/

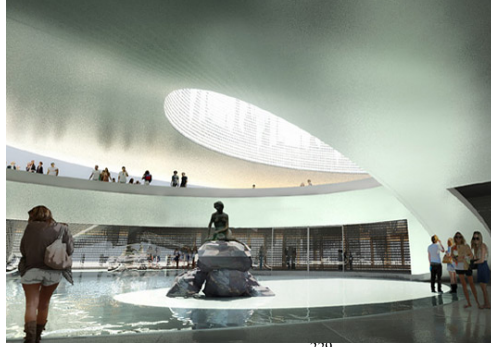


Figure 66. Interior, Mermaid Pool²²⁹

Interior Architecture

The entire exhibition is designed in a continuous loop. A double-ramp strategy helps to control movement inside. Visitors can choose to either walk up the ramps or to use a bicycle.

The intertwining double-helix plan expresses a feeling of firmness and consensus-thinking, which are both trademarks of the Danish spirit. Reminiscent of a DNA sequence, a double-helix is an iconic symbol of life, which communicates the exposition theme of "Better City, Better Life." Located between two Nordic nations, the coil is symmetrical and can be divided down the center from north to south, in balance with its neighboring pavilions. The clarity of a balanced design reflects the Danish spirit of social equality. The Danes do not have a hierarchical society, but rather a consensus-thinking one.

The open foyer is centered in the middle of the public thoroughfare. The clarity of access reflects the Danish spirit of openness and transparency. Unlike other design schemes, the entrance of the BIG

²²⁹ "BIG Wins Danish Pavilion for 2010 World Expo in Shanghai." *Bustler*, JPG, www.bustler.net/index.php/article/big_wins_danish_pavilion_for_2010_world_expo_in_shanghai

pavilion is clearly communicated by the sweeping architectural form.

At the Denmark Pavilion, the entrance frames the Little Mermaid statue as she beckons to the visitor. One wonders if this manipulation of light is meant to lure the visitor like a mermaid in a fairytale.

The idea of using a double-helix ramp for circulation is not new and can be traced as far back to the Vatican in Rome. The double-helix is also used inside the Reichstag Dome designed by Norman Foster among others. The double-helix ramp works more successfully than just a single ramp because it allows for two means of one-way circulation where thousands of visitors are expected daily.

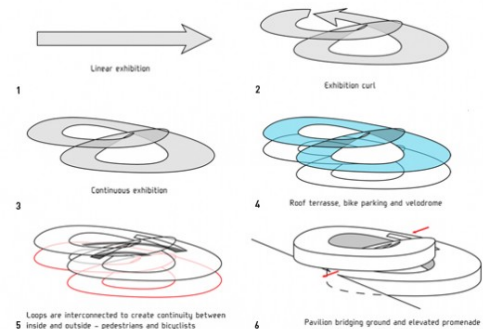


Figure 67. Concept²³⁰

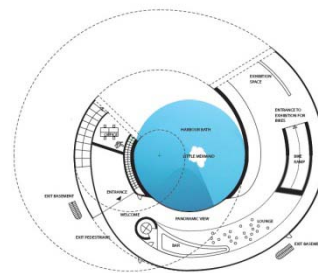


Figure 68. Ground floor plan²³¹

²³⁰ David Basulto. "Denmark Pavillion for Shanghai Expo 2010 / BIG." *ArchDaily*, JPG, www.archdaily.com/6465/denmark-pavillion-for-shanghai-expo-2010-big/

²³¹ "Welfairytales: The Danish Expo 2010 Pavilion." *EXPO 2010*, JPG,



Figure 69. Exterior and bicycle rendering²³²

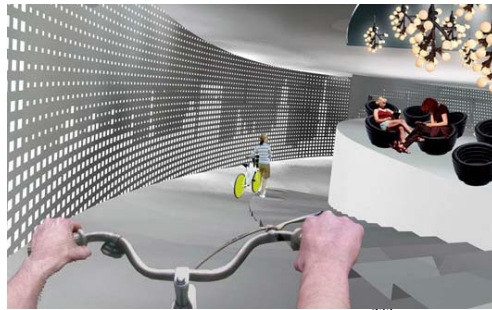


Figure 70. Interior and bicycle rendering²³³

Furthermore, a double-helix design strategy is better than a linear exhibition layout as it is more interactive and an intertwined loop has no counter flow.

At the Denmark Pavilion, the first ramp ascends from the main entrance of the pavilion to the rooftop, which offers 360-degree views of the expo grounds. The second helix descends from the rooftop to the Little Mermaid at the ground level.

BIG's proposal is an interactive scheme encouraging hands-on activity. Rather than

www.arkitektforeningen.dk/sites/arkitektforeningen.dk/files/Welfairytales-The-Danish-Expo-2010-pavilion.pdf

²³² "BIG Wins Danish Pavilion for 2010 World Expo in Shanghai." *Bustler*, JPG, www.bustler.net/index.php/article/big_wins_danish_pavilion_for_2010_world_expo_in_shanghai

²³³ "BIG Wins Danish Pavilion for 2010 World Expo in Shanghai." *Bustler*, JPG, www.bustler.net/index.php/article/big_wins_danish_pavilion_for_2010_world_expo_in_shanghai

just displaying Danish culture through pictures, the Danish Pavilion gives visitors the real experience of Denmark by allowing guests to undertake specific activities such as playing on the rooftop playground, having a picnic, riding a bicycle, or even dipping ones toe's in the mermaid's pool.²³⁴

The design of the interior layout also reinforces the Little Mermaid statue as the main focal point. The mermaid is positioned slightly off-center to the west of her pool, edging her closer to the exhibition entrance. The mermaid seems closer to her visitors and gives the impression of wanting to be touched – luring individuals towards her like a mermaid in mythology. Yet, the mermaid is still too far away as she is in her permanent spot at Copenhagen Harbor in Denmark. The mermaid becomes part of the exhibition as visitors get glimpses of her while spiraling through the space.

Conclusion

Bjarke Ingels Group's Denmark Pavilion becomes a metaphor for Copenhagen. Each idea works together – the transparency and hospitality of the Danish culture in the architecture, the double-ramp topography, the 1,500 city bikes and the bike lane concept inside the pavilion, the pool with fresh Copenhagen Harbor water, and the cultural exchange of shipping the original Little Mermaid to China while contemporary Chinese artist Aei Weiwei reinterprets the absence of the Little Mermaid in Copenhagen. The design solution proposed by BIG is a clean and effective answer steeped in meaning and symbolism.

²³⁴ 2+1 Ideas Agency and BIG. *Welfairytales: The Danish Expo 2010 Pavilion* (Denmark: The Ministry of Economic and Business Affairs, 2008), 7.



Figure 71. Exterior²³⁵

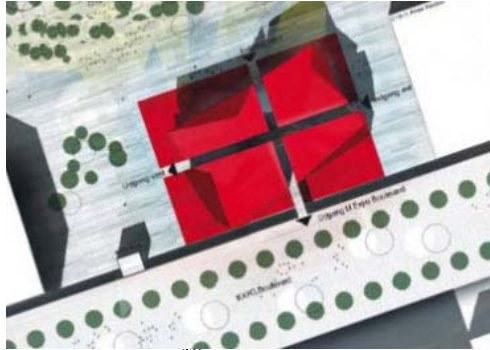


Figure 72. Site Plan²³⁶

3XN COMPETITION FINALIST

Design Concept

The starting point for the 3XN design is the desire to reflect the idea of Denmark through a single symbol: Dannebrog. The red and white rectangles of the national flag of Denmark will be hoisted in three-dimensional geometry that symbolically opens the elevated structure and extends to a central indoor-events courtyard. The interior design is described as a big kaleidoscope, drawing people and the world to Denmark.²³⁷

Denmark is clearly represented in the national flag as the basis for the exhibition pavilion design, yet the literal representation of the Dannebrog concept does not reflect the exposition theme.

Site

The rectangular footprint of 3XN's Denmark Pavilion is demarcated by four fragmented red rectangles arranged to look like the national flag of Denmark. The white of the flag is translated as empty space demarcating the entrances and exits of the building. The pavilion contains two entrances located off center to the public promenade and center on the eastern edge facing the Finnish Pavilion, whereas the exits are placed on the opposing edges.

3XN is successful in using color as a way-finding strategy. The slender white pathways contrast nicely with the pool of red ink on the ground. The intersecting

²³⁵ "The Flag." 3XN, JPG, www.3xn.dk/en/#/home/projects/projects_year/76798_expo2010

²³⁶ Image courtesy of Enterprise and Construction Authority + Economic and Business Affairs, commissioners for the Expo 2010 Danish Pavilion Competition

²³⁷ Danish Architects' Association. "EXPO 2010 | Architectural Association." Architectural Association. www.arkitektforeningen.dk/expo-2010 (accessed April 2, 2011).

voids that cut through the pavilion help to demarcate the pathways.

The Denmark Pavilion structure is positioned off-centered on the ground, but a feeling of balance is evoked as the cuts in the mass align perfectly with the criss-crossing pathways projected on the site.

The Achilles' heel in 3XN's design is the literalness of the Dannebrog. The entrances and exits of the pavilion fall to this issue. What could be a grand and spacious entryway is confined to the exact widths of the white stripes.

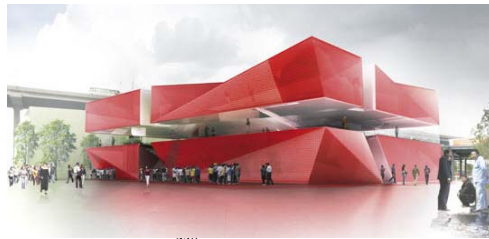


Figure 73. Exterior²³⁸



Figure 74. Elevation²³⁹

Exterior Architecture

A geometrical, folding volume creates the general form of the building. The white in the flag fragments the three-dimensional shape of the two-story exhibition pavilion into eight small blocks for exhibition and

²³⁸ "The Flag." 3XN, JPG, www.3xn.dk/en/#/home/projects/projects_year/76798_expo2010

²³⁹ "The Flag." 3XN, JPG, www.3xn.dk/en/#/home/projects/projects_year/76798_expo2010

offices surrounding "an inner square or urban city."²⁴⁰ These cuts become an "exhibition window [to welcome visitors] inside."²⁴¹

The building exteriors are pushed and pulled to create niches and overhangs for visitors to take shelter in while they wait in a queue to enter. The jurors find the proposal immediately appealing and believe the design provides a strong visual identification with Denmark.²⁴²

The design of the Denmark Pavilion is more symbolic of the Denmark nation than any other concept. One can sense the Danish spirit in the details of the architecture. For example, breaking the mass into smaller volumes creates human scale that is modest and balanced. Openness and transparency is conveyed in the cuts from all sides of the whole to allow the public to peek into the heart of the structure from the outside. A deeper meaning is interpreted from the simple gesture than what one might underestimate as simply a piece of "cool" architecture.

3XN proposed their design as a steel structure with a two-layered façade of glass. A unique design aspect is the pavilion's outer skin comprised of red cooling fans. The fans are proposed to function as solar energy collectors that will naturally ventilate the pavilion and the guests waiting in a queue. The jurors were intrigued by the idea of the functioning skin but had qualms about how the

²⁴⁰ 3XN - arkitekter. "The Flag." 3XN - arkitekter. www.3xn.dk (accessed April 2, 2011).

²⁴¹ 3XN - arkitekter. "The Flag." 3XN - arkitekter. www.3xn.dk (accessed April 2, 2011).

²⁴² Danish Architects' Association. "EXPO 2010 | Architectural Association." Architectural Association. www.arkitektforeningen.dk/expo-2010 (accessed April 2, 2011).

function and design work together.²⁴³ Additionally, integrating an elaborate network of miniature fans throughout the entire building envelope would be costly.



Figure 75. Building envelop comprised of red cooling fans²⁴⁴

The Chinese audience may not be able to identify the Dannebrog concept as the basis of design. However, the Chinese audience will be strongly drawn to the vivid red color of the building skin. Not only is it the color of China's national flag, red is also a powerful color that manifests itself in various ways in the lives of the Chinese people. Chinese culture values the color red as a symbol of good luck, good fortune, and happiness. Was the Danish flag pavilion possibly articulated to mimic folded paper or a festive red lantern beckoning its future visitors?

Interior Architecture

The exhibition program is focused around a central gathering space surrounded by topographic seating. The ceiling of this space is open to the natural elements and is proposed to have special surfaces for

²⁴³ Danish Architects' Association. "EXPO 2010 | Architectural Association." Architectural Association. www.arkitektforeningen.dk/expo-2010 (accessed April 2, 2011).

²⁴⁴ "The Flag." 3XN, JPG, www.3xn.dk/en/#/home/projects/projects_year/76798_expo2010

projections to suggest a kaleidoscopic appeal. This central exhibition stage will be used for a dramatic and exciting array of ongoing cultural entertainment.²⁴⁵ The jurors note that the kaleidoscopic space is highly experimental because it is dependent on audience numbers and the exhibition program.²⁴⁶



Figure 76. Interior performance area²⁴⁷

Illustrations show this central exhibition area with high potential as an exciting and engaging venue for cultural exchange between Denmark and China. Yet, the project is unclear in how it relates to "Better City, Better Life" as there are no references to city due to the literal interpretation of the flag idea. The text and illustrations of this proposal do not communicate how the fragmented spaces meet the requirements of the exposition theme. In addition, the central exhibition area has the potential become a dead space. As this central area can be accessed from all entryways, a clear agenda needs to be

²⁴⁵ Danish Architects' Association. "EXPO 2010 | Architectural Association." Architectural Association. www.arkitektforeningen.dk/expo-2010 (accessed April 2, 2011).

²⁴⁶ Danish Architects' Association. "EXPO 2010 | Architectural Association." Architectural Association. www.arkitektforeningen.dk/expo-2010 (accessed April 2, 2011).

²⁴⁷ "The Flag." 3XN, JPG, www.3xn.dk/en/#/home/projects/projects_year/76798_expo2010

thought out to create an organized circulation flow.

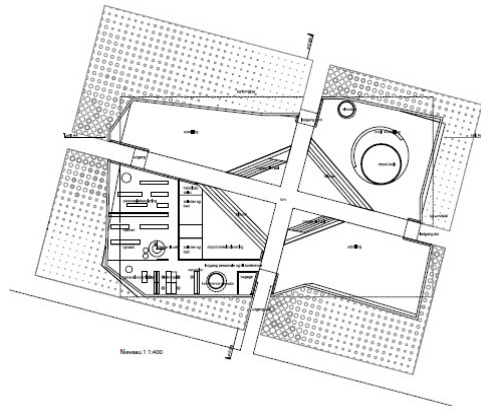


Figure 77. Floor plan²⁴⁸

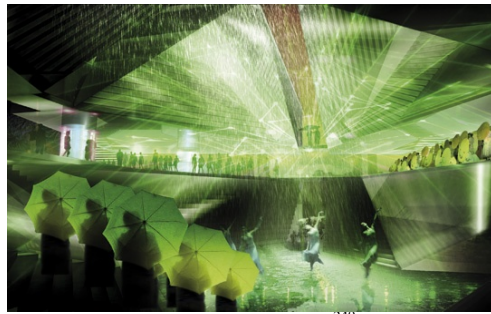


Figure 78. Interior performance area²⁴⁹

Conclusion

3XN Architects' Denmark Pavilion has immediate appeal with its striking red architectural form and the interesting possibilities of the central interior space. Yet the design fails to express the overall concept of "Better City, Better Life."

²⁴⁸ Image courtesy of Enterprise and Construction Authority + Economic and Business Affairs, commissioners for the Expo 2010 Danish Pavilion Competition

²⁴⁹ "The Flag." 3XN, JPG, www.3xn.dk/en/#/home/projects/projects_year/76798_expo2010

*ARKITEMA
COMPETITION FINALIST*

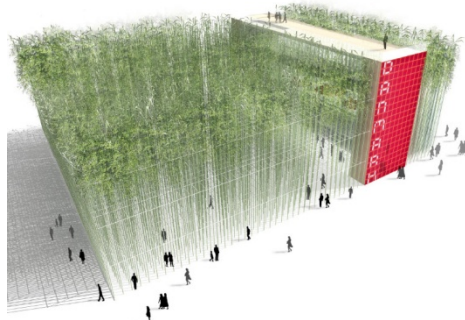


Figure 79. Exterior²⁵⁰



Figure 80. Site Plan²⁵¹

Design Concept

According to Chinese philosophy, the world is a matter of balance between yin and yang whereas the Danes have a strong modern tradition of seeking balance between people and respect for their surroundings.²⁵² Arkitema Architect's Denmark Pavilion presents the notion of balance in the city and in human life by introducing nature into the design.

The notion of balance is a powerful topic in line with the exposition theme of "Better City, Better Life" and Arkitema is successful in realizing this concept. Balance – between natural and man-made, fragmented and whole, additive and subtractive, public and private, transparent and translucent – is clear in architecture.

Site

The site is pixilated by three-thousand lofty green bamboos, providing an open and transparent boundary. It appears that visitors can wander in to explore the exhibition garden, although it remains unclear how and where the queue to enter the actual pavilion is located. Likewise, the spacing of the bamboo looks reasonable for a person to walk through, but it is unclear if the spacing width is large enough for individuals with disabilities.

The site is characterized by transparency in its clarity of access through the bamboo elements. This scheme also communicates

²⁵⁰ Image courtesy of Jørn Johansen, Architect at Arkitema

²⁵¹ Image courtesy of Jørn Johansen, Architect at Arkitema

²⁵² "Arkitema - Expo 2010." Arkitema Architects. www.arkitema.com/Kultur+Culture/Konkurrenceforlag/Expo+2010.aspx (accessed April 2, 2011).

the idea of balance as it appears to take visitors away from the bustle of urban life to a calm retreat where one can find equilibrium through nature.



Figure 81. Exterior²⁵³

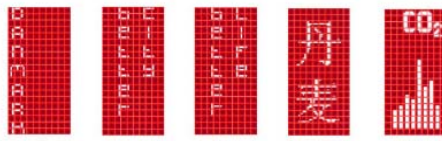


Figure 82. Building façade variations²⁵⁴

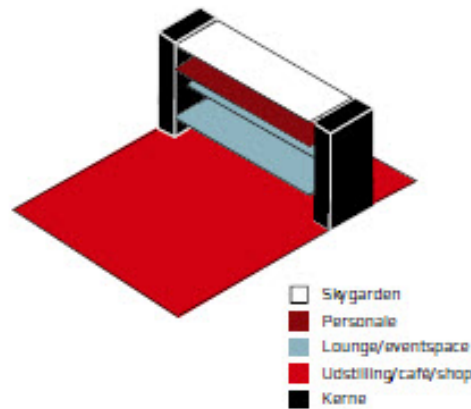


Figure 83. Building diagram illustrating spatial program and the basic building form as additive and subtractive elements²⁵⁵

²⁵³ Image courtesy of Jørn Johansen, Architect at Arkitema

²⁵⁴ Image courtesy of Jørn Johansen, Architect at Arkitema

²⁵⁵ Image courtesy of Jørn Johansen, Architect at Arkitema

Exterior Architecture

Bamboo has a long history in Chinese culture. The pliable material is used in many aspects of daily life from construction to personal needs.

Bamboo is often used in large-scale works to make vernacular structures and as scaffolding in building construction as well as in small-scale items such as chopsticks. It is also documented that bamboo fibers have been used to make Chinese paper money.²⁵⁶ Today, the abundant material is recognized as a rapidly-renewable and sustainable material that can be manufactured into clothing, fashion accessories, furniture, flooring, and many other wood products.

Arkitema's Denmark Pavilion does not have an entirely-solid mass. Rather, it has a fragmented appearance composed of single bamboo stalks multiplied to evoke an eye-catching and whimsical volume. Twenty-meter tall bamboo plants were to be shipped from nearby plantations and organized by a spatial steel grid – three meters apart – to form an open garden for the Denmark Pavilion.²⁵⁷ The exact number of bamboo plants to be used for the pavilion was not mentioned.

The Danish spirit is clear in the design's minimalist form and approach, and the openness and transparency created by the bamboo's pixilation. It is unclear, however, whether the overall architecture sufficiently represents Danish culture due

²⁵⁶ Changpei, Ouyang. "China's Ancient Papermaking Tradition Preserved." China Virtual Tours. www.chinavista.com/experience/paper_make/paper_make.html (accessed April 2, 2011).

²⁵⁷ Danish Architects' Association. "EXPO 2010 | Architectural Association." Architectural Association. www.arkitektforeningen.dk/expo-2010 (accessed April 2, 2011).

to the extensive application of bamboo, which is a typical Asian material. With the abundant use of bamboo, the pavilion could be mistaken for the design of an Asian nation.

The true volume of this Denmark Pavilion scheme is an elegant and minimalist, steel and glass, three-story structure tucked in the middle of the bamboo garden, housing additional exhibition spaces, conference rooms, and a rooftop. Along the sides of this mass is an ever-changing, interactive façade stamped with the words “Denmark,” “Better City,” and “Better Life,” in white on red lettering, which contrasts with the green hues of the bamboo stalks.

The tall bamboo garden forms a natural envelope for the pavilion and provides partial shading for the visitors below. The cooled air from the bamboo garden will be pulled into the building.²⁵⁸ Collected rainwater can be filtered and utilized as drinking water in the pavilion while excess rainwater trapped out in the forest floor helps to create additional cooling for the structure. The jury found the proposal’s technical solutions for reducing the building’s carbon dioxide emissions to be well described and explained.²⁵⁹

The dual focus of innovation and sustainability is clear in the design and relevant to the exposition theme. Arkitema’s Denmark Pavilion is a simple and sustainable statement.²⁶⁰ Could the use

of bamboo as the primarily material suggest a nod to Asia’s sound use of this building material or that the pavilion is meant to underscore the uses of bamboo to a country already known for this material? Overall, the application of bamboo in this Denmark Pavilion scheme encourages resourcefulness in everyday life. As our natural resources decline, finding alternative and renewable materials is important. Bamboo is introduced as a worthy building resource because it is naturally abundant, durable, versatile, and easily assembled and taken apart.

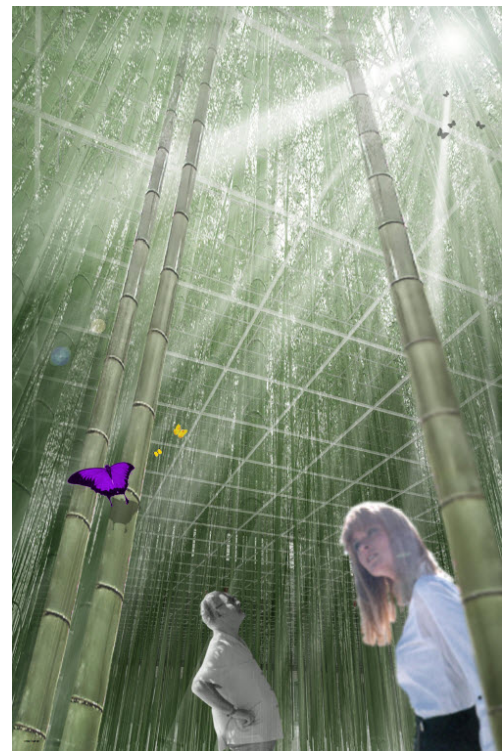


Figure 84. Interior bamboo courtyard²⁶¹

²⁵⁸ "Arkitema - Expo 2010." Arkitema Architects. www.arkitema.com/Kultur+Culture/Konkurrenceforlag/Expo+2010.aspx (accessed April 2, 2011).

²⁵⁹ Danish Architects' Association. "EXPO 2010 | Architectural Association." Architectural Association. www.arkitektforeningen.dk/expo-2010 (accessed April 2, 2011).

²⁶⁰ Danish Architects' Association. "EXPO 2010 | Architectural Association." Architectural

Association. www.arkitektforeningen.dk/expo-2010 (accessed April 2, 2011).

²⁶¹ Image courtesy of Jørn Johansen, Architect at Arkitema

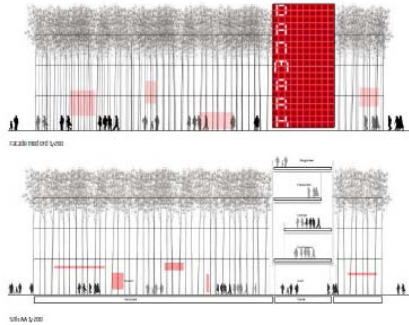


Figure 85. Elevation and section drawings²⁶²

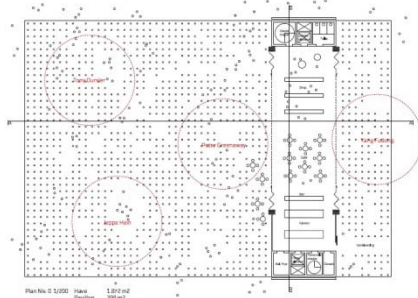


Figure 86. Ground floor plan²⁶³

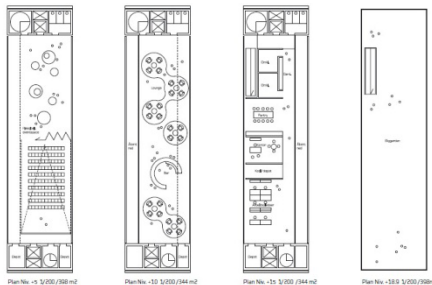


Figure 87. Floor plans of the covered shelter²⁶⁴

Interior Architecture

Arkitema's Denmark Pavilion illustrates a strong understanding of sustainability, but the weakest aspect in the design is its lack of adequate indoor exhibition and covered

spaces.²⁶⁵ The exhibition space provided in this scheme has the smallest footprint in contrast to the other proposals.

The interior captures the minimalist approach evoked in the site design of the Denmark Pavilion. This scheme is an invisible building articulated to mimic a bamboo forest setting. The natural response is to walk towards the bamboo to feel and see if it is real.

The pavilion conditions are open and friendly, like the Danish culture. The ground level is more exposed, whereas privacy begins to develop upwards as the tall plants branch out. Inside the exhibition building, bamboo is visible and just outside the windows.

The exhibition program includes the works of four international artists – Chinese Yang Fudong, American Tony Oursler, Englishman Peter Greenaway, and Dane Jeppe Hein – commissioned to develop displays in the outdoor bamboo garden based on the expo's official theme.²⁶⁶ The jurors had some doubts about the artist choices as their work seemed detached from the context.²⁶⁷

Elevation drawings show the art installations mounted at various heights within the bamboo garden. A unique visitor experience is created in viewing the installations within the garden and from the upper levels of the small building enveloped by bamboo.

²⁶² Image courtesy of Jørn Johansen, Architect at Arkitema

²⁶³ Image courtesy of Jørn Johansen, Architect at Arkitema

²⁶⁴ Image courtesy of Jørn Johansen, Architect at Arkitema

²⁶⁵ Danish Architects' Association. "EXPO 2010 | Architectural Association." Architectural Association. www.arkitektforeningen.dk/expo-2010 (accessed April 2, 2011).

²⁶⁶ "Arkitema - Expo 2010." Arkitema Architects. www.arkitema.com/Kultur+Culture/Konkurrenceforlag/Expo+2010.aspx (accessed April 2, 2011).

²⁶⁷ Danish Architects' Association. "EXPO 2010 | Architectural Association." Architectural Association. www.arkitektforeningen.dk/expo-2010 (accessed April 2, 2011).

As the exhibition structure is the only covered shelter, one can deduce that once it starts raining, the miniature building will be unable to provide enough space for visitors taking refuge. Considering the rainfall expected during the exhibition period, the design seems very unfriendly and inappropriate.

Conclusion

The theme of “Better City, Better Life” was clearly integrated in this architectural design as well as an emphasis on finding balance between nature and humans. The use of bamboo portrayed the Danish spirit of openness and transparency and responded to China’s culture by using this locally abundant resource. Arkitema Architects was strong in executing these themes, but failed to support their ideas by providing the necessary spaces for the Denmark Pavilion’s visitors.



Figure 88. Night exterior view²⁶⁸

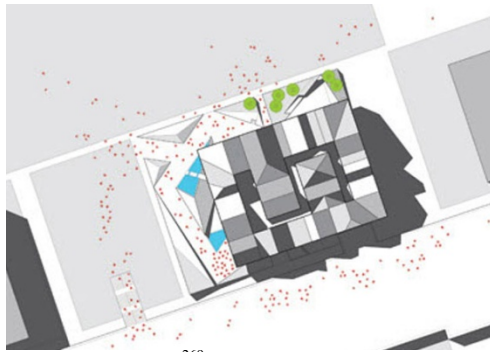


Figure 89. Site Plan²⁶⁹

*CEBRA
COMPETITION FINALIST*

Design Concept

Described as a “city-delusion,” the concept appears to suggest the lifestyle of a small Danish town like Copenhagen.²⁷⁰ The proposal submitted by CEBRA architects employs a catchy name, CO3, to explain the project. CO3 stands for co-experience, co-creation and co-existence.²⁷¹ The three layers are used to structure the design and exhibition spaces in relation to social, economic, and environmental aspects.

The big idea of “city-delusion” is ambiguous in the overall picture. In addition, the significance of the nickname is difficult to decipher without the architect’s project summary. There are no clues or iconic references to Denmark to differentiate this pavilion from the structures of other nations.

Site

Landscaping portrays the Danes’ love of the outdoors with a park-like setting of trees, wooden walkways, grassy lawns, and even a juxtaposing angular topography for visitors to lay on under the sun or under the canopy created by the cantilevering pavilion. The landscaping is not only beautiful, but also helps to decrease heat buildup in the pavilion by blocking and absorbing the sun's energy in the summer months.

²⁶⁸ “Expo2010.” *CEBRA*, JPG, www2.cebra.info/swfloader.asp?swf=expo2010.swf&title=Expo2010

²⁶⁹ “Expo2010.” *CEBRA*, JPG, www2.cebra.info/swfloader.asp?swf=expo2010.swf&title=Expo2010

²⁷⁰ Danish Architects' Association. "EXPO 2010 | Architectural Association." Architectural Association. www.arkitektforeningen.dk/expo-2010 (accessed April 2, 2011).

²⁷¹ Danish Architects' Association. "EXPO 2010 | Architectural Association." Architectural Association. www.arkitektforeningen.dk/expo-2010 (accessed April 2, 2011).



Figure 90. Ground Floor Plan²⁷²



Figure 91. Exterior²⁷³

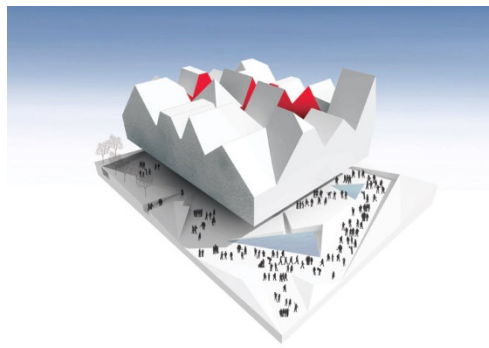


Figure 92. Building massing²⁷⁴

CEBRA architects seek to bring the Danes' love for the outdoors to the Denmark Pavilion where landscaping enhances recreation and improves physical health.

The building has a small footprint, which limits the impact on the landscape. The pavilion also doubles as shade from rain and sun.

A juxtaposition of green plantings and hard paving funnels visitors towards the pavilion with three pathways zigzagging inwards from the public thoroughfare. The Danish landscape marks both the entrance and the exit of the pavilion.

The large, medium, and small pathways that filter visitors into the pavilion site show an impractical approach to accommodating the projected population. Likewise, the wide and open landscape plan contrasts with the tiny entrance hidden within the single footprint. CEBRA does not define a queue line for visitors – an important element for crowds – and the entrance has a sense of uncertainty with no direct access. Will the rabbit-hole really serve as the entrance and exit for the entire pavilion?

Exterior Architecture

CEBRA Architects transforms historic Copenhagen into a deconstructed modern building as the volume suggests medieval Copenhagen²⁷⁵ prior to the Fire of 1728, which destroyed 28% of the city.²⁷⁶ This idea is articulated in the building elevation through gabled roofing and windows of varying proportions.

²⁷² Image courtesy of Flemming Svendsen, Architect at CEBRA

²⁷³ Image courtesy of Enterprise and Construction Authority + Economic and Business Affairs, commissioners for the Expo 2010 Danish Pavilion Competition

²⁷⁴ "Expo2010." *CEBRA*, JPG, www2.cebra.info/swfloader.asp?swf=expo2010.swf&title=Expo2010

²⁷⁵ Sarvimaki, Marja. Interview by author. Personal interview. University of Hawai'i at Mānoa School of Architecture, March 14, 2011

²⁷⁶ "Copenhagen Fire, 1728." The Museum of London Group. www.museumoflondon.org.uk/English/EventsExhibitions/Past/LondonsBurning/the-mes/1437/1443 (accessed March 12, 2011).

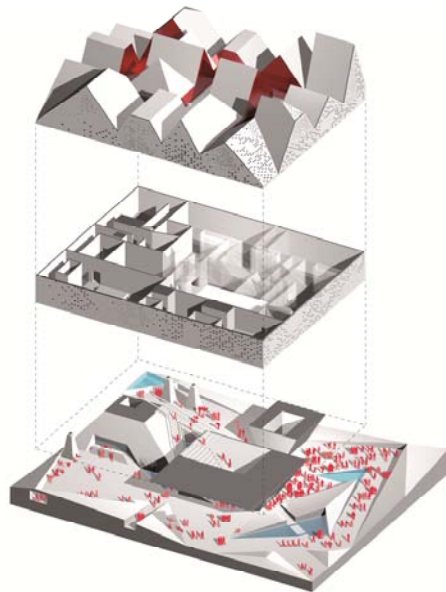


Figure 93. Axonometric²⁷⁷

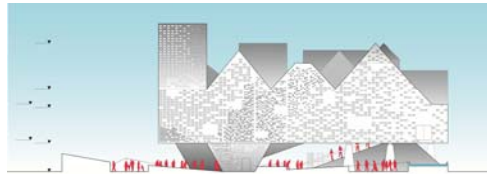


Figure 94. Elevation of Facade South East²⁷⁸



Figure 95. Section²⁷⁹

Because the structure is perched on a central footing, the design embodies a prominent and oppressing spirit – ideals opposite to the more modest, jovial, and consensus-seeking Danish spirit. The heavy building mass looks to attract attention in a pompous manner, with a crown-like roof – an effect neither the

designers nor the building aimed to evoke. As one steps closer to the building, the soft landscape below the levitating mass balances with the hardness of the structure above.

The pavilion is to be built using a palette of reusable materials: steel construction, laminated bamboo roof trusses, and sun-dried clay facades. While the building form acknowledges Danish architecture, the color, texture, and methods used acknowledge the local culture.

The introduction of an array of building materials distorts the poetry and cleanliness of the building volume. The graphic renderings submitted by CEBRA Architects illustrate a very eloquent and clean design enveloped in a white material. The striking sculptural form is softened by a poetic composition of brail. The references to bamboo and sun-dried clay are not clear in the sharp and perfect profile communicated in the submitted illustrations and drawings.

The scheme proposes ideas for sustainability and minimal material use. Yet the proposal has been assessed as having the largest surface area due to a double façade.²⁸⁰ In addition, there is no explanation of how the sun-dried earth bricks proposed for use in the front elevation will be affected by rains during the exhibition.

Text and visual information about the proposed exterior architecture is unclear and contradictory.

²⁷⁷ Image courtesy of Flemming Svendsen, Architect at CEBRA

²⁷⁸ Image courtesy of Flemming Svendsen, Architect at CEBRA

²⁷⁹ Image courtesy of Flemming Svendsen, Architect at CEBRA

²⁸⁰ Danish Architects' Association. "EXPO 2010 | Architectural Association." Architectural Association. www.arkitektforeningen.dk/expo-2010 (accessed April 2, 2011).

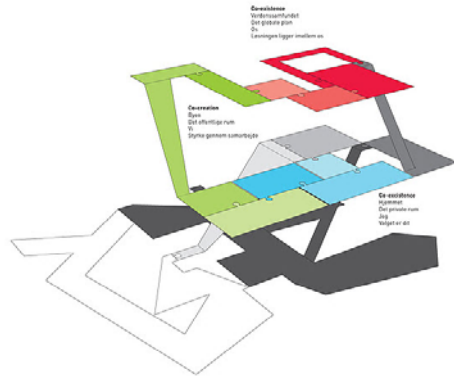


Figure 96. Diagram illustrating the three layers that will be used to help structure the exhibition spaces inside the pavilion²⁸¹



Figure 97. Section²⁸²

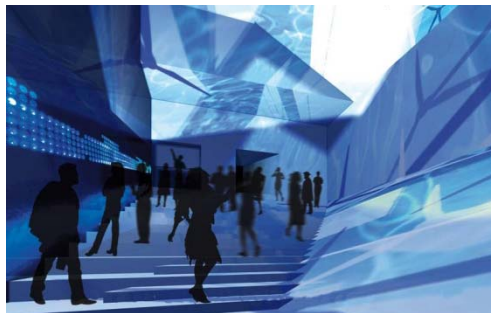


Figure 98. Interior²⁸³

Interior Architecture

CEBRA Architects highlights Denmark as a technology-driven country. Visitors will journey through innovative Danish

²⁸¹ "Expo2010." *CEBRA*, JPG, www2.cebra.info/swfloader.asp?swf=expo2010.swf&title=Expo2010

²⁸² Image courtesy of Flemming Svendsen, Architect at CEBRA

²⁸³ "Expo2010." *CEBRA*, JPG, www2.cebra.info/swfloader.asp?swf=expo2010.swf&title=Expo2010

products, technologies, and approaches to sustainability. The visitor experience will be enhanced with a personalized bracelet to connect the audience with the show.²⁸⁴

Three layers – co-experience, co-creation and co-existence – help to structure the exhibition spaces in relation to the typical Danish home, the typical Danish city, and how Denmark is seen in a global context. The exhibitions of the home and city both occur inside the pavilion whereas the third program takes place on the rooftop so visitors can relate Denmark with other nations in the exposition.²⁸⁵

The descriptions of a technology-driven visitor experience and how it relates to the Danish home, the city, and a global context are not legible in the illustrations provided.

Interior spaces are placed in evenly distributed cubicles inside a rectangular mass. There is no hierarchy among exhibition spaces, conference and meetings rooms, staff offices, food courts, shopping areas, etc. The drawings read as equal spaces. In addition, the exhibition is tightly organized and keeps the audience on a controlled course; this is unlike the Danish spirit, which respects flexibility and consensus-seeking decisions. The interior space is described by the jury panel as the project's Achilles heel because there is no flexibility in the circulation process.²⁸⁶

²⁸⁴ Danish Architects' Association. "EXPO 2010 | Architectural Association." Architectural Association. www.arkitektforeningen.dk/expo-2010 (accessed April 2, 2011).

²⁸⁵ Peyer, Nora. "Expo2010 ." Archello. www.archello.com/project/expo2010/12897 (accessed March 4, 2011).

²⁸⁶ Danish Architects' Association. "EXPO 2010 | Architectural Association." Architectural Association. www.arkitektforeningen.dk/expo-2010 (accessed April 2, 2011).

The interior layout reflects the Danish spirit of modesty and equality; however, it does not work in the spatial design of this pavilion. Spatial hierarchy is necessary as a strategy for way-finding. Without any hierarchy, the interior layout is maze-like and disorienting. The narrow passages between the compartments are small and feel claustrophobic and unyielding. Larger groups would inevitably block smaller groups causing problems with traffic flow. In BIG's proposal, a double-helix ramp is applied to move a large population in an orderly fashion throughout the spiraling exhibition layout.

Conclusion

CEBRA architects proposed many ideas in their bid for the Expo 2010 Denmark Pavilion. A few individual elements were lucid – the strong architectural form suggesting a medieval Copenhagen town and the emphasis of an outdoor Danish lifestyle. Other ideas remained unclear in their connection to the Danish culture and the 2010 expo theme of “Better City, Better Life.” There were also inconsistencies between the written and graphic information. For example, the designers suggested using Chinese materials, but the illustrations provided did not express these ideas. Aside from the dynamic architectural form, it was difficult to analyze the remainder of the proposal. The architects proposed too many individual elements that made it difficult to realize a unified picture for a Denmark Pavilion.



Figure 99. Exterior²⁸⁷

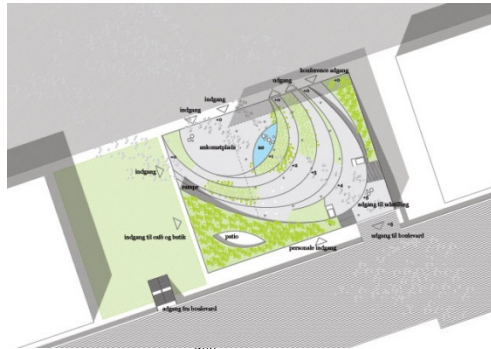


Figure 100. Site Plan²⁸⁸

*HENNING LARSEN ARCHITECTS
COMPETITION FINALIST*

Design Concept

Henning Larsen Architects' proposal for the Denmark Pavilion is self-described as an "oasis" at the Shanghai Expo. The proposal correlates to the theme of "Better City, Better Life" by stating that nature has the answers to the challenges the world's cities are facing.²⁸⁹

The concept of nature is appropriate for the Danes due to their love for the outdoors. Today, architectural design takes inspiration from nature to create self-sufficient buildings. Biomimicry is one strategy to find solutions for design problems in architecture.

Site

The design reads the site as a topographic landscape that grandly opens to the public thoroughfare. An elliptical-shaped, covered plaza encompasses a majority of the building's ground plan as it gradually ascends into the upper exhibition spaces.

The foyer is large, inviting, and straightforward. The clarity of access reflects the Danish culture of openness and transparency.

Exterior Architecture

Square in plan from a bird's eye view and looking like an open clam when viewed in profile, eclectic is the word to describe the

²⁸⁷ Image courtesy of Amalie Marie Krarup, Communications Assistant at Henning Larsen Architects

²⁸⁸ Image courtesy of Amalie Marie Krarup, Communications Assistant at Henning Larsen Architects

²⁸⁹ Danish Architects' Association. "EXPO 2010 | Architectural Association." Architectural Association. www.arkitektforeningen.dk/expo-2010 (accessed April 2, 2011).

aesthetics of this building. This Denmark Pavilion is designed as a two-tiered structure where the top and bottom portions remain, but the central volume is subtracted from the whole. The result is a covered and welcoming foyer in which visitors can take refuge.

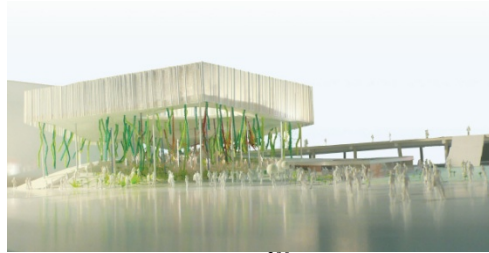


Figure 101. Physical model²⁹⁰

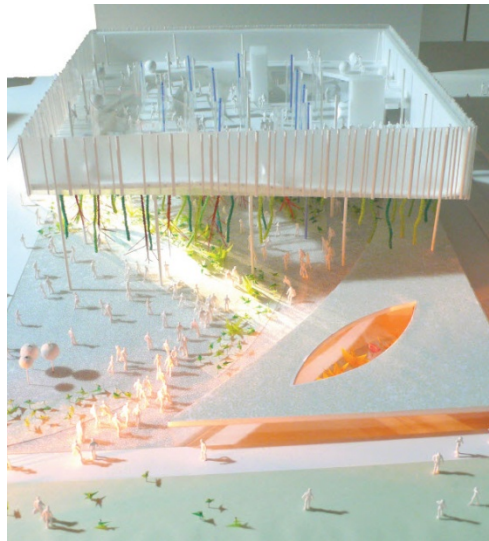


Figure 102. Physical model²⁹¹

It is not the subtractive elements of design that make the Henning Larsen Architects plan eclectic and fascinating. A diverse array of green vegetation – shrubbery, trees, vines, ferns – real or fake, are left

hanging from the underside of the top building tier. It is an unconventional sight – the vegetation is upside-down so the delicate branches of trees and vines sway downwards to the ground. The intent is to allow crowds to interact with the simulated nature.

Henning Larsen Architects propose an exciting possibility for the Denmark Pavilion with a very unconventional design. The problem is that the result may look tacky and embarrassing with the use of fake vegetation. Incorporating live plants will bring the design to life and communicate the concept of nature more strongly.

Unlike many of the proposals that have a rooftop gathering space, this scheme does not. The roof holds a storm water pond to collect rain for recycling.²⁹² The rain will be recycled to irrigate the large volume of upside-down vegetation and to cool the pavilion by evaporation, overall reducing the water consumption needs of the building. The weight of the roof will be stabilized with steel construction and two elevator towers to maintain the structure's rigidity.

The designers did not aspire to creating another Hanging Gardens of Babylon, but rather to create a statement that is both eye-catching and fascinating. Like Arkitema's rectangular bamboo forest scheme, the exhibition proposal does not appear as something inherently Danish, but it does suggest Danish inventiveness in regard to sustainability issues.

²⁹⁰ Image courtesy of Amalie Marie Krarup, Communications Assistant at Henning Larsen Architects

²⁹¹ Image courtesy of Amalie Marie Krarup, Communications Assistant at Henning Larsen Architects

²⁹² Danish Architects' Association. "EXPO 2010 | Architectural Association." Architectural Association. www.arkitektforeningen.dk/expo-2010 (accessed April 2, 2011).

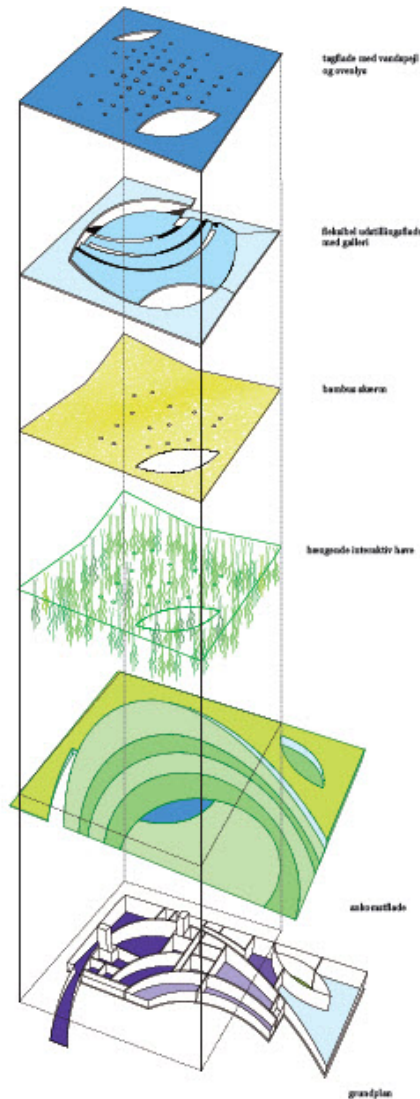


Figure 103. Axonometric of building program²⁹³

Interior Architecture

Henning Larsen Architects’ two-tiered scheme sets up the structure for the exhibition with two themes: land and water.

²⁹³ Image courtesy of Amalie Marie Krarup, Communications Assistant at Henning Larsen Architects

The land theme is located at the base of the structure and starts with the topographic landscape at the wide, open entry foyer. Dubbed the “knowledge platform,” Henning Larsen Architects incorporated an upside-down hanging garden to symbolize the space for nature, life, and knowledge exchange.²⁹⁴ Sensors activate the plants to speak, recite poems, and play sounds in reaction to a visitor’s touch and movements.

The upside-down theme will appeal to the Chinese audience due to their fondness for nature and gardens.

Above the upside-down garden is the theme of water where visitors are suddenly transported undersea. The ocean is projected onto the ceiling of this space with images of underwater creatures swimming. The interior takes cues from a topographic landscape where displays are placed alongside pathways. The jurors described the space as “convincing as a useful, flexible, and simultaneously comfortable room.”²⁹⁵

Much description has gone into describing the exhibition areas, but not so much into the circulation of the design. On the ground level, the large topographic landscape guides visitors into the Denmark Pavilion. The space between the first and second tiers looks problematic as the only means of arrival is through a grand stairway/escalator or by one of the two structural elevators. The in-between circulation is a bottleneck problem that will cause slow-downs in fluid-moving

²⁹⁴ Danish Architects' Association. "EXPO 2010 | Architectural Association." Architectural Association. www.arkitektforeningen.dk/expo-2010 (accessed April 2, 2011).

²⁹⁵ Danish Architects' Association. "EXPO 2010 | Architectural Association." Architectural Association. www.arkitektforeningen.dk/expo-2010 (accessed April 2, 2011).

pedestrian traffic. It is also unclear whether this major in-between circulation is the only means of entering and exiting the upper tier exhibition space.



Figure 104. Interior²⁹⁶

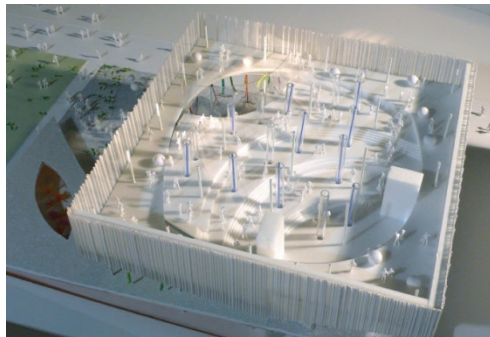


Figure 105. Physical model illustrating second floor interior exhibition space²⁹⁷

Conclusion

The architecture of Henning Larsen Architects' Denmark Pavilion is unique and intriguing, but the possibility of actualization is uncertain.

²⁹⁶ Image courtesy of Amalie Marie Krarup, Communications Assistant at Henning Larsen Architects

²⁹⁷ Image courtesy of Amalie Marie Krarup, Communications Assistant at Henning Larsen Architects

LUNDGAARD + TRANBERG
COMPETITION FINALIST

Design Concept

The playground theme proposed by Lundgaard + Tranberg Architects communicates the creative and free-living aspect of Danish culture. The designers aspired to make an eye-catching impression with a simple and fun architectural statement framed by a pillar motif.

Nature is the playground for the Danes and that concept is clear in this forest-like design, which communicates the concept of achieving and sustaining a better life through nature.

Site

A covered patio-like space divides the public thoroughfare from the Denmark Pavilion structure. The pavilion looks to have two entry openings on the northern edge facing the main promenade. It is unsure whether other apertures drawn within the building are indicative of additional entrances or exits. Apertures may also suggest that the building walls have the flexibility of being opened or closed to take advantage of temperate weather.

Access to the site and into the building is unclear, and it does not communicate a welcoming and open character. A queue space is suggested, but the building entryway is not plainly stated in a graphical manner. Numerous functions placed in front of the pavilion would undoubtedly create hindrances at the entrance.



Figure 106. Interior²⁹⁸

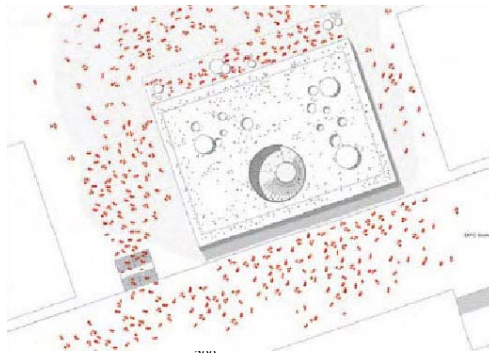


Figure 107. Site Plan²⁹⁹

²⁹⁸ Image courtesy of Enterprise and Construction Authority + Economic and Business Affairs, commissioners for the Expo 2010 Danish Pavilion Competition

²⁹⁹ Image courtesy of Enterprise and Construction Authority + Economic and Business Affairs, commissioners for the Expo 2010 Danish Pavilion Competition

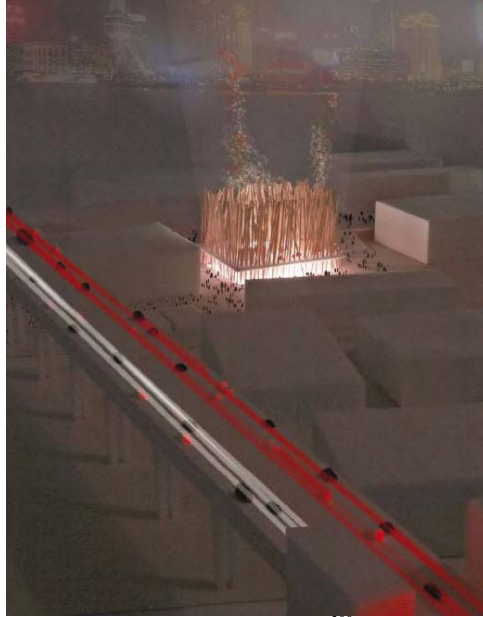


Figure 108. Exterior night rendering³⁰⁰

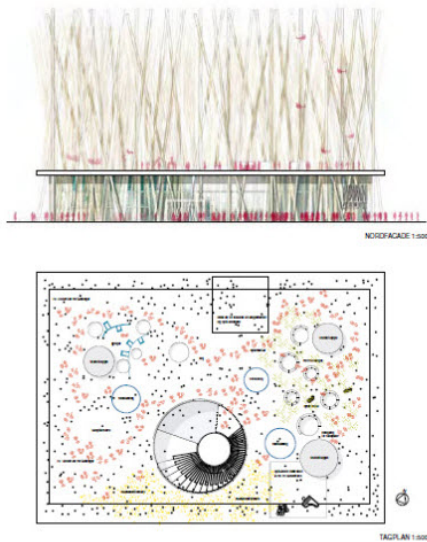


Figure 109. Elevation and floor plan³⁰¹

³⁰⁰ Image courtesy of Enterprise and Construction Authority + Economic and Business Affairs, commissioners for the Expo 2010 Danish Pavilion Competition

³⁰¹ Image courtesy of Enterprise and Construction Authority + Economic and Business Affairs, commissioners for the Expo 2010 Danish Pavilion Competition

Exterior Architecture

Lundgaard + Tranberg Architects' Denmark Pavilion has a similar stylistic approach to the scheme proposed by Arkitema Architects in creating an eye-catching, whimsical, and transparent volume. Their design is "a piece of stylized nature, a pillar forest" that juts through the building and into the sky above the surrounding Nordic countries.³⁰²

The height of the building seems very dominating and brings attention to the Denmark Pavilion from afar, although the Danes are very modest individuals.

This scheme for the Denmark Pavilion is a single large room subdivided by chaotically-placed pillars, whereas Arkitema Architects' bamboo garden is organized by a spatial steel grid. In contrast to Arkitema's lack of sheltered exhibition areas, Lundgaard + Tranberg makes use of the entire site to provide enough indoor gallery spaces to balance the outdoor roof garden above the building. The roof garden transforms into a whimsical playground as the penetrating pillars become a set for swings and acrobatic shows.

The pillar forest will be constructed using local tree species. The wooden skin acts as a shading device that filters daylight and wind to control the indoor environment. Circular skylights penetrate the roof garden to reduce the need for artificial lighting. The evaporation of collected rainwater cools the building when needed.³⁰³ The

³⁰² Danish Architects' Association. "EXPO 2010 | Architectural Association." Architectural Association. www.arkitektforeningen.dk/expo-2010 (accessed April 2, 2011).

³⁰³ Danish Architects' Association. "EXPO 2010 | Architectural Association." Architectural Association. www.arkitektforeningen.dk/expo-2010 (accessed April 2, 2011).

pavilion is reinforced with a concrete elevator and stairwells.

spirit to show the Dane's ability to innovate and put on a show.

Interior Architecture

According to the competition jury, the exhibition is divided into three themes – Danish life, Danish society, and the Danish city – and is promoted as an open dialogue on sustainable solutions. Architectural drawings suggest that the pillar forest penetrates through the three-story rectangular exhibition interior. Column placements seem arbitrary and it is unreadable how such placements will affect spaces for exhibition.

Pillar placements are random and create ambiguous display spaces and circulation routes. The group's intent to create an unforgettable architectural impression is clear as is the fact that the design took absolute priority over the proposed exhibition, which is absent in any graphic information.³⁰⁴

Conclusion

Overall, the graphic illustrations provided by Lundgaard + Tranberg Architects leave many uncertainties about the architectural and exhibition design that do not compare to other proposals for this competition.

In contrast to the modest and balanced composition evoked in Arkitema's bamboo garden pavilion, the pillar forest pavilion proposed by Lundgaard + Tranberg Architects' boldly breaks the framework of an organized grid. The designers take a risk by breaking from the norms of the Danish

³⁰⁴ Danish Architects' Association. "EXPO 2010 | Architectural Association." Architectural Association. www.arkitektforeningen.dk/expo-2010 (accessed April 2, 2011).



Figure 110. Dissing + Weitling's Denmark Pavilion design, perspective³⁰⁵

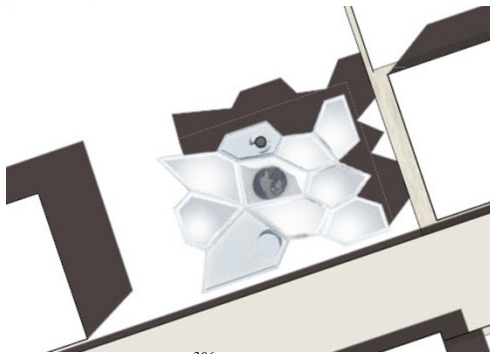


Figure 111. Site Plan³⁰⁶

*DISSING + WEITLING &
SPEKTRUM ARKITEKTER
COMPETITION FINALIST*

Design Concept

The city is like a cellular organism where interaction between a number of vital units is essential in maintaining a healthy balance. A cell is the smallest living unit of all living organisms and are common to all forms. The word cell comes from the Latin term *cella*, which means “a small room.”³⁰⁷

Dissing + Weitling's Denmark Pavilion interprets the theme of the 2010 Exposition by “juxtaposing a number of vital cells to represent Danish sustainable solution models... [to enable and maintain a]... balanced city living” where an urban community invites you to work, live, move, think, express yourself, act and experience.³⁰⁸

Site

Water aligns the building to demarcate the site boundary and to define the entrance and exit of Dissing + Weitling's scheme for the Denmark Pavilion. The main entrance is located on the northeastern corner of the site and projects outwards to the public thoroughfare. The exit is tucked away on the site's western edge.

The entrance design is feeble and does not reflect the Danish spirit of transparency and openness. A pool of water surrounds

³⁰⁵ Image courtesy of Joan Raun, Architect, owner of Spektrum Arkitekter

³⁰⁶ Image courtesy of Joan Raun, Architect, owner of Spektrum Arkitekter

³⁰⁷ Merriam-Webster Dictionary, “Cell,” 2011 Merriam-Webster, www.merriam-webster.com/dictionary/cell (accessed March 2011).

³⁰⁸ Dissing + Weitling Architecture, “Expo 2010 Shanghai,” Dissing + Weitling, www.dw.dk/uk/projects/expo-2010-shanghai (accessed March 2011).

the pavilion like a moat and is used as a way-finding strategy; yet, the entryway is concealed between the folds of the building shape. Unlike other competition submissions which blur the boundary between building and site, this scheme rigidly defines the boundary with water and obscures the connection between inside and outside with an unemotional façade and an unclear entrance.

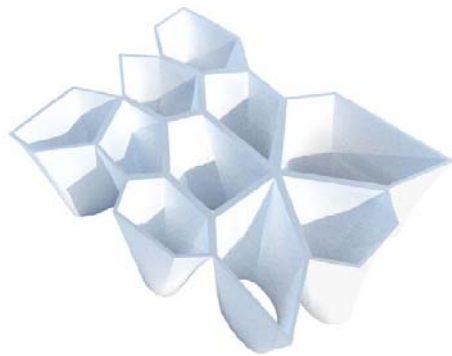


Figure 112. Cell concept³⁰⁹



Figure 113. Exterior³¹⁰



Figure 114. Exterior³¹¹

³⁰⁹ Image courtesy of Joan Raun, Architect, owner of Spektrum Arkitekter

³¹⁰ Image courtesy of Joan Raun, Architect, owner of Spektrum Arkitekter

³¹¹ Image courtesy of Joan Raun, Architect, owner of Spektrum Arkitekter

Exterior Architecture

Dissing + Weitling's scheme for the Denmark Pavilion is inspired by cellular organisms. The proposed scheme consists of ten white towers, which are extruded from the ground plan as irregular trapezoidal cones. Like the characteristic of a cell structure, the towers are curved at the ground and grow together in the rectilinear layout. The building maintains a cohesive cellular composition when viewed from above.

The cell concept as is, is difficult in portraying the Danish culture because the concept is too universal, therefore, architecture and design comes into play. The massing of the extruded towers resembles buildings; however, the form and the positioning are arbitrary without any clear relationship to Danish culture.

White canvas as a building skin wraps around the inside and outside of the spatial steel structure of the conic geometry. A white and translucent canvas makes the exterior appear as a "bright, sculptural form with no real architectural characteristics."³¹² The abstract architectural appearance evoked in illustrations makes it difficult for the jurors to imagine the pavilion at a built state.³¹³

The translucency of the double skin facade gives the building a sense of simplicity and airiness that benefits the interior spaces with filtered daylight. The double

³¹² The Danish Architects' Association, "Expo 2010: The Danish Pavilion," Economics - and Business Affairs,

www.arkitektforeningen.dk/sites/arkitektforeningen.dk/files/DB_expo2010.pdf (accessed February 2011).

³¹³ The Danish Architects' Association, "Expo 2010: The Danish Pavilion," Economics - and Business Affairs, www.arkitektforeningen.dk/sites/arkitektforeningen.dk/files/DB_expo2010.pdf (accessed February 2011).

pneumatic roof membrane is printed with a foil pattern to reduce the bearing of sunlight and the consequent heat absorbed by the building envelop.³¹⁴ The shallow pool, which surrounds the Denmark Pavilion, will help collect rainwater to cool the building by means of evaporation whereas a chimney effect strategy will naturally ventilate the individual towers.

Agreeing with the jurors, the renderings do provoke a design that is surreal. The quality of the illustrations gives off a meditative calmness displaying a sense of Danish modesty. However, in relation to exposition, there should be a fun and enticing atmosphere that is evoked in the illustrations, and not a somber one as shown in the blank canvas exteriors.

In contrast to other Denmark Pavilion schemes, the design submitted by Dissing + Weitling Architecture is “probably the project which most radically reflects the temporary nature of the pavilion” which can be easily disassembled, reused or recycled.³¹⁵

Interior Architecture

Dissing + Weitling’s Denmark Pavilion works like a cellular structure – the individual towers are interconnected but each cell will house a specific subject matter. Each of the 10 towers is built around one of the following themes: Breathe – the fresh air, Move – through the city on bike, Watch – your city from above, Plan – the better city, Think – of

³¹⁴ Dissing + Weitling Architecture, “Expo 2010 Shanghai,” Dissing + Weitling, www.dw.dk/uk/projects/expo-2010-shanghai (accessed March 2011).

³¹⁵ Dissing + Weitling Architecture, “Expo 2010 Shanghai,” Dissing + Weitling, www.dw.dk/uk/projects/expo-2010-shanghai (accessed March 2011).

new city technologies, Work – in the city, Meet – people from the other side of the globe, Shop – Danish design products, Water – the city and its inhabitants, and Show – Danish culture and performance.



Figure 115. Interior³¹⁶

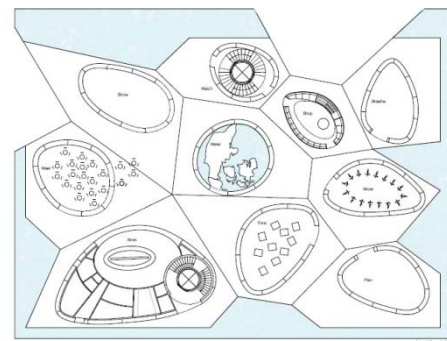


Figure 116. Exhibition layout³¹⁷

Each subject matter offers an array of mediums to engage the visitor in learning about the Danish town and the people who inhabit them through experiences, stories and activities. Some exhibitions involve active participation such as riding a bicycle or building sustainable cities out of Lego’s whereas, other areas will relay the message with text, moving images, and sound effects projected on the white canvas walls.

³¹⁶ Image courtesy of Joan Raun, Architect, owner of Spektrum Arkitekter

³¹⁷ Image courtesy of Joan Raun, Architect, owner of Spektrum Arkitekter

The desire of Dissing + Weitling Architecture is to have each tower cell evoking a mood but unfortunately, this desire was not realized by the jurors as the “proposed illustrations [left] much uncertainty about the inner areas concerned appearance and usability.”³¹⁸

The assigned themes for each pavilion are not reflected on the structural façade. Signage would be beneficial as a way-finding strategy and for creating a straightforward trail that starts at the entrance, weaves through the 10 exhibition towers, and ends at the exit.

The trapezoidal cones are connected at the top to create a covered canopy between the cell towers. Visitors flow in and out of the exhibition cells below. The jurors realize the concept of cellular organism and describes the building as an architectural metaphor of a city as “the ten closed 'cells' and the free-flowing space between them becomes in itself an image[, an allegory,] of the city as a 'tissue of cells'.”³¹⁹ In regards to circulation however, the juror’s were doubtful that the distance between the inner cones would be sufficient for a steady audience flow.³²⁰



Figure 117. Interior³²¹



Figure 118. Interior³²²

Conclusion

Overall, the proposal is an interesting suggestion for a different exposition architecture, but leaves a somewhat sketchy and unfinished impression. The proposal contains a number of significant uncertainties about the function and flow, not clearly portrayed in the illustrations.

The concept of using a cell is a good basis for design because it initially creates a relationship with the thematic concept of the exposition. However, the idea of cell is so universal that it becomes difficult to relate it back to Denmark.

³¹⁸ The Danish Architects’ Association, “Expo 2010: The Danish Pavilion,” Economics - and Business Affairs, www.arkitektforeningen.dk/sites/arkitektforeningen.dk/files/DB_expo2010.pdf (accessed February 2011).

³¹⁹ The Danish Architects’ Association, “Expo 2010: The Danish Pavilion,” Economics - and Business Affairs, www.arkitektforeningen.dk/sites/arkitektforeningen.dk/files/DB_expo2010.pdf (accessed February 2011).

³²⁰ The Danish Architects’ Association, “Expo 2010: The Danish Pavilion,” Economics - and Business Affairs, www.arkitektforeningen.dk/sites/arkitektforeningen.dk/files/DB_expo2010.pdf (accessed February 2011).

³²¹ Image courtesy of Joan Raun, Architect, owner of Spektrum Arkitekter

³²² Image courtesy of Joan Raun, Architect, owner of Spektrum Arkitekter

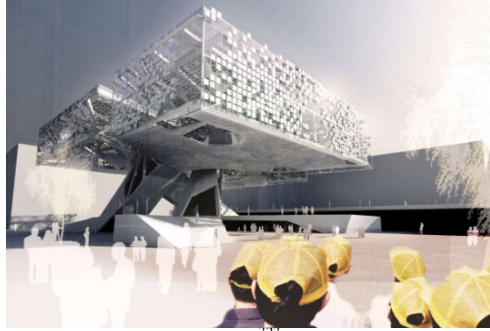


Figure 119. KHR Architects³²³

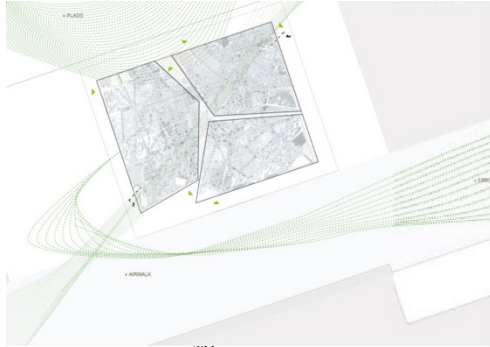


Figure 120. Site Plan³²⁴

KHR ARCHITECTS + MAPT COMPETITION FINALIST

Design Concept

A tree is a metaphor and a symbol of life, knowledge, change and network. In the digital era, the internet can also be used as a metaphor and symbolism for the same reasons. Inspired by the mechanics of nature and the evolution of the internet, KHR Architects and MAPT combined the two concepts to design an architecture that would evoke knowledge, sustainability and networking.³²⁵

Tree as inspiration is unique and clear as a unifying global icon. The tree is also a good concept in relating to the “Better City, Better Life” context as a tree is a metaphor for a miniature city that is able to sustain itself. However, the inspiration specifically as a metaphor for Denmark is unclear due to the concept being so universal.

Site

This Denmark Pavilion is stamped on the site with three structural footprints that lift the actual exhibition space 12 meters from the ground. The three diagonally extruded columns frame a shaded entry foyer capped by the dramatic cantilevering structure above. Visitors can weave through the Denmark Pavilion from all directions of the site. The voluminous footings become a sort of landscape topography with rabbit-hole niches.

³²³ Image courtesy of Mads Møller, Architect, former founder and partner of MAPT

³²⁴ Image courtesy of Mads Møller, Architect, former founder and partner of MAPT

³²⁵ MAPT Architects, “Danish Pavilion, EXPO 2010, Shanghai, 2008,” MAPT: Mediating Architecture Process and Technology, www.mapt.dk/ (accessed March 2011).

The clarity of access reflects the Danish spirit of openness; however, the pavilion itself does not evoke a sense of hospitality. When viewing this Denmark Pavilion from the ground level, an impression of hierarchy is perceived as visitors need to look up towards the sky. The pavilion looks like a sculptural object that has been placed at the site without any relationship with the ground plane or the public thoroughfare.

Exterior Architecture

KHR Architects and MAPT designed a very poetic and elegant tree-inspired Denmark Pavilion. The pavilion materializes as three building structures that weave around each other and create three galleries in the “crowns”.³²⁶ The crown of the pavilion has a transparent and translucent building surface that mimics the foliage of a tree. The material flickers in contact of wind and creates a shine against the sun. Where the crown evokes a sense of fragility and transparency, the tree “trunks” support the crowns weight with strength and sturdiness.

The renderings illustrate very evocative images of the design and suggest the technological and design aspects of the Danes.

The three-legged design encloses vertical circulation to access the upper level exhibition areas. The three large rooms each borne on one leg are attached and rigidly connected to each other. The entire supporting structure is proposed out of steel. Each large room is cantilevered beyond the leg that is constructed as a box-

³²⁶ MAPT Architects, “Danish Pavilion, EXPO 2010, Shanghai, 2008,” MAPT: Mediating Architecture Process and Technology, www.mapt.dk/ (accessed March 2011).

shaped lattice girder fiberglass composite.³²⁷ Each leg is attached to an underlying concrete support, which acts as a base and ballast.

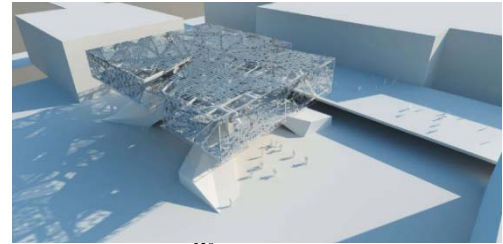


Figure 121. Exterior³²⁸

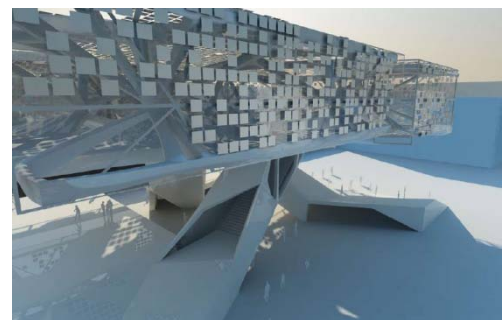


Figure 122. Exterior³²⁹



Figure 123. Elevation³³⁰

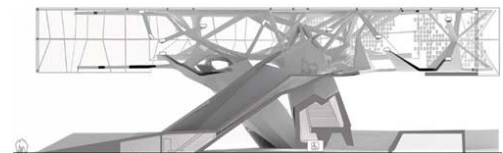


Figure 124. Structure³³¹

³²⁷ The Danish Architects’ Association, “Expo 2010: The Danish Pavilion,” Economics - and Business Affairs, www.arkitektforeningen.dk/sites/arkitektforeningen.dk/files/DB_expo2010.pdf (accessed February 2011).

³²⁸ Image courtesy of Mads Møller, Architect, former founder and partner of MAPT

³²⁹ Image courtesy of Mads Møller, Architect, former founder and partner of MAPT

³³⁰ Image courtesy of Mads Møller, Architect, former founder and partner of MAPT



Figure 125. Canopy rendering³³²

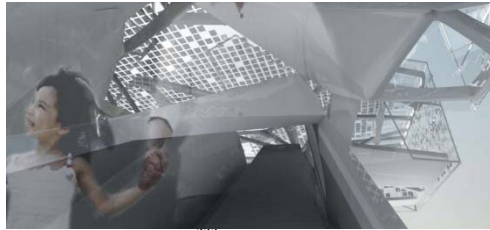


Figure 126. Escalator³³³



Figure 127. Interior³³⁴

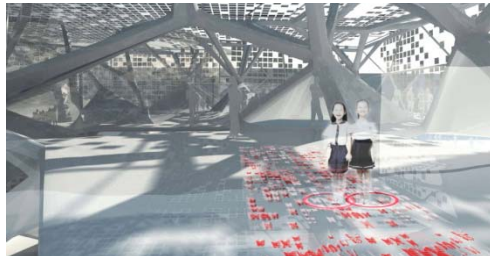


Figure 128. Interior³³⁵

³³¹ Image courtesy of Mads Møller, Architect, former founder and partner of MAPT

³³² Image courtesy of Mads Møller, Architect, former founder and partner of MAPT

³³³ Image courtesy of Mads Møller, Architect, former founder and partner of MAPT

³³⁴ Image courtesy of Mads Møller, Architect, former founder and partner of MAPT

³³⁵ Image courtesy of Mads Møller, Architect, former founder and partner of MAPT

The designers take cues from the natural aesthetics of a tree and therefore have an advantage in evoking the Danish spirit of openness and transparency. Like a miniature city, a tree is also the habitat to many animals and small creatures. The cantilevering architecture also enables activities to occur beneath. As much as the exterior is eye-pleasing, the architecture evokes curiosity to explore the interior spaces.

The building is an insulated and airtight building envelope. The roof is built as two layers – the lower roof is closed to protect against rain, whereas the upper layer is a patchwork to minimize solar radiation, and allows diffused daylight to percolate in the daytime.³³⁶ The building skin opens up to exploit nice outside temperature. Outside air will be used to reduce indoor temperature and remove moisture. A vacuum strategy is articulated in the design by creating openings on the underside of the exhibition crown for air to sweep in.

KHR Architects and MAPT's Denmark Pavilion is assessed by the jurors as costly to realize and is difficult to realize within the economic framework.³³⁷

Interior Architecture

The exhibition is divided into three themes of “Better Life, Better City” and the added theme “Better globe” with each topic divided into 5 sub-themes. Each theme is

³³⁶ MAPT Architects, “Danish Pavilion, EXPO 2010, Shanghai, 2008,” MAPT: Mediating Architecture Process and Technology, www.mapt.dk/ (accessed March 2011).

³³⁷ The Danish Architects' Association, “Expo 2010: The Danish Pavilion,” Economics - and Business Affairs, www.arkitektforeningen.dk/sites/arkitektforeningen.dk/files/DB_expo2010.pdf (accessed February 2011).

housed within one of the three “crowns” of the Denmark Pavilion.³³⁸

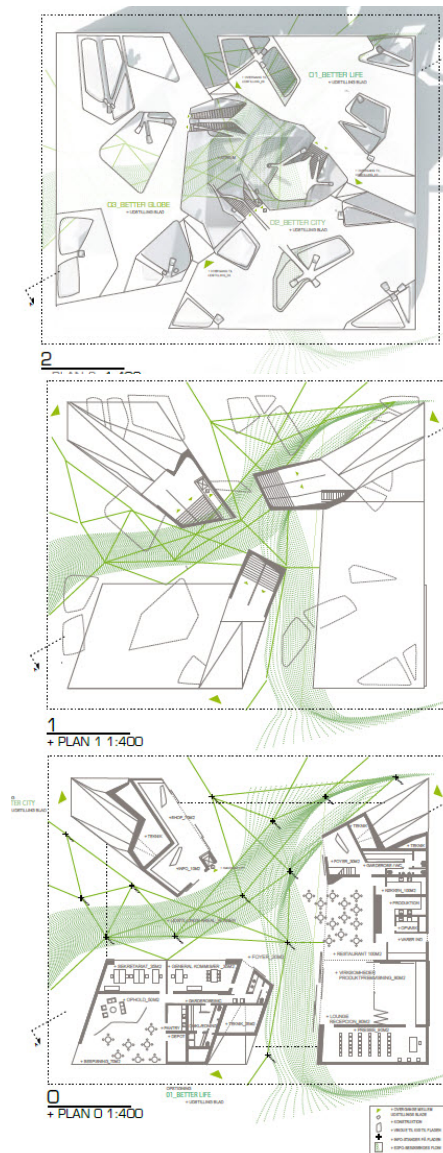


Figure 129. Ground, first and second floor plan³³⁹

³³⁸ MAPT Architects, “Danish Pavilion, EXPO 2010, Shanghai, 2008,” MAPT: Mediating Architecture Process and Technology, www.mapt.dk/ (accessed March 2011).

³³⁹ Image courtesy of Mads Møller, Architect, former founder and partner of MAPT

The layout of the Denmark Pavilion is organized around the conceptual mechanics of a tree. The structural footprints of the building will serve as the foundation and a network for information with common facilities such as shops, information, cafes and conference rooms. Stairs and elevators tucked in the stems will transport the visitor to one of the three exhibition crowns.

The layout with three separate entrances presents a major disadvantage for audience flow in the pavilion. The proposal details an exhibition plan with a very controlled process as the trunks of the tree only leads up to one of the three exhibition spaces as it is unclear whether all three exhibition areas are interconnected at the crown.

As a parallel to the physical world, the exhibition will emphasize on interaction and learning by encouraging a virtual content in the form of a web-community. An outdoor exhibition canopy created by the cantilevered design will help evoke the idea of interaction as visitors can upload themselves as users to the outer pavilion via webcams.³⁴⁰ Digital bracelets will also be given to each visitor to enhance the digital experience inside the exhibition.³⁴¹

Conclusion

KHR Architects and MAPT propose a technological and futuristic vision for the Denmark Pavilion and showed their concepts with evocative illustrations. The

³⁴⁰ MAPT Architects, “Danish Pavilion, EXPO 2010, Shanghai, 2008,” MAPT: Mediating Architecture Process and Technology, www.mapt.dk/ (accessed March 2011).

³⁴¹ The Danish Architects’ Association, “Expo 2010: The Danish Pavilion,” Economics - and Business Affairs, www.arkitektforeningen.dk/sites/arkitektforeningen.dk/files/DB_expo2010.pdf (accessed February 2011).

overall vision looks to be out of reach from the project budget while the choice of a tree as a unifying metaphor seems unclear as representative of Denmark.

Like CEBRA Architects Denmark Pavilion content, electronic bracelets are proposed – which here, also seems unnecessarily complicated and demanding. Yet, the concept of having a parallel Web universe would allow a very active participation from the audience but may also seem like a hindrance in that it takes time to inform visitors on how to use the bracelets and the probability of technical difficulties.

*CRITIQUE OF THE
DENMARK PAVILION CONTEST
2010 SHANGHAI WORLD EXPO*

The purpose of a comparative analysis approach is to evaluate the validity of the winning design against the other seven schemes, which were submitted for the 2010 Denmark Pavilion competition. Each analysis is based on four initial design intents: (1) design concept; (2) siting; (3) exterior architecture; and (4) interior architecture. Each topic of intent also addresses specific variables that distinguish themselves from one another. From these variables, one can immediately evaluate the strengths and weaknesses of each design competition entry.

Methodology

The conclusions that were reached are primarily subjective due to the author's more descriptive approach. The method used is a comparative analysis followed by a graphical qualitative comparison using a radar chart, also known as a spider chart. A radar chart is a graphical method of displaying multiple categories in the form of a two-dimensional chart of three or more variables represented on the same radii. The purpose of the radar chart is to quickly illustrate and visualize the strengths and weaknesses of each design competition entry for comparison. Radar charts are a great approach to present dry information and observation in a visually interesting and meaningful way. Radar charts are often artificial in nature; hence, having the flexibility to design a chart to best fit its intent and purpose.

Prior to the mapping of a radar chart, a type of scale and all pertinent variables must be identified. There are various levels of measurement when it comes to defining

a type of scale. Radar charts are primarily used for ordinal measurements, where each variable are justifiable in some respect and all variables are on the same scale. Ordinal measurements represent order, but are not relative in size or degree of difference between the items measured. In this scale type, an order such as, good, better, and best is acceptable. For the purpose of this competition analysis, a numerical order of 1 (ineffective), 2 (ambiguous), and 3 (successful) is used throughout the different variables for consistency and ease of comprehension. The outer point represents the “desired” and the center point represents the “undesired.”

Though radar charts are useful, there are limitations. Depending on the details and levels of the scale order and form of justification, the outcome might not be as convincing and informative as one might intend. Therefore, it is important to note that the intent of the radar charts for this project evaluation is to simply highlight the characteristics of each design in a two-dimensional graph for ease of comparison and analysis. Although the specific areas and dimensions for each design was not included as variables to reflect quantitative measures, but instead generalized the numerical values to common descriptions.

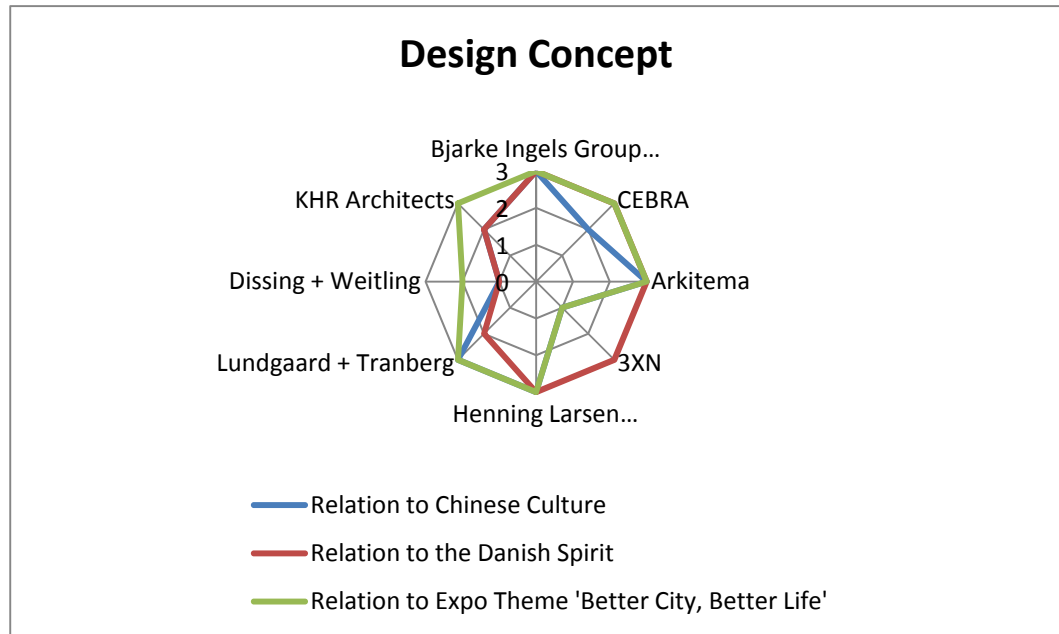
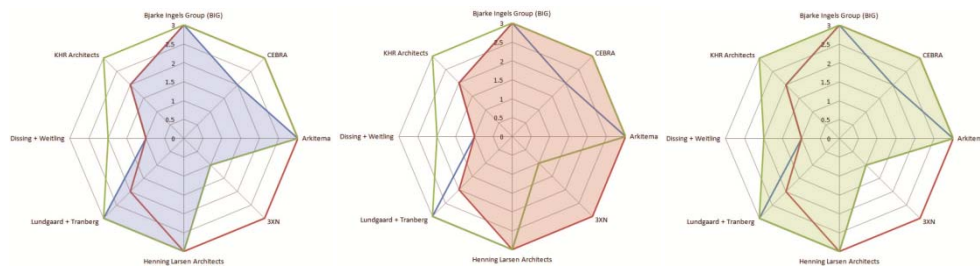


Table 8. Design Concept



Design Concept Analysis

The design concept spider chart takes the entries and compares it to the three objectives of designing a national pavilion for a world exposition: (1) the design idea in relation to Chinese culture; (2) the idea in relation to the Danish spirit; and (3) the idea in relation to the exposition theme of “Better City, Better Life.”

Based on the design concept spider chart (Table 4), only three of the eight designs – Bjarke Ingels Group, Arkitema, and Henning Larsen Architects – adhered to the three objectives. The three designs successfully reflected characteristics of the exposition for obvious reasons. Bjarke

Ingels Group’s spiraling architecture for instance successfully incorporates a DNA helix design as the architectural foundation for user friendly bicycles – a commonality between the two nations – and Denmark’s Little Mermaid statue. The overall design aesthetic also reflects a sense of balance and unity, which both nations strive for, and a message that evokes the exposition theme. The design entries submitted by Arkitema and Henning Larsen architects were designed primarily to evoke the purposes of balance between city, human life, and nature. Thus, the three successful designs reflected the characteristics of the

spirit of a world exposition in comparison to the remainder of the entries.

The other designs varied in results. For example, Lundgaard + Tranberg's chaotic bamboo playground successfully reflected the Chinese spirit and the exposition theme, but scored ineffectively as a Danish pavilion. Arkitema also submitted a bamboo forest, and like Lundgaard + Tranberg's, may have also been mistaken as a pavilion for an Asian country. However, Arkitema's scheme was deemed successful because the bamboo trees were organized in a sophisticated grid that evoked the Danish spirit of unity and balance. On the other hand, the design submitted by Dissing + Weitling reflected a plain canvas having no character and was deemed ambiguous in idea and ineffective.

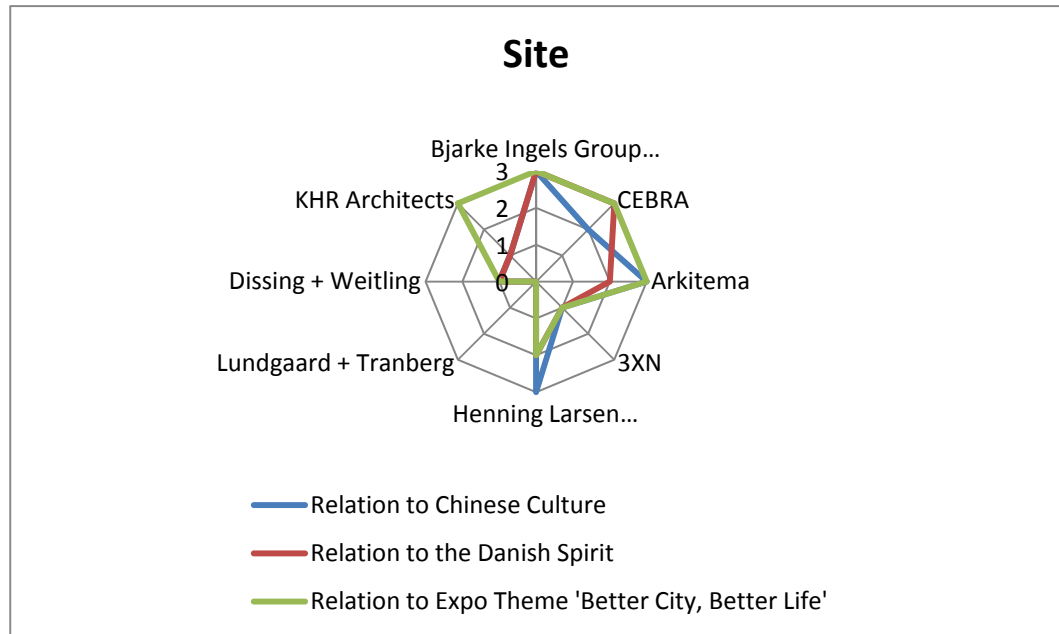
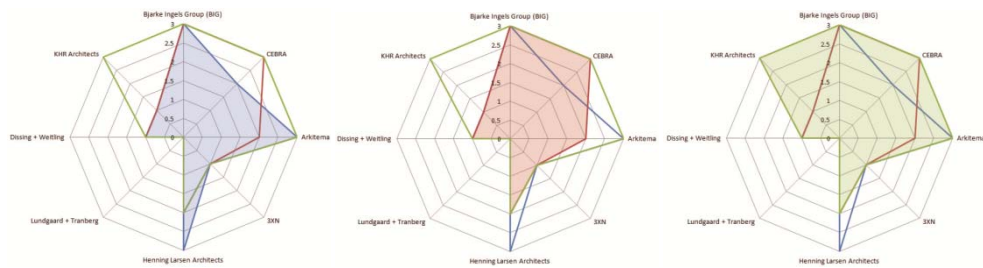


Table 9. Site



Site Analysis

The site analysis spider chart takes the entries and compares it to the three objectives of designing a national pavilion t; and (3) the idea in relation to the exposition theme of “Better City, Better Life.”

Based on the site analysis spider chart (Table 5), Bjarke Ingles Group’s design was deemed the most successful in all three objectives. The helix design reminiscent of a DNA strand reflected the Chinese landscape values of layering, hierarchy and balance. The spiraling architecture also opened up to the public in a modest nature that gradually sloped upwards from the

for a world exposition: (1) the design idea in relation to Chinese culture; (2) the idea in relation to the Danish spiri ground, and thus creating a canopy for users waiting in queue. The articulation of the sloping architecture strongly employed the theme of “Better City, Better Life, and enabled for an open courtyard that makes use of natural ventilation and sunlight.

Other designers were not very successful in articulating the site plan of the Denmark Pavilion. CEBRA Architects evoked a sense of the Danish spirit and the exposition theme with an open topographic plaza, but stirred thoughts of ambiguity in

depicting Chinese culture as the plaza was mostly hardscape. On the other hand, Arkitema Architects evoked a strong sense of Chinese culture with its bamboo forest theme, which CEBRA failed to accomplish. Once again, Lundgaard + Tranberg failed to the bottom of the list, partially due to an unreadable site plan.

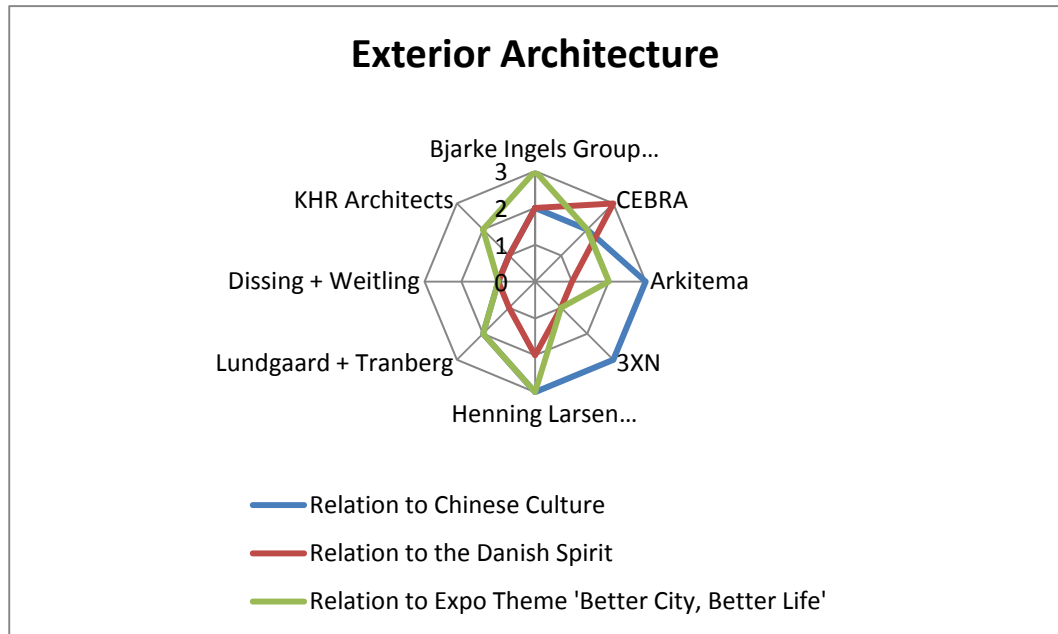
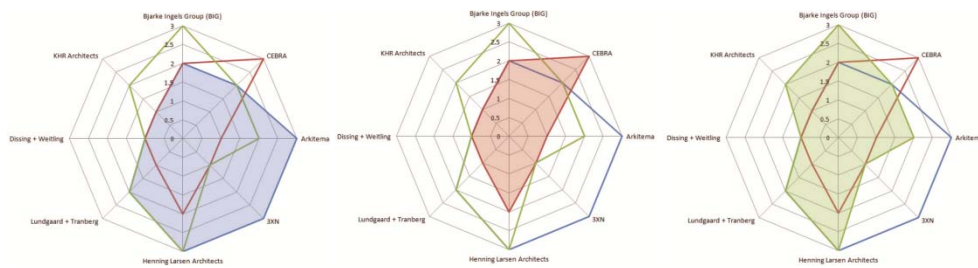


Table 10. Exterior Architecture



Exterior Architecture Analysis

The exterior architecture spider chart takes the entries and compares it to the three objectives of designing a national pavilion for a world exposition: (1) the design idea in relation to Chinese culture; (2) the idea in relation to the Danish spirit; and (3) the idea in relation to the exposition theme of “Better City, Better Life.”

As the architectural design of the actual building itself begins to be shaped, the spider charts will reflect a broad spectrum of results. Based on the exterior architect analysis spider chart (Table 7), there is no clear design entry that successfully meets the objectives noted above. However, of

the eight design proposals, only Henning Larsen Architects’ unique landscape facade meets two of the three objectives.

Much ado, the designs that implemented a landscape element succeeded in satisfying the relationship to Chinese culture. In contrast, 3XN’s Dannebrog inspired design was a striking gift to Denmark. Although the red color of the Danish flag has significance to Chinese culture, and the architecture itself is articulated and folded to resemble paper, Chinese audiences who visit this Denmark Pavilion may not immediately identify the idea of the architecture to the Dannebrog concept.

BIG's design entry has been a strong competitor thus far, however, ambiguity was raised in response to the relevancy of the exterior architecture to both Chinese and Danish culture. Intentional or not, the perforations created on the exterior architecture seem to resemble two symbolic images: a fishing net and a city skyline. Could these abstract graphics have any relevance to the two countries? Quite possibly as China too has folklore regarding mermaids and the city skyline emoted on the building skin may be an old Danish city. Yet the question of whether the design ideas were intentional or not by the architect is unable to be measured.

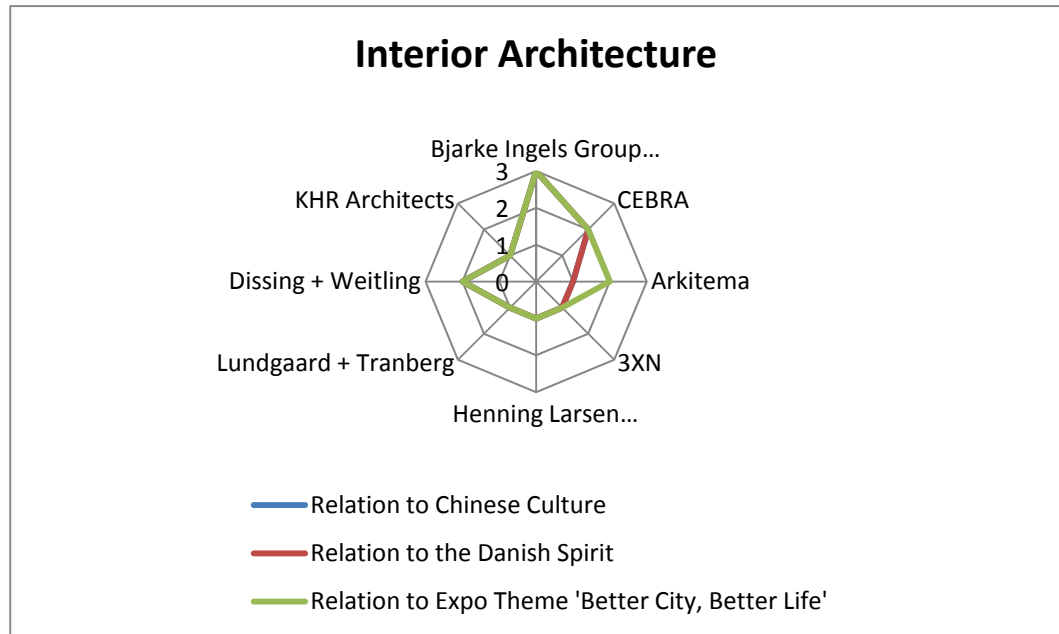
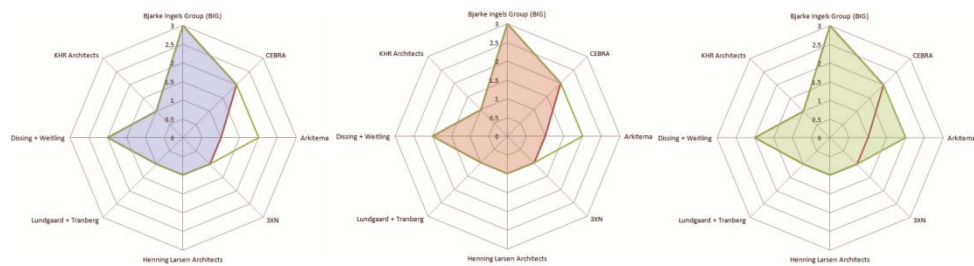


Table 11. Interior Architecture



Interior Architecture Analysis

The interior architecture spider chart takes the entries and compares it to the three objectives of designing a national pavilion for a world exposition: (1) the design idea in relation to Chinese culture; (2) the idea in relation to the Danish spirit; and (3) the idea in relation to the exposition theme of “Better City, Better Life.”

Based on the interior architecture analysis spider chart (Table 9), only one design prevailed over the remaining entries and that submission belong to once again, BIG. The gimmick to use a commonality between the two nations – the bicycle – and the idea to transport the Little Mermaid from Copenhagen to Shanghai immediately met the response to achieving a relation to

both Chinese and Danish culture. Even so, the idea of bicycles and allowing users to experience the space by riding through the exhibition spaces not only promoted the exposition theme of “Better City, Better Life” but also encouraged the activity of riding bicycles as a daily means of exercise and environment efficiency.

In general, the remainder of the design submissions were not as strong and effective in developing an interior program that can compare to BIG’s hands-on experience. In addition, many architectural designs that had a very thought-provoking exterior design lacked the same meaningfulness in relation to its host countries inside the exterior’s walls.

Comparative Analysis Overview

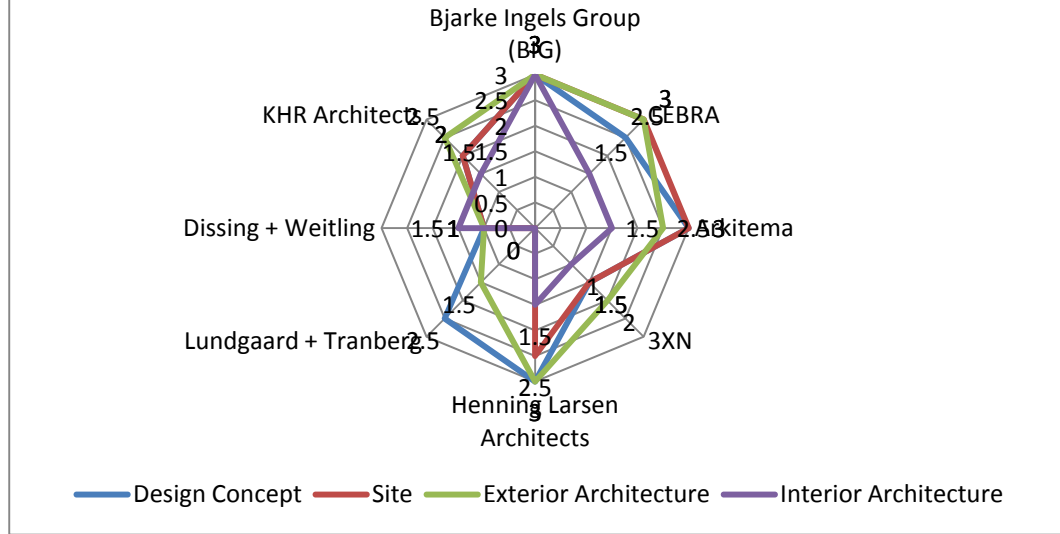
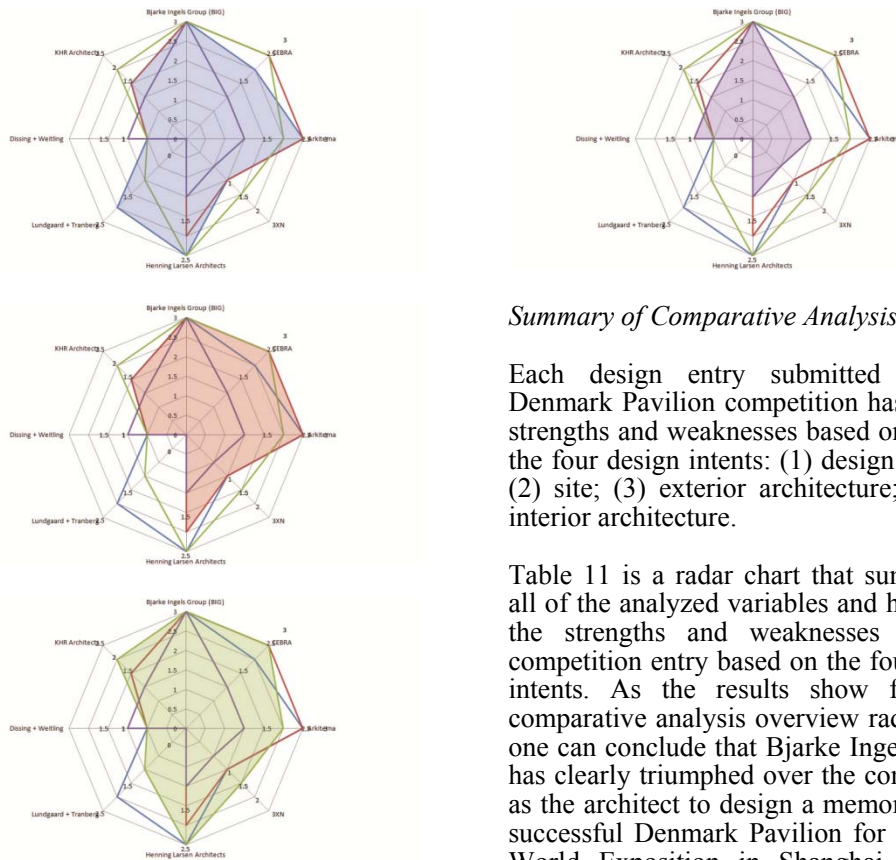


Table 12: Comparative Analysis Overview



Summary of Comparative Analysis

Each design entry submitted for the Denmark Pavilion competition has its own strengths and weaknesses based on each of the four design intents: (1) design concept; (2) site; (3) exterior architecture; and (4) interior architecture.

Table 11 is a radar chart that summarizes all of the analyzed variables and highlights the strengths and weaknesses of each competition entry based on the four design intents. As the results show from the comparative analysis overview radar chart, one can conclude that Bjarke Ingels Group has clearly triumphed over the competition as the architect to design a memorable and successful Denmark Pavilion for the 2010 World Exposition in Shanghai and has dominated in all four identified variables.

MY COMPETITION FOLIO

The Hawai'i Law Enforcement Memorial
Foundation (HLEMF) Competition

The eVolo 2011 Skyscraper Competition



Figure 130. Author's design submission for the Hawai'i Law Enforcement Memorial Foundation Competition³⁴²



Figure 131. Author's design submission for the 2011 eVolo Skyscraper Design Competition³⁴³

MY COMPETITION FOLIO

The intriguing topic of design competition has always struck the author with curiosity. In conducting this research investigation, however, the author did not have any competition experience to understand the process and tribulations of actual participation. Therefore, the author participated in two design competitions, both recorded in this section. The goal is not to discuss his design aesthetics, but to overview the critical evaluation process that will lead up to the conclusion on recommendations for students undertaking competitions.

The first design competition took place in the Fall 2010 semester. The competition was a closed competition format to students enrolled at the University of Hawai'i at Mānoa School of Architecture. The task was to design a memorial for the Hawai'i Law Enforcement Memorial Foundation (HLEMF).

The second design competition was an open international competition that took place in both the Fall 2010 and Spring 2011 semesters. The overall design scope for the eVolo Skyscraper Competition was to generate a design for a hypothetical skyscraper.

The author took part in these two design competitions for several reasons: (1) to become better acquainted with the topic of investigation; (2) to understand the competition process as a team effort versus as an individual participant; and (3) to better grasp the different competition types accessible to students

This section details how the author came up with the design and the process for both competitions. Although the author did not place in either contest, he will (4) analyze

³⁴² Image courtesy of the author, Richard Rivera

³⁴³ Image courtesy of the author, Richard Rivera

and evaluate his entries with the first prize winner to better understand why his submission did not place. Hence, the author wants (5) to ultimately gain a better understanding of the competition system as a student so to be able to translate his experiences into recommendations for other students.

*THE HAWAI'I LAW ENFORCEMENT
MEMORIAL FOUNDATION (HLEMF)
COMPETITION*

In the United States, more than 19,000 law enforcement officers have lost their lives in the line of duty, and each one's name is enshrined in the National Law Enforcement Officers Memorial in Washington, D.C.³⁴⁴ As of May 2011, 61 law enforcement officers have been killed in Hawai'i. These 61 Hawai'i-based officers who have made the ultimate sacrifice have no memorial. There is no place for these men and women to be honored, no place for history to record their passing. The Hawai'i Law Enforcement Memorial Foundation design competition was initiated due to the effort to create a home for the local fallen heroes.

Hawai'i is the only state in the United States that does not have a law enforcement memorial to pay tribute to her fallen sons and daughters. In November of 2009, several community members took the first steps to correct this void and began to make the memorial a reality.³⁴⁵ In February 2010, the Hawai'i Law Enforcement Memorial Foundation was formed as a not-for-profit charitable corporation. Its primary purpose: to design, construct, and maintain a monument to honor law enforcement officers from city, county, state, military, and federal agencies, who have died in the line of duty while serving the people of Hawai'i.³⁴⁶

³⁴⁴ "The Memorial." The Hawai'i Law Enforcement Memorial Foundation. www.hlemf.org/the-memorial (accessed September 25, 2011)

³⁴⁵ "The Memorial." The Hawai'i Law Enforcement Memorial Foundation. www.hlemf.org/the-memorial (accessed September 25, 2011)

³⁴⁶ "The Hawai'i Law Enforcement Memorial Foundation." The Hawai'i Law Enforcement Memorial Foundation. www.hlemf.org/ (accessed September 25, 2011)

About the Competition

In early November of 2010, Joan Gribbin-Aiu – the Executive Director and President of the Hawai‘i Law Enforcement Memorial Foundation – officially kicked off the Hawai‘i Law Enforcement Memorial Design Competition at the University of Hawai‘i School of Architecture auditorium before 200+ student competitors.³⁴⁷ In addition to the design competition guaranteeing a student victory, students were given the initiative that the winning design would be executed with the backing of the Hawai‘i Law Enforcement Memorial Foundation.

University of Hawai‘i School of Architecture Assistant Professor Kris Palagi served as the liaison for the design competition and delivered specific marching orders to students. A simple announcement with basic competition details (site location, program, size, and important competition dates) was posted throughout the School of Architecture. In addition, it was made available to all students’ via-email, and verbally delivered to students at the official kick-off presentation at the School of Architecture auditorium.

About the Program

The competition announcement contained little tangible requirements that included two flagpoles (U.S. and Hawai‘i) and the need for permanent lighting. In addition, the memorial design was required to have the following inscriptions: (1) “*E hali‘a aloha mau kakou...*” – We will always remember with aloha; (2) “In the line of

³⁴⁷ “Memorial Working Group.” The Hawai‘i Law Enforcement Memorial Foundation. www.hlemf.org/memorial-working-group (accessed September 25, 2011).

Duty;” (3) the names of the fallen officers with room for additional names; and the words (4) Honor, Valor, Courage, and Dedication.

The Board of Directors for the Hawai‘i Law Enforcement Memorial Foundation unanimously decided that the future memorial would be located on the grassy triangular expanse on the Diamond Head side of the Kalanimoku Building in Honolulu, Oahu.³⁴⁸



Figure 132. A birds-eye-view of the site context. The location of the future memorial is a triangular parcel indicated in yellow³⁴⁹



Figure 133. A photograph taken on-site from the bermed parking structure, located on the *mauka*³⁵⁰ end of the memorial site. The Kalanimoku Building

³⁴⁸ “Memorial Working Group.” The Hawai‘i Law Enforcement Memorial Foundation. www.hlemf.org/memorial-working-group (accessed September 25, 2011)

³⁴⁹ Image courtesy of Google Earth

³⁵⁰ *Mauka* is an expression used in the Hawai‘ian language to indicate site orientation as heading towards the mountains or inland

(shown in the photograph) aligns a side of the memorial site³⁵¹

The boundary of the triangle is made up of an informal and intersecting footpath that connects South Beretania Street with South King Street on the north and south sides while connecting Punchbowl Street and Alapai Street on the west and east sides. Located on state land, the site sits within the Capitol District, and is co-located with the Frank Fasi Municipal Building and other city, county and state offices.³⁵² The approximate dimension of the memorial was not to exceed a 50' x 50' on-site border.

With only minimal design constraints that were needed to be satisfied, students had an open forum for designing the physical memorial itself. Likewise, this situation would guarantee the Board of Directors to receive the widest array of memorial designs which they could select from and, thus, request the student finalists to explore and develop more before a final design was chosen. Although students did not have many design requirements to oblige to – the winning design competition would be realized and funding would need to be raised to execute the project – it was not mentioned that keeping costs in mind would be valued.

About the Competition Format

The competition for the Hawai'i Law Enforcement Memorial was originally advertised to students as part of the School of Architecture's Annual All-School

³⁵¹ Site photograph courtesy of the author, Richard Rivera

³⁵² "Memorial Working Group." The Hawai'i Law Enforcement Memorial Foundation. www.hlemf.org/memorial-working-group (accessed September 25, 2011)

Charrette. A charrette is a design event – like an architectural competition – when participants simultaneously work to develop a solution for a design problem within a constrained period.

A charrette competition was the perfect format for the memorial design due to the minimal program requirements and the small size of the structure. The competition program was to focus the primary attention on the aspect of brainstorming and conceptual design. Charrettes on the other hand may be less useful for more complex design problems when participants require longer working periods to resolve a difficult task on the building program.

The competition charrette was open and encouraged to all School of Architecture students to partake and to develop their own design teams. This one-day charrette event served enough time for students to generate compelling ideas for the prequalification round, in which afterwards the assessment of the design entries would result in the selection of five finalists. Although students were given the option to work independently, others formed design teams to alleviate the workload through the distribution of labor. The number of individuals included in the five finalist teams ranged from a student duo to a seven-member crew.

Four large classrooms were converted into workrooms and were provided the necessities of tracing paper, drawing instruments, and maps of the proposed site. Students were only given a single-day to tackle the design problem, in which those ideas were then required to be transferred onto two 20" x 20" presentation boards for a private pin-up review by a jury panel consisting of professors from the School of Architecture. Thirty-five prospective memorial designs were received for

review. The goal of the jury was to select five finalists who would have an opportunity to refine their design.

In the second phase of competition, the five chosen groups were given less than two weeks to develop their original ideas. Each group was required to submit an 84” x 36” vertical format board and a 1:20 scale model of the design. All submissions were to be anonymous, with the names of participants only appearing on the back of the presentation deliverables. The culmination of their effort and time would result with the student designers presenting their inspiration, architectural focus, and thought processes for the memorial design to the Foundation’s Board of Directors, the Memorial Working Group, the School of Architecture students and faculty, and the public.

After the students delivered their respective presentations, the room was excused of the public audience for the jury to engage in a private deliberation. Moreover, Assistant Professor Kris Palagi would give the Board additional guidance on how the previous jury of professors narrowed the field from 35+ memorial designs to the five remaining finalists. Thereafter, the Board took time to review the various models and digital presentations in a forum of dialogue to discuss, debate, and to select the three designs that would continue on to the opportunity to display their work at the 1st Annual Hawai‘i Law Enforcement Memorial Foundation’s Gala Benefit in December of 2010.

The near 1,000 guests – that ranged from elected officials, police agencies, state agencies, federal law enforcement, the military, city and state government employees, and officers and families from all four Hawai‘i counties – at the Gala Benefit were the first group of public

spectators to view the three chosen finalists. At this event, individuals could inspect the digital renderings and graphic presentations, to speak with the student designers, and to vote for his or her favorite design.³⁵³ Votes from that evening were tallied and a clear winner was determined for the future Hawai‘i Law Enforcement Memorial.³⁵⁴ In May 2011, the students responsible for the winning design were congratulated as they learned through email that their design was the chosen one.

³⁵³ “Memorial Working Group.” The Hawai‘i Law Enforcement Memorial Foundation. www.hlemf.org/memorial-working-group (accessed September 25, 2011)

³⁵⁴ “Memorial Progress.” The Hawai‘i Law Enforcement Memorial Foundation. www.hlemf.org/memorial-progress (accessed September 25, 2011)



HLEMF MEMORIAL SITE

Site:

The Memorial will be located on the grassy expanse on the Diamond Head side of the Kalanimoku Building.

Program:

Two Flagpoles (U.S. and Hawaii)

Permanent Lighting

Inscribed:

“E hali’a aloha mau kakou...”

We will always remember with aloha.

“In the line of Duty”

Names of fallen officers

Room for additional names

Honor, Valor, Courage, and Dedication

Size:

approximately 50’x50’

Events at the Memorial:

Police weekly memorial is held

Dates:

Friday November 5th

Discussion Groups, Design projects

Saturday November 6th

9:00 am Presentations

The Selection of 5 semi-finalist

Monday November 15th

The five selected Schemes may

refine their designs before being

given to the HLEMF Board

Wednesdays December 1st

HLEMF Board will notify the three

finalists

Saturday December 11th

The three selected Finalist will

present their designs at the HLEMF

at the Gala Benefit Dinner

Figure 134: HLEMF Competition announcement (8½” x 11” vertical format)³⁵⁵

³⁵⁵ Image courtesy of Kris Palagi, University of Hawai‘i School of Architecture Assistant Professor



Figure 135: Wall memorial rendering illustrating wall and stone landscape³⁵⁶



Figure 136: Digital montage of southeast view looking towards the memorial³⁵⁷



Figure 137: Illustration of looking through a wall aperture³⁵⁸

LANDSCAPE MEMORY COMPETITION FINALIST

The author and his colleagues achieved the distinction of being one of the top five finalists to move forward in competition play. This section is a record of the memorial design – given the pseudonym *Landscape Memory* – which was submitted for the Hawai‘i Law Enforcement Memorial Design Competition.

Design Concept

Landscape Memory seeks to become a visual tribute to remember Hawai‘i-based law enforcement officers by imprinting the co-idea of a textured memorial and using Mother Nature’s essence to capture and perpetuate the dynamic passing of time.

Site

Isolated on the grassy expanse is a slim and linear rectangular extrusion that rises from the ground – a simple expression that becomes the memorial. Scattered across the grassy landscape are square objects that match the dimensions of the voids from the nearby wall sculpture. The embedded pieces of wall are densely placed near the vertical extrusion and begin to disperse outwards in a more sporadic manner. No new pathways are incorporated into the design other than the existing trails that border the triangular site. However, the square pieces that now texture the grassy terrain are to imply an indirect means for individuals to approach the memorial wall.

Memorial Architecture

The concept of *Landscape Memory* is realized with a simple and elongated

³⁵⁶ Image courtesy of the author, Richard Rivera

³⁵⁷ Image courtesy of the author, Richard Rivera

³⁵⁸ Image courtesy of the author, Richard Rivera

vertical wall that stretches across 50' of the site and is textured by 10" x 10" voids to memorialize the absence of those who have fallen in the line of duty. The apertures fragment the solid wall and become "windows" that frame pieces of the surrounding undulating landscape and built structures as one walks in alignment to the vertical plane. The voids are in rows of varying heights, allowing for different views and visitors of different heights to peek through them to see what is beyond.

Throughout the day, the play of sunlight against the perforated memorial symbolizes change and the passing of time, which now becomes only a *memory*. The perforated block objects removed from the wall are scattered closely around the grassy memorial site so that at a specific time of day, the light and shadows created melodically by the interplay between sunlight and wall apertures will touch a specific block on the ground. Additionally, the scattered stone fragments help to forge a connection and a delicate balance between the isolated memorial wall and the adjacent structures.

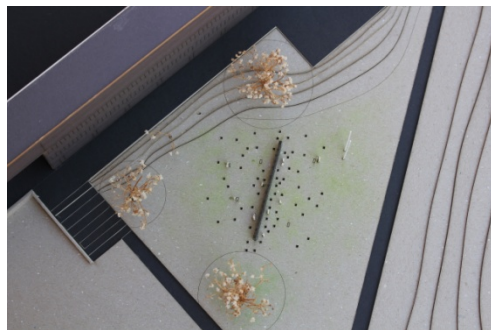


Figure 138. Physical site model of memorial design (20" x 30" base, 1 = 20 scale)³⁵⁹

³⁵⁹ Image courtesy of the author, Richard Rivera

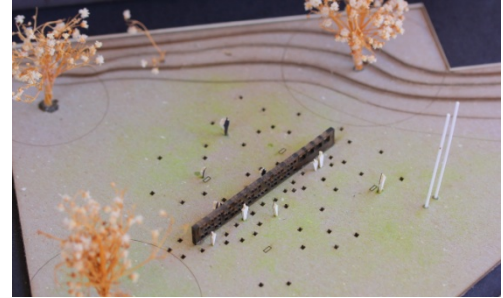


Figure 139. Physical site model of memorial design (20" x 30" base, 1 = 20 scale)³⁶⁰

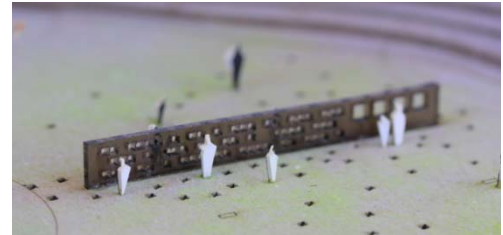


Figure 140. Physical site model of memorial design (20" x 30" base, 1 = 20 scale)³⁶¹

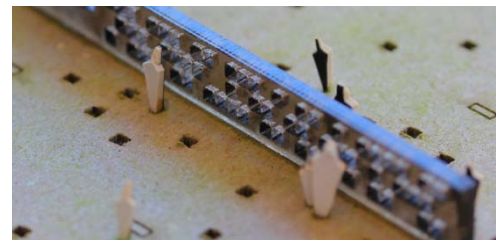


Figure 141. Close-up of physical model (20" x 30" base, 1 = 20 scale)³⁶²

From a bird's eye-view, the composition can be perceived as police officers coming together to create one strong central force. Hence, the embedded fragmented stones in the grassy triangular expanse are to encourage and allure visitors towards the memorial wall.

The tangible remnants of the voids are to be split in two halves: One-half would be scattered around the memorial as a landscape element; the second half of that piece will be given to the family of the

³⁶⁰ Image courtesy of the author, Richard Rivera

³⁶¹ Image courtesy of the author, Richard Rivera

³⁶² Image courtesy of the author, Richard Rivera

fallen law enforcement officer, who then can use the object to use for their own personal memorial. A couple of ideas include incorporating the “piece of memory” into the family’s front yard as a landscape element, or bringing the piece of stone to the favorite spot (for example, the beach or a hiking trail) of their fallen hero to create a personal tribute for them there. As family members may not live in Hawai‘i or may not have the opportunity to visit the memorial as often as they wish, having a piece of the wall encourages the family to maintain a meaningful and personal memory outside the main memorial site on State Capitol grounds.



Memorial Design acknowledges that a specific location may be associated with a particular family. The family building will be dedicated to commemorate the sacrifice and service of the fallen. The design is respectful and sensitive to the surroundings. The design creates a powerful sense of place that evokes the spirit of the fallen. The design is a collaboration between the architect, the landscape and the visitors is a memorial park.

A checkered pattern, landscape and an extended self-reflected plane are the principal design features of the memorial. The main site piece to evoke the spirit of strength and courage is an extended slender plane, standing as tall as the fallen. The plane is a checkered pattern, landscape and an extended self-reflected plane. The four planes of Honor, Valor, Courage, and Dedication are represented by the fallen. The planes are memorialized by smaller walls that are distributed throughout the remainder of the slender plane.

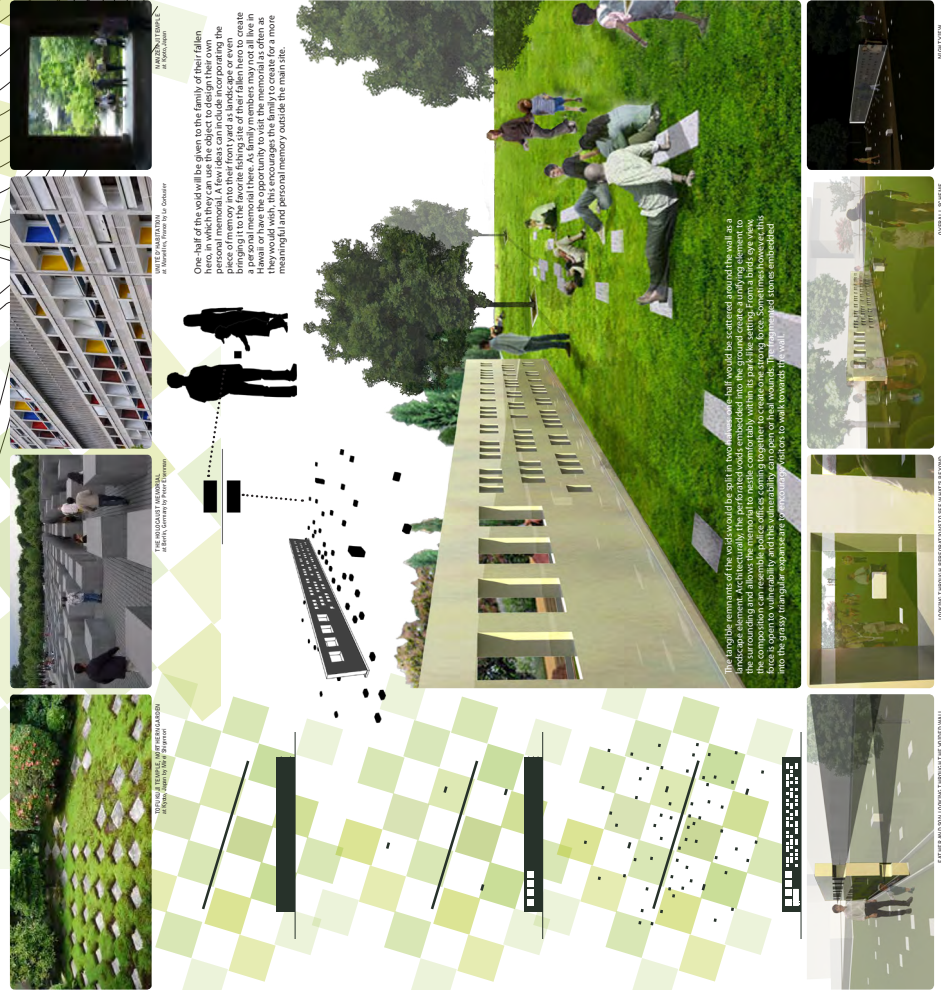


Figure 142: HLEMF top five finalist competition board (84" x 36" vertical format)

*Competition Experience +
Recommendations*

This section accounts the competition process of the author's team, consisting of a trio of then seventh-year School of Architecture Doctoral candidates – Jong Woo Kim, Queenie Leung, and the author himself, Richard Rivera – and the role that each individual assumed in order to fulfill the feasibility of the competition demand on charrette day. Three primary roles were established: the leader/project manager, the designer, and the director of production. Although each role assumed a specific responsibility, the roles also interchanged with one another.

The *leader/project manager* was the main hub in the competition team who received emails regarding contest updates from the HLEMF Board and the University of Hawai'i School of Architecture competition liaison, Kris Palagi. In turn, the leader would inform the group in order to adjust their working style to the adjusted deadline. The project manager worked hand-in-hand with the designer and the director of production in order to meet the requirements for producing quality and evocative renderings and a physical model that would convey the idea of their memorial design.

The *designer* assumed all roles of design. Working jointly with the director of production, the designer managed the production of the presentation deliverables to ensure the concept was communicated in all digital renderings, architectural drawings and a physical model.

An important responsibility of the designer was to put to paper a statement to poetically and concisely relay the concept of the memorial design. Likewise, the designer was also responsible for

composing the design presentation boards so that they, too, would portray the design in an informative and captivating manner to the sponsor and the jury audience.

The *director of production* assumed the important role of materializing the memorial design from an abstract concept to a tangible graphic. From developing a digital model as the backdrop for illustration montages, the director of productions worked closely with the designer. The two members played a constant game of ping-pong as comments went back and forth regarding graphic composition, color, lighting and texture to whether or not to use realistic people or digital silhouettes.

The great advantage to forming a competition team is the chance to alleviate a large task amongst multiple individuals. Working jointly in a group can be a successful experience or a terrible one. Which way it goes depends largely on the quality of the communication among group members and the respect they show for each other. Here are a few guidelines for choosing a team and making your group work successfully.

Choice: Design competitions give individuals personal choice of whom they want to work with. Individuals should base their partnering selection on what others can bring to the table. One should select responsible team members who can do their part on time and who can stay focused on the task. A successful working group consists of team members who can do their share and a little bit more.

Teamwork: Group members know which roles can be filled within a group and are aware of which role they and others are best suited for. Although each role assumes a specific set of responsibilities, group

members should be willing to rotate roles to maximize the efficiency of the group's overall working experience.

Trust: Communication and cooperation is important in a group setting. Even more imperative is to be inclusive when working with others. Group members develop a sense of mutual trust only to the extent that everyone is willing to self-disclose and be honest, yet respectful. Trust also grows as group members demonstrate personal accountability for their assigned tasks.

Criticism: Design will always involve positive and negative criticism. Criticism allows a person to build up one's design knowledge and skills. Within a group work situation, allow for open criticism but make sure to listen and understand what is being said before weighing in your own opinions.

Attitude: Although friends often enjoy working together, the positive synergy that was once present may be overwhelmed by the stress of working under a compressed competition schedule. A positive-working environment can be maintained by being nice to group members, appreciating the effort of your team members, providing good ideas, and being positive.

One Goal: Whether working in a group of familiar faces or assigned to work with others with different backgrounds and interests, understand that everyone is working to achieve the same goal: to win.



Figure 143. An illustration showing visitors at the memorial while the memorial wall is illuminated³⁶⁴



Figure 144. A digital montage illustrating the internal meandering pathway as created by the undulating memorial walls³⁶⁵



Figure 145. Digital montage of northeast view towards memorial³⁶⁶

HLEMF MEMORIAL COMPETITION WINNER

The following section delves into the overview and analysis of the winning design entry for the Hawai'i Law Enforcement Memorial Competition. Team RYSJNT, consisting of design students Reid Okaneku, Yishan Fu, Stephen Larson, Jamie Emberson, Noelle Yempuku, and Troy Okimoto, submitted the entry.

Design Concept

The Hawai'i Law Enforcement Memorial is derived from the subtle complexity found in nature to create a space within a space to be dedicated to the fallen heroes of loved ones, as described in the author's presentation:

The Hawai'i Law Enforcement Memorial is derived from the subtle complexity found in nature. Pathways meander through four forms that provide the structure for the engravings and seating areas. The spaces made by these forms evoke a feeling of intimacy where one can view the names of endeared fallen officers, and reflect upon their memories. The indirect pathways and forms create a sense of layering that provides comfort and protection. In the strength of family and friends, or together as a force, the memorial is a place to remember the officers who gave their lives with courage, valor, honor and dedication.³⁶⁷

³⁶⁴ Image courtesy of Reid Okaneku

³⁶⁵ Image courtesy of Reid Okaneku

³⁶⁶ Image courtesy of Reid Okaneku

³⁶⁷ Quote is taken from the presentation board submitted by Team RYSJNT to the Hawai'i Law Enforcement Memorial Foundation Design Competition



Figure 146: Physical site model of memorial design (20" x 30" base, 1' = 1/8" scale)³⁶⁸



Figure 147: Physical model view captured from the northeast (20" x 30" base, 1' = 1/8" scale)³⁶⁹



Figure 148: Physical model view looking through path corridor from the southeast (1' = 1/8" scale)³⁷⁰

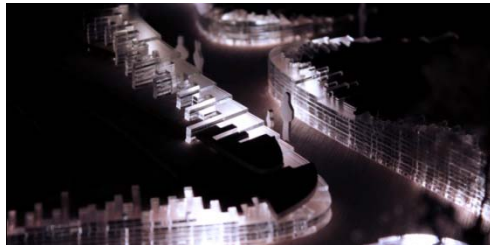


Figure 149: Physical model illustrating night time illumination of the memorial (1' = 1/8" scale)³⁷¹

³⁶⁸ Image courtesy of Reid Okaneku

³⁶⁹ Image courtesy of Reid Okaneku

³⁷⁰ Image courtesy of Reid Okaneku

³⁷¹ Image courtesy of Reid Okaneku

Site

The memorial design is a manipulation of the landscape as the triangular area is bermed to create landmasses. An intersecting path fragments the large mass into four islands and reconnects to the existing paths bordering the triangular parcel. The pathway flows intentionally through the four berms. The trail is depressed into the landscape and aligned on both sides by the berm islands, thus providing the vertical structure for the embossment of the heroes' names.

The meandering spaces made by these forms evoke a sense of solace where one can view the names of endeared fallen officers and reflect upon their memories. Moreover, the rhythm of the new topography creates informal seating for reflection. The meandering trail and the undulating berm formations evoke a sense of layering and provide visitors a sense of privacy, comfort and protection.

Memorial Architecture

The design concept reflects the landscape's transformation to house the memorial. However, the design does not necessarily focus just on the wall, but in reality the contour mounds and pieces of the structure also become useable spaces for visitors and for people working in the office buildings nearby. For example, rather than just an ordinary memorial solely for a passing visit, the spaces become an outdoor park-like environment where workers of nearby buildings can have lunch.

The design response juxtaposes two variables: (1) the built and natural context; and (2) a combination of materials between the grassy landscape and the concrete material proposed for the memorial wall.

Pebbles and gravel are proposed to demarcate the path. The combination of concrete architecture and pebble materials evoke a solemnity, transporting visitors to reflection.

The organization of commemorated names often leads to confusion. Families can become frazzled just searching for the name of their beloved, mixed with the names of other people. Although these names are habitually organized alphabetically, or by the time of passing, it can still be difficult to locate.

No real order of names is suggested in the winning design competition entry for the Hawai'i Law Enforcement Memorial. This was quite possibly the main intent of the designers for designing a pathway memorial. By having no specific order, it prompts family members and visitors to walk the entire path and to read the names of all the Hawai'i-based officers.

The memorial design is an interpretation of the landscape. The rhythm, spaces and topographic variations of the design constitute both the formal and informal nature of the Hawai'i Law Enforcement Memorial as a place for reflection. The success of the memorial design is in its ease and simplicity to interpret the landscape to fit with the surrounding context of nature and buildings, connecting different aspects of the site with a single path gesture, and fulfilling the needs of a sacred place.. The memorial is successful in creating a casual park-like setting, and a personal setting for reflection as evoked by the space created inside a space.

HLEMF

The Hawai'i Law Enforcement Memorial Foundation

Description:
The Hawai'i Law Enforcement Memorial is derived from the subtle complexity found in nature. It allows visitors to wander through four forms that provide the structure for the engravings and seating areas. The spaces made by these forms evoke a feeling of intimacy where one can view the names of endangered fallen officers, and reflect upon their memories. The indirect pathways and forms create a sense of layering that provides comfort and protection. In the strength of family and friends, or together as a force, the memorial is a place to remember the officers who gave their life with courage, valor, honor and dedication.

Hāku:

Transformed land masses
Dedicated towards loved ones
Space within a space

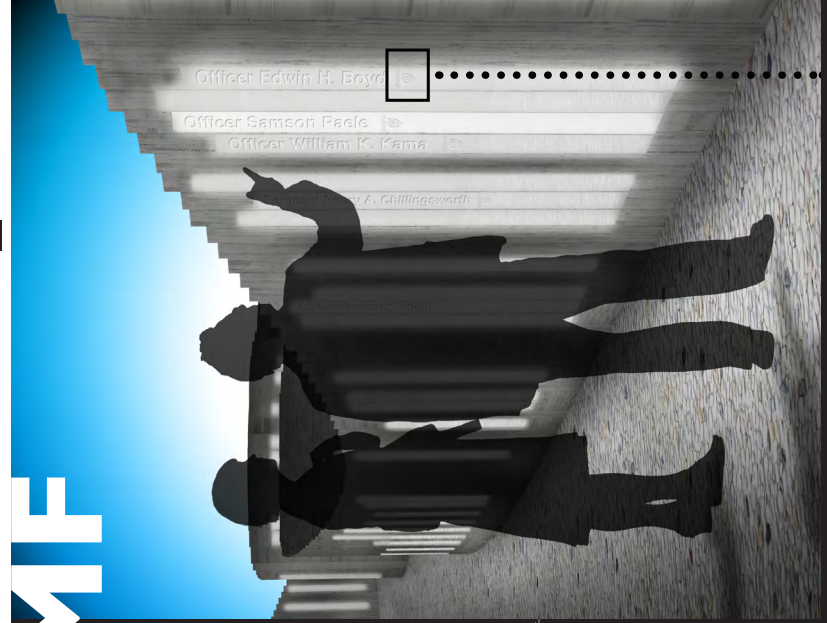
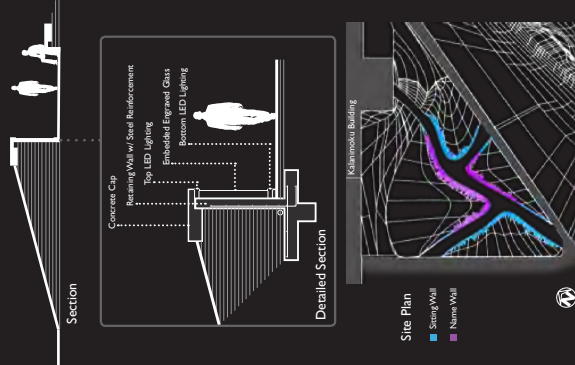


Figure 150: HLEMF First Prize Winner competition board (84" x 36" vertical format)

*CRITIQUE OF THE HAWAI‘I LAW
ENFORCEMENT MEMORIAL
FOUNDATION (HLEMF) COMPETITION*

Architectural Element: The Wall

In the Hawai‘i Law Enforcement Memorial Foundation Competition, a common architectural element between the winning memorial design and the author’s entry submission is the incorporation of a wall element. Both design teams played with the *wall* concept as a means to express the ideals of memorial. The following critique illustrates successes and failures of the wall idea that the competition jurors may have discussed during the deliberation procedure.



Figure 151. The author’s memorial design³⁷³



Figure 152: The winning scheme³⁷⁴

In architecture, walls (as other architectural elements) often serve multiple purposes. Walls can divide an area and help to organize multiple spaces; walls can

³⁷³ Image courtesy of the author, Richard Rivera

³⁷⁴ Image courtesy of Reid Okaneku

contribute to the structural stability of a building; a wall can enclose space to create a private interior; walls can even define a pathway.

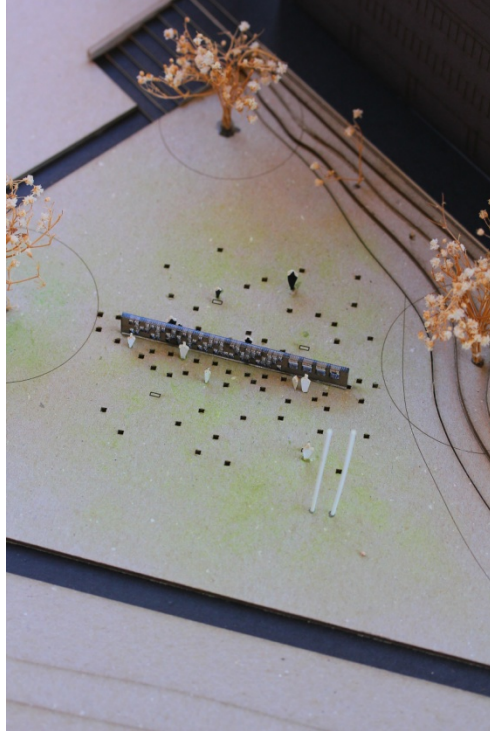


Figure 153. The author's memorial scheme is a quiet and simple sculptural gesture. However, it fails to provide the personal space that one may need for reflection³⁷⁵

The author's group designed a memorial in the form of a single, extruded and perforated wall. From a bird's eye view, the simple rectangular geometry stood in the middle of the site in lonely solitude. The design served primarily as a sculptural landmark; a marker that would only identify a piece of art (and not necessarily a memorial in itself) in a minimally designed site.

As the primary architectural role of a wall is to divide and serve as a boundary for a

³⁷⁵ Image courtesy of the author, Richard Rivera

space, this wall did not fulfill this initial purpose, among others. The memorial wall's site orientation was unsuccessful and arbitrary as no immediate clues deciphered a reason to its point of reference. However, the design had the potential to initiate a more successful reasoning if the wall's orientation had been rotated to point towards the Honolulu Police Department Headquarter at one end and the other towards the Korean and Vietnam Memorial next to the State Capitol building. If this articulation had been executed, it may have resulted in a more interesting design other than such a rigid and straight-line gesture.

As another purpose of a wall is to divide or enclose space; the wall in *Landscape Memory* did not. No personal space was designed so that individuals could partake in personal reflection. Rather, the wall was a rigid line with both sides left fully exposed – one side exposed to the sun, and the other, a shaded area. Hence, there was no secluded area for private reflection by visiting individuals, as a memorial should provide.

The winning memorial scheme also plays with the wall concept. In contrast to the author's *Landscape Memory* design, the idea is articulated to serve multiple purposes in a more successful practice.

First, the wall serves as a barrier and forms a dynamic enclosure from its immediate site. This method instantaneously differentiates the spot from its neighboring surroundings and identifies itself as a separate space. Thus, an enclosed memorial is designed for family and friends to reminisce in privacy.

Next, the wall is designed to be exposed on one side, while the other is filled-in with earth to form a gradual topography that

meets the top of the wall. The exposed vertical wall face becomes an intimate gallery displaying the names of law enforcement officers inscribed permanently into the concrete surface. The concrete slab also acts as structural reinforcement as the top of the wall becomes a grassy promenade that merges with the existing lawn. The new landscape mound compliments the hillside – a bermed parking structure – located on the mauka end of the memorial site.



Figure 154: The winning scheme successfully blends form and function as the curving wall gesture creates multiple types of spaces for the memorial, such as pathways, niches for reflection and even areas for seating³⁷⁶

In addition, a wall is a simple architectural element that not only encloses space to form personal niches but also defines pathways between them. The winning memorial design scheme displays this feature as two intersecting and meandering

paths connect to the existing trail bordering the site. Thus, passing individuals have the option of walking through the memorial, or to completely bypass it.

The wall element in the winning memorial design – represented in the model photographs – demonstrates positive effects of the design of this memorial on one hand, but also brings up negative features on the other.

Problems that are associated with elements acting as multiple purposes are evident in the work itself. In the winning design for example, the niches created by the meandering pathway and curving walls create positive and negative effects: (1) the cusps identify as a place – a private niche – for family and friends to respond to their fallen hero, but (2) may cause problems with public safety and maintenance.

Alongside these curving walls, these unobstructed niches seem as potential areas for homeless to take shelter and for late night wanderers to use as a privy. The risk that this situation may occur is moderate to highly probable as the hidden memorial space and high memorial walls provide immediate refuge for nomads seeking a temporary shelter.

Another drawback to the high wall (estimated at 5-6 feet in height) is that the inside spaces can become quite dark. In addition to the meandering spaces creating an obstructed view, it may be unsafe for individuals to walk through at certain times of the day and night. Although night lighting is proposed to be installed along the memorial walls to illuminate the interior spaces, it can still be unsafe as the inside spaces are hidden from immediate view.

³⁷⁶ Image courtesy of Reid Okaneku

To counter these problems, proper lighting installation (as indicated in the program requirement) may help to mitigate the situation. A security guard who will watch over the area during off-hours can also help to curtail the problem.

Architectural Elements as Symbols

Elements can be expressive in the way they communicate meanings, extract references, evoke metaphors and symbols, and in the way they tell stories. A design being assessed by a panel of jurors can be lifted out of the pragmatic and experiential to the level of allegory, in which some message is communicated through one's association with the design.

First, one must understand what the objective of this design competition is for: to design a monument to honor law enforcement officers from city, county, state, military, and federal agencies who have died in the line of duty. Now, while viewing the winning scheme from a bird's eye view, one can easily develop numerous relationships to the design problem.

If one looks at the shape of the pathway from a bird's eye view, one may see an allusion to a disfigured. Throughout history, the cross is one of the most ancient human symbols and is most common as a religious emblem. Thus, one can associate the memorial as a sacred place to mourn or reflect upon a loved one. Another individual may see an abstracted chalk outline of a human body such as those found at a hit-and-run site or a crime scene. Others may interpret the memorial plan as an addition or plus sign, or even the letter X, while another person may even

respond by seeing a letter from the Greek alphabet, *lamda* or *lamtha*.³⁷⁷

Allusion, allegory, association and metaphor are deliberately used in architecture to convey messages, meaning, propaganda and status in an open or psychological forum. However, one might want to escape the symbolic dimension of architecture because it seems fickle, rhetorical and prone to variable interpretation such as the example mentioned above.



Figure 155: The winning scheme (1' = 1/8" scale)³⁷⁸



Figure 156: Rosary in the hand with focus on the cross³⁷⁹



Figure 157. White concrete crosses to mark unidentified graves at Captain Joe Byrd Cemetery in Texas³⁸⁰

³⁷⁷ Lambda (uppercase Λ, lowercase λ) is the 11th letter of the Greek alphabet

³⁷⁸ Image courtesy of Reid Okaneku

³⁷⁹ Vladimir Koletic. "Rosary in the Hand with Focus on the Cross." *Cutcaster*, JPG, cutcaster.com/photo/100413168-Religious-moment/

Whether or not the designers of the memorial were subconsciously thinking of a metaphor or interpretation for the pathway, such tricks are used in design events such as architectural competitions to deliberately generate a striking idea and to stimulate discussion amongst the competition client and jurors.

It may be interesting to interpret the symbolic meaning of architectural design, but the symbolic meaning of works of architecture can be open to variable interpretation in different ways by different people. As illustrated in the pathway scheme of the winning memorial design, interpretations can be divergent, conflict and deviate from the designer's original intention. Having said that, there is no way of determining which (if any) interpretation is (in whatever sense) correct as the designer him/herself may have intended no symbolism at all.

Fickleness of interpretation has less scope when the symbolism is deeply rooted in the human psyche or when the language of symbolism is so well-established that it is shared and understood by all (within their particular culture). Thus, in architectural design competitions, it can be problematic to use symbolism that is not widely shared.

For example, in *Landscape Memory* the landscape design idea of embedding stones into the grassy lawn was inspired by the Northern Garden at Tofukuji Temple in Kyoto, Japan and the Memorial to the Murdered Jews in Berlin, Germany. Rather than portraying an artistic representation of a memorial design, it rather evoked a negative association by jurors to

resembling headstones in a graveyard setting.



Figure 158: Wall memorial rendering illustrating wall and stone landscape³⁸¹



Figure 159. The National Memorial Cemetery of the Pacific in Punchbowl, Hawai'i³⁸²



Figure 160. Design inspiration photographs taken at the Northern Garden at Tofukuji Temple (left) in Kyoto, Japan and the Memorial to the Murdered Jews (right) in Berlin, Germany³⁸³

Although the general population view a cemetery as a sacred, but uninviting place where families mourn a loved one on

³⁸⁰ Jim Willett. "TPM Article: Captain Joe Byrd Cemetery." *Texas Prison Museum*, JPG, www.txprisonmuseum.org/articles/cemetery.html

³⁸¹ Image courtesy of the author, Richard Rivera

³⁸² "National Memorial Cemetery of the Pacific, Punchbowl, Hawai'i." *Center for Excellent Living*, JPG, livingxlns.files.

wordpress.com/2010/12/punchbowl.jpg

³⁸³ Photographs courtesy of the author, Richard Rivera

occasion, other cultures around the world, such as in Mexico, accept the graveyard as a park-like setting where families can gather for frequent picnics and celebrations with the dead in mind. Although there are holidays, such as the Mexican holiday “Day of the Dead,” where death itself is celebrated, other societies still view death and cemeteries as a taboo.

In the case of *Landscape Memory*, the graphic illustrations depicting the idea of a pixilated and checkered landscape may have been an inappropriate design approach due to strong evocations to such a sacred and tabooed place.

An idea to curtail the focus on the embedded stones may have been in the digital renderings of the design. Additional human silhouettes could have been added to interact more with the memorial wall to suggest a place for reflection, rather than silhouettes of people sitting on the stone elements and, thus, enjoying the outdoors as in any park.

Another design approach could have been to space the stone landscape elements in a denser manner as shown in the Northern Garden of Tofukuji Temple in Kyoto, Japan. In the author’s design submission, the stones were spaced so greatly apart that it immediately evoked the idea of a cemetery due to the vast spacing between each stone element. If the stones had been placed in a denser and checkered pattern design, the visual illustration of a graveyard or cemetery may have been curtailed by a more artistic imagery.

Another element in *Landscape Memory* that is open to several interpretations is the perforated wall surface of the memorial wall. Inspired by a scene at Nanzenji Temple in Kyoto, Japan and the *brise-soleil* composition Le Corbusier’s *Unité*

d’habitation in Marseille, France, the designers wanted each perforation in the memorial wall design to designate a fallen law enforcement officer. This design element would then act as windows framing pieces of the surrounding landscape and structures with the interplay of light and passing time. The designers wanted to convey a poetic memorial gesture.

On the contrary, jury members connoted the design with the painful association of bullet holes, despite none of the authors’ intentions to signify anything of that matter.



Figure 161. Close-up of physical model³⁸⁴



Figure 162. Bullet holes on a wall³⁸⁵



Figure 163. Design inspiration photographs taken at Nanzenji Temple (left) in Kyoto, Japan illustrating a doorway acting as a picture frame to the nature

³⁸⁴ Image courtesy of the author, Richard Rivera

³⁸⁵ A. Kilroy. "Abkhazia – Sukhumi: Bullet Holes on a Wall." *Travel-Images*, JPG, www.travel-images.com/photo/photo-abkhazia13.html

beyond, and Le Corbusier's Unité d'habitation (right) in Marseille, France³⁸⁶

In any design exercise such as a design competition, participants must be aware of cultural and site sensitivity with regard to the client and the jurors. When participating in a design competition, competitors should be aware that designs will be perceived with different connotations through personal associations. The design competition for a memorial is an example that may evoke sensitive and painful reflections.

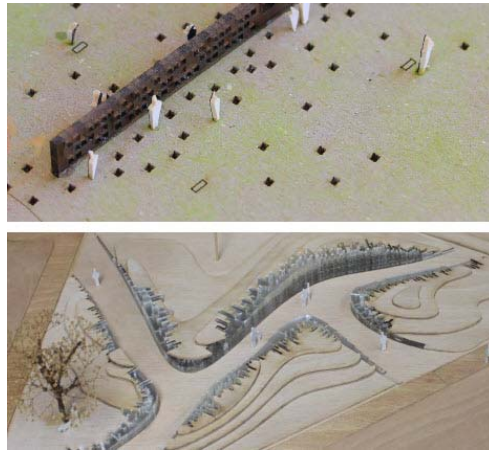


Figure 164. A site plan comparison between the author's finalist scheme versus the winning design



Figure 165. Vietnam Veterans Memorial. Competition Drawing by Maya Ying Lin³⁸⁷

³⁸⁶ Photographs courtesy of the author, Richard Rivera

³⁸⁷ "Vietnam Veterans Memorial. Competition Drawing by Maya Ying Lin." *PrintCollection*, JPG, www.printcollection.com/print/339

So why was one design more prone to interpretation than the other? It is a simple rationale. In architectural design competitions, competitors are asked by the client to submit various graphic representations and a physical model to help communicate the design intent in a clear and concise manner. Each detail that is illustrated on paper and in the model is prone to the interpretation of a diverse body of jurors who themselves comprise of different experiences. The tangible format of a physical model allows the client and the juror to view the design from numerous vantage points, sparking initial thoughts on how the spaces will be perceived – thoughts, which are usually perceived from past personal experiences.

In the winning scheme for the memorial, the symbolisms and meanings were positive and plentiful to various interpretations, whereas in the author's design submission, the interpretation of symbolism was not so discreet. Looking at the winning scheme from a bird's eye view, one can easily formulate a rationale behind the design that is not easily noticeable from the ground level as one approaches the site. The individual will only see the bermed landscape, the memorial wall, and not the cross, the chalk outline of a human body, the letter *X*, or the Greek letter *lamda*. In contrast, the design of *Landscape Memory* seems to bring visitors immediately to the reality of *death* and *pain*. Thus, the experience that is sensed through the space defeats the interpretation. One also wonders why a reference to death and pain is not desirable when that is what those commemorated experienced.

In architectural design competitions, it can be problematic to use symbolism that is not widely shared. People who have the resources to produce works of architecture

may operate with a symbolic 'language' which is different from that accepted and understood by those who will encounter their buildings, though the dialect interplay may be dynamic – unfamiliar symbolism may come to be widely accepted and understood with time, such as the Vietnam Veterans Memorial in Washington D.C.

*THE EVOLO 2011 SKYSCRAPER
COMPETITION*

*What is a skyscraper in the 21st century?*³⁸⁸

As the world's population amplifies in number, the contemporary city is faced with numerous economic, social, and cultural problems that include the scarcity of natural resources and infrastructure. In conjunction with the exponential increase of inhabitants, issues of pollution, economic division, and unplanned urban sprawl also escalate. The unprecedented shift from rural to urban areas often results in rapid growth of new developments without sufficient urban planning and poor architectural design. Thus, the annual eVolo Skyscraper Competition is a forum for the discussion, development, and promotion of innovative concepts for vertical density in the contemporary city.³⁸⁹

Launched in 2006 by eVolo Magazine,³⁹⁰ the annual eVolo Skyscraper Competition is one of the world's most prestigious awards for high-rise architecture. The competition recognizes outstanding ideas that look to redefine what we understand as a skyscraper through the initiation of novel technologies, new materials, programs, aesthetics, and spatial organizations along with studies on globalization, flexibility, adaptability, and the digital revolution. Taking into consideration these multi-layered elements, the contest serves as a forum that examines the relationship between the skyscraper and the natural world, the community, and the city in

³⁸⁸ "2012." eVolo | Architecture Magazine. www.evolos.com/category/2012/ (accessed September 28, 2011).

³⁸⁹ "2012." eVolo | Architecture Magazine. www.evolos.com/category/2012/ (accessed September 28, 2011).

³⁹⁰ A publication about architecture and design.

hopes to generate and experiment with ideas that potentially modify and improve our way of life within a dynamic and adaptive vertical community.³⁹¹

The Competition

The official kick-off for the eVolo 2011 Skyscraper Competition occurred in mid-summer of 2010 when the competition announcement was advertised on the eVolo Magazine website as well as on other numerous architecture and design webs.³⁹² That same day, individuals who had subscribed to the eVolo web-newsletter received the competition notice in their inboxes indicating the beginning of the registration period and the acceptance of inquiries about the competition.

The Program

The eVolo 2011 Skyscraper Competition is a forum for the stimulation, discussion, development, and promotion of imaginative and innovative concepts for vertical density. Potential solutions for the design problem look to investigate the adaptation and sustainment of dynamic and adaptive high-rise architecture and novel habitats in the contemporary city. Yet the competition program and its conditions detailed no restrictions concerning site location, building program or size for the hypothetical structure. Competitors as well as jurors were asked to address an open competition brief.

Instead of restrictions, competitors were posed with questions to ponder in deciding

³⁹¹ “2012.” eVolo | Architecture Magazine. www.evolo.us/category/2012/ (accessed September 28, 2011).

³⁹² The thread to the eVolo Magazine website is www.evolo.us/category/competition/

which way to approach the design problem: What is a skyscraper in the 21st century? What are the historical, contextual, social, urban, and environmental responsibilities of these mega-structures?

The competition announcement did indicate an approach to the 21st century skyscraper in that the design solution should be “based on a dynamic equilibrium between man and nature – a new kind of responsive and adaptive design capable of intelligent growth through the self-regulation of its own systems.” Aside from this intimation, the design competition serves as an open and flexible forum. It gives competitors maximum freedom to engage the project without constraints in the most creative means.

The Competition Format

The eVolo Skyscraper Competition is an international contest open to architects, students, engineers, designers, and artists from anywhere in the world. Individual and team submissions were welcomed. Multidisciplinary teams were encouraged with no limit to the number of people involved. Additionally, there was no restriction to the number of submission entries. Design proposals were only accepted digitally with no hardcopies. .

Interested participants had nearly four months to meet the early registration deadline with a fee payment of US \$65. Late registrants, who entered by January 2011, were charged an additional US \$20 (US \$85 total). In addition, participants were given four months to email inquiries regarding the competition with responses posted on the eVolo website a week later.

Organized as a single-stage ideas competition format, the contest also respected the anonymity of its participants – each individual or design group was given a registration number after their initial registration process was complete. This registration number was a participant's only form of identification. Project submissions were required to be digitally transmitted in a ZIP file containing the following files: two – 24" x 48" horizontal format boards, a 600-word Word document file of the project statement, and a Word document file containing the entrants' personal information. Each of these files was required to be labeled with the individual or design group's registration number for identification.

The competition condition established the project submission deadline for January 2011 and the announcement of winners to be held a month later. However, the winning design entries and honorable mentions were announced more than a week after the programmed date.

Magazine eVolo received 715 projects from 95 different countries and five continents.³⁹³ The jury panel of the 2011 skyscraper competition was formed by leaders of the architecture and design fields and culminated in the selection of three winners and 32 honorable mentions.

³⁹³ "2011." eVolo | Architecture Magazine. www.evolo.us/category/2011/ (accessed September 29, 2011).



Figure 166. Rendering of *The Habitat* on the High Line in New York³⁹⁴



Figure 167. Author's sketch³⁹⁵

THE HABITAT: A VERTICAL + HORIZONTAL ZOO SKYSCRAPER COMPETITION ENTRY

This section is a record of the skyscraper design entry, *The Habitat: A Vertical + Horizontal Zoo*, which the author submitted for the 2011 eVolo Skyscraper Competition.

Design Concept

For many centuries, the wild habitats of animals have been and continue to be destroyed or fragmented for agricultural use and new city construction; animals in-turn search for new territory to roam or face extinction. When Mother Nature begins to reclaim her land, humans and animals are forced to live co-dependently and ecologically together in a vertical urban community.

The Habitat trials with two typologies: zoo architecture and skyscraper. The design solution is a novel urban hub that provides the new dynamic city opportunities for eco-chic practices to fuel and improve the way humans and animals live.

Site

The Habitat is placed in the dense urban fabric of New York City, a busy metropolitan characterized by tall buildings that rise vertically into the open sky. *The Habitat* sits above the New York City High Line Park, a once abandoned thirty foot freight line that has been rejuvenated into a hip and urban green promenade that zigzags through Manhattan's Meatpacking and Chelsea Districts. This specific site was selected to maximize the working effort between the zoo and the park below, and to provide the large population

³⁹⁴ Image courtesy of the author, Richard Rivera

³⁹⁵ Image courtesy of the author, Richard Rivera

surrounding the area with maximum natural benefits.



Figure 168. View of the New York skyline from the Rockefeller Center³⁹⁶



Figure 169. Photographs taken at the High Line Park in New York City³⁹⁷

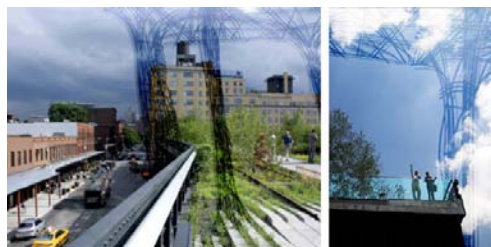


Figure 170. Renderings illustrating *The Habitat* on the High Line Park in New York City³⁹⁸

³⁹⁶ "New York Skyline - View from the Rockefeller Center." *Earth in Pictures*, JPG, www.earthinpictures.com/world/usa/new_york/new_york_skyline_-_view_from_the_rockefeller_center_1280x960.html

³⁹⁷ Photographs courtesy of the author, Richard Rivera

³⁹⁸ Image courtesy of the author, Richard Rivera

In stimulating and simulating the natural environment, animals balance the man-made concrete jungle or natural desert habitation. *The Habitat* structures can be easily conceived in other locations around the world – such as Tokyo, where *The Habitat* provides nutrients for the cherry blossom trees of Ueno Park and Abu Dhabi, where *The Habitat* provides shade and nutrients to the desert life below.

The design of *The Habitat* not only towers over tree canopies, but lends itself to the backdrop of colossal buildings. Like a stroll along the High Line, *The Habitat* gives visitors a new setting to view animals as well as the city from a different vantage point.

Skyscraper Architecture

An elongated snake-like form merges the water street landscape with the new zoo habitat itself – an ecological building containing essential programs for energy collection, recycling, and distribution. Functioning as a zoo, the concept behind the design is for the structure to take advantage of all energy it collects and produces. It then distributes that energy to power the city life around it.

While the skin and bones of a building are composed of floor plates supported by columns, the prominent zoo-scraper structure redefines the expression of these basic components. A push-pull articulation transforms the traditionally tall and rigid skyscraper building into a horizontal structure with an organic and undulating form. This introduces *The Habitat* to the benefit of sustainable practices in a modern eco-chic: the undulating building form encourages a chimney effect while the aperture skin of the building filters daylight and natural ventilation. Like the intricate

infrastructure of train networks concealed beneath busy New York City, the zoo's unique structural and dynamic building enclosure will conceal an intertwined grid of HVAC, multi-transport lifts, and waste recycling distribution systems between the street level, the urban park and the zoo-scraper.

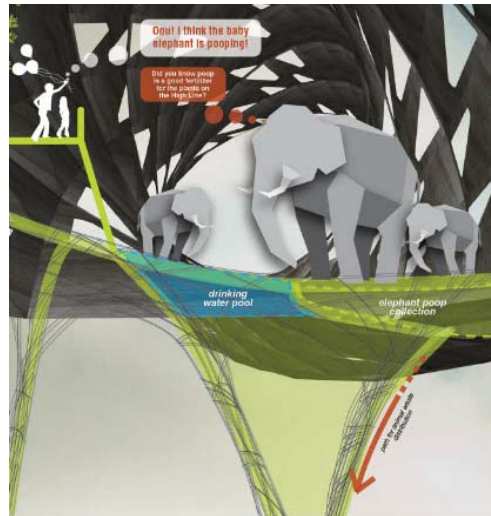


Figure 171. Diagram to illustrate the waste distribution (nutrient recycling) system to the park or landscape below *The Habitat*³⁹⁹

The zoo-scraper's principle *green* practice is the waste distribution (nutrient recycling) to the park landscape below the structure. The park's vegetation will in turn become feed for the animals housed in the zoo. Rainwater will help to irrigate plant life via a network of conduits interwoven within the structural skeleton. Daylight and wind percolates through the perforated façade. The dimples and cones of the building will release heat using the chimney effect. Apertures open and close based on climate conditions. The outer skin-like layers are photovoltaic and adjust to the energy needs of the area within and below to generate electricity for the zoo and the city.

³⁹⁹ Image courtesy of the author, Richard Rivera

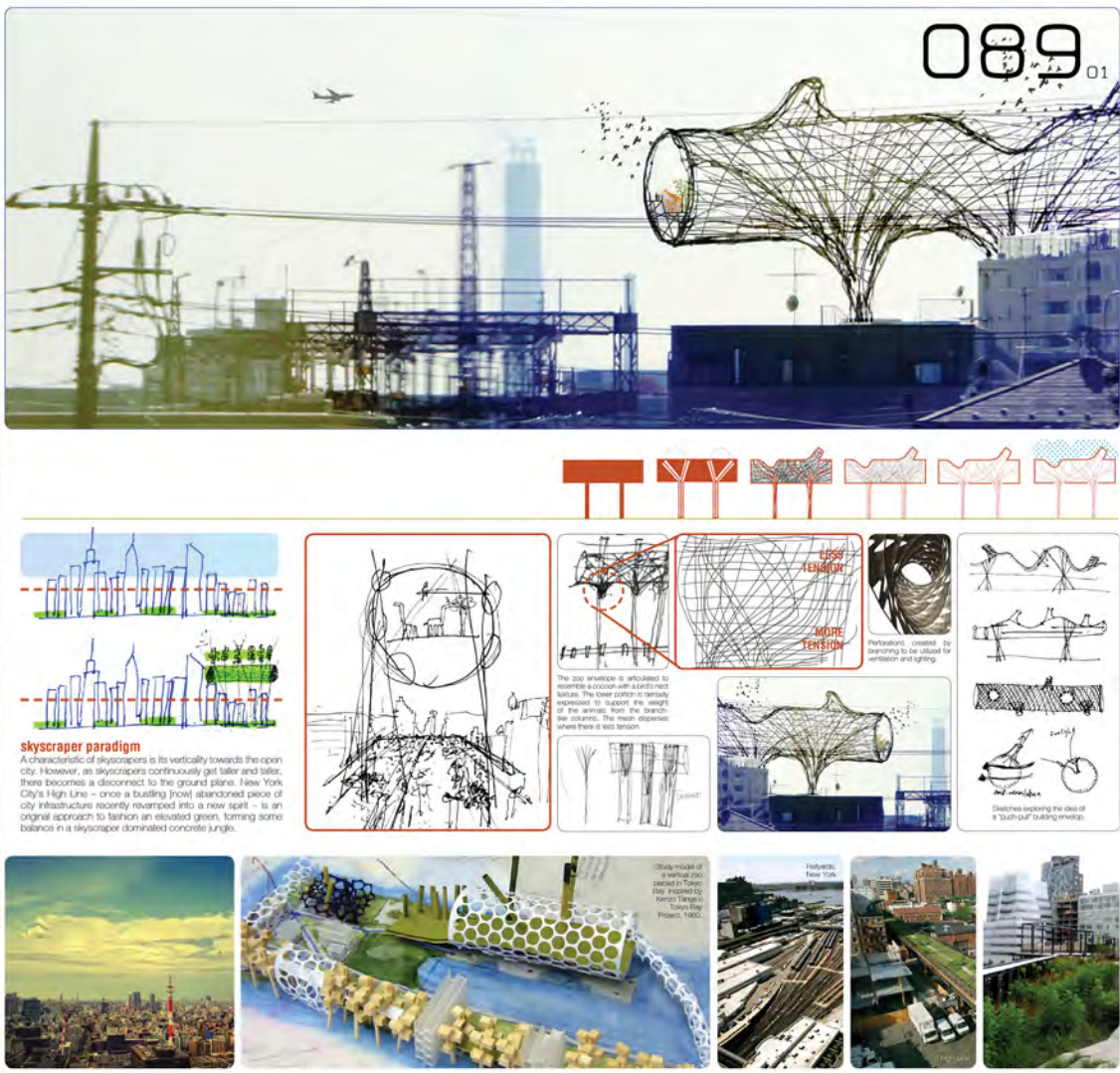
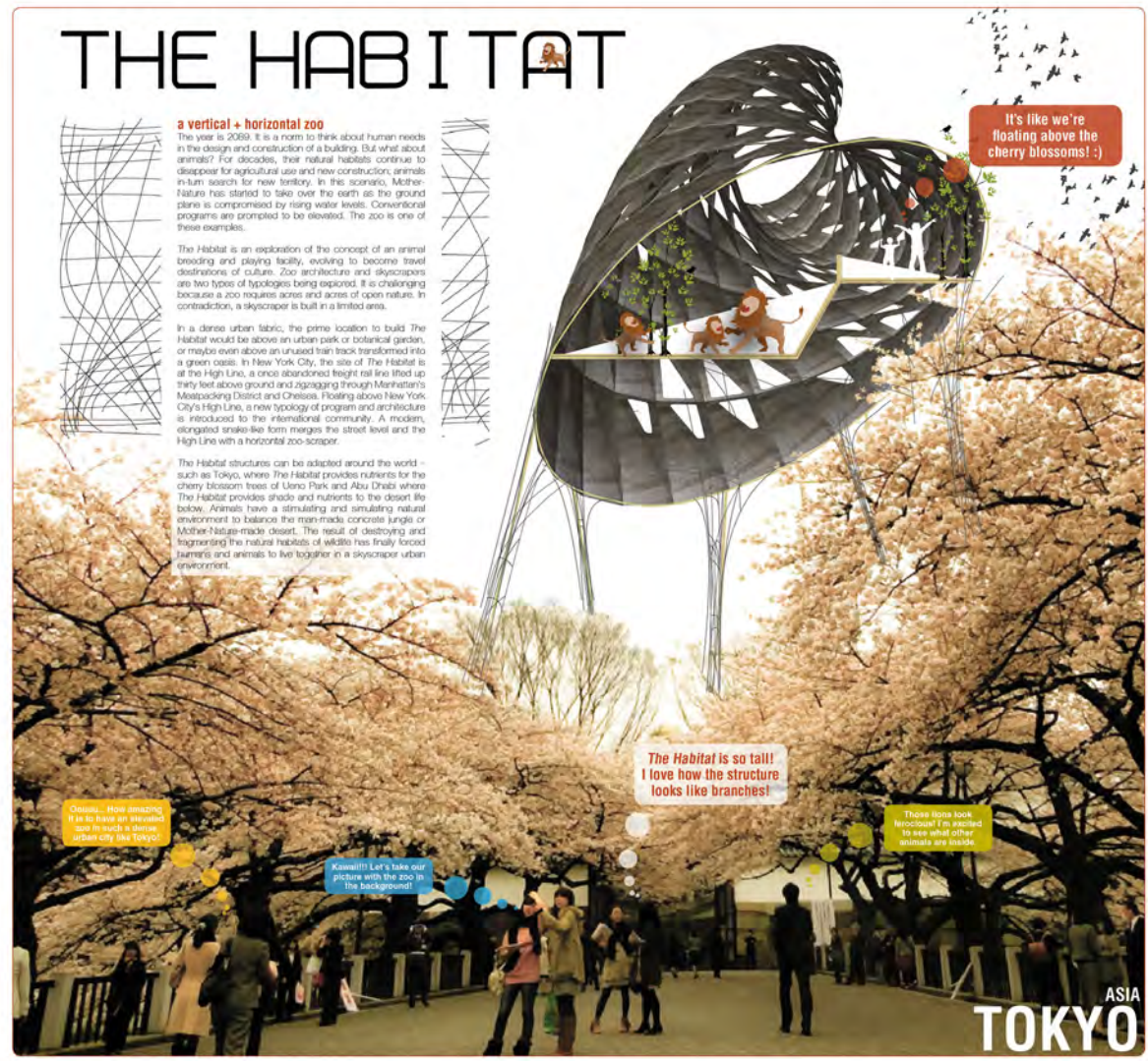


Figure 172: 2011 eVolo Skyscraper Competition, The Habitat, submitted by the author, competition board 1 (24" x 48" horizontal format)

ZOOSCRAPER

Giraffes
Lions
Birds
Elephants
Bears

floor plate
100-foot tall

a traditional building
While the skin and bones of a building are composed of floor plates supported by columns, the primary structure is composed of the aggregation of these floor components.

transformation
A push-out structure transforms the traditional box to correspond to the horizontal and vertical requirements of the animals housed within the structure.

tree nest zoo
The zoo's unique structural and dynamic building structure will contain an integrated grid of HVAC, multiple transport (to and from) and waste recycling distribution systems between the street level, the urban park and the zoo stage.

transport
Visitors will be carried to the zoo stage by elevators located along the columns. Larger columns will accommodate for animal and service lifts.

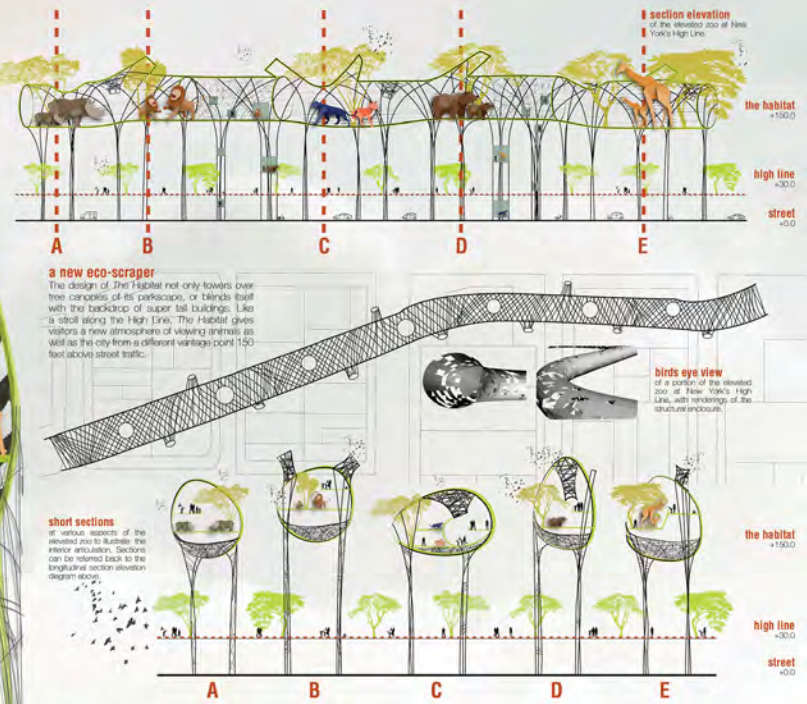
sun + wind
Design and construction through the perforated facade. The design and construction will utilize solar and wind energy using the chimney effect. Apartments open and close based on climate.

water recycling
High water will be recycled from the structural sections.

Look dad! The giraffe is taller than the Empire State Building!

Yes, it is! The zoo-scraper has an amazing view of our city!

**NORTH AMERICA
NEW YORK**



089 02

Ooo! I think the baby elephant is pooping!

Did you know poop is a good fertilizer for the plants on the High Line?

drinking water pool

elephant poop collection

eco-hic zoo
The Habitat benefits from sustainable opportunities in a modern eco-city. The zoo-scraper's unique "green" practices will be waste distribution (nutrient recycling) to the park or landscape below the structure. The park's vegetation will in turn become food for the animals housed in the zoo in and climates such as Abu Dhabi. The Habitat provides shade and nutrients to the desert oasis below. The Habitat's outer layers are produced and adjust to the energy needs of the area within and below to generate electricity for the zoo and city.

the habitat +150.0
desert oasis

**MIDDLE EAST
ABU DHABI**

Figure 173: 2011 eVolo Skyscraper Competition, The Habitat, submitted by the author, competition board 2 (24" x 48" horizontal format)

*Competition Experience +
Recommendations*

The 2011 eVolo Skyscraper Competition was an individual pursuit by the author. The competition was initiated as a graduate level Directed Work Project under Professor Leineweber in the academic semester of Fall 2010. The primary motivation for the author's participation was the exploration of the skyscraper typology inspired by the author's one year of Practicum Experience in New York City – a busy and cultural metropolitan characterized by its dense urban fabric of tall buildings.

New York City is a cultural mecca – a densely populated metropolis of lights and sounds, pedestrian and traffic movement, historic and modern buildings. Living out my Practicum Experience for one semester, and subsequently taking an academic semester off to live and work in the Big Apple – a city coined for skyscrapers – allowed the author to experience and observe its aggressive, cultural and corporate identity.

Among the many attractions of New York is the rich architectural presence. Many dominate the skyline such as the Empire State and Chrysler Buildings. Others are nestled on the pedestrian level in the form of storefronts and building envelopes such as Steven Holl's Storefront for Art and Architecture. Many are hidden inside a building itself and take on the gesture of interior design such as Rem Koolhaas' sculptural Prada interior. Iconic and landmark buildings such as Minoru Yamasaki's World Trade Center Twin Towers were once powerful skyscraper symbols of economy. Although only their footprints remain, their absence has allowed designers to visualize and transform the void into a new significance

through the unique window of architectural design competition.

Thus, for this particular design competition, the author looked towards New York City, the High Line Park – an elevated stretch of green nestled in between old brick factories, and new structures made of steel, glass and concrete – as the source of design inspiration.

Working independently on the competition, with weekly guidance and critiques from Leineweber, the author had to assume the three primary roles – the leader/project manager, the designer, and the director of production – as discussed in the Hawai'i Law Enforcement Memorial Design Competition.

Although some individuals find it more efficient to develop teams to tackle a design competition, others also prefer to work alone. In group work, the mere idea of dividing a list of tasks with the bouncing off ideas is appealing; however, working alone has its attraction as the individual can take on the sole responsibility of performing the competition tasks in applying one's most personally appropriate methods.

For this particular competition, the author chose to work independently for several reasons: (1) the author had a design idea he alone wanted to explore and believed that a group format would deter him from that path; (2) the author was inspired to develop a design based on his own experiences in New York City, which group members may not have understood; and (3) the author's hefty class load caused conflicts in scheduling a time to meet with potential group members.

A competition schedule that paralleled the academic calendar, yet allowed for

leniency, was another important aspect for the author in selecting the competition. The competition schedule for the eVolo contest was perfect in that the author had the entire Fall 2010 academic semester to work on design. That semester, the author was also juggling 15 graduate credit hours and a part-time job. The eVolo competition schedule allowed sufficient time to work periodically on the design throughout the week. The project submission deadline was set for the fourth week of January 2011, only one week after the start of the Spring academic semester. Thus the author had Winter Break to finalize the design process, to draft up a project statement, and to begin composing board layouts for submission.



Figure 174. Ferris wheel-inspired skyscraper located in New Delhi, India⁴⁰¹



Figure 175. The skyscraper's interior program will include gardens, mixed-use housing and a recycling center⁴⁰²

LO2P: DELHI RECYCLING CENTER COMPETITION WINNER

The next section delves into the overview and analysis of the winning design entry for the eVolo 2011 Skyscraper Competition. First place was awarded to Atelier CMJN (Julien Combes, Gaël Brulé) from France for their 'LO2P Recycling Skyscraper' in New Delhi, India. The project is designed as a large-scale wind turbine that filters polluted air with a series of particle collector membranes, elevated greenhouses, and mineralization baths.

Design Concept

The 2011 eVolo Skyscraper Competition was captured by French design practice Atelier CMJN, Julien Combes and Gaël Brulé. *LO2P: Delhi Recycling Center* takes the idea of a giant Ferris-wheel-like mixed-use housing with a central turbine to filter the polluted air of New Delhi. Functioning as a recycling center, the concept behind the design is to use and recycle all of its energies. The building takes advantage of every energy it produces and makes use of all its wastes.

Site

The LO2P skyscraper is conceived as a giant turbine that would be placed in New Delhi, Delhi India. New Delhi is one of the most polluted cities in the world due to the exponential increase in population. Traffic and pollution from vehicles are a major city issue.

⁴⁰¹ Julien Combes and Gaël Brulé. "LO2P: Delhi Recycling Center." *eVolo | Architecture Magazine*, JPG, www.evolo.us/competition/lo2p-delhi-recycling-center/

⁴⁰² Julien Combes and Gaël Brulé. "LO2P: Delhi Recycling Center." *eVolo | Architecture Magazine*, JPG, www.evolo.us/competition/lo2p-delhi-recycling-center/



Figure 176. New Delhi Skyline⁴⁰³



Figure 177. Traffic jam at Mathura Road in New Delhi (left)⁴⁰⁴ and Old Delhi (right)⁴⁰⁵



Figure 178. Poverty outside New Delhi, India (left)⁴⁰⁶ and an image of the many slums in the country (right)⁴⁰⁷

In New Delhi, busses account for less than 1% of vehicles on the road and serve

⁴⁰³ "New Delhi Skyline." *Outdia*, JPG, outdia.com/images/New_Delhi_Skyline_web.jpg

⁴⁰⁴ "Traffic Jam at Mathura Road During India International Trade Fair at Pragati Maidan in New Delhi." *India-Forums*, JPG, www.india-forums.com/wallpaper/1280x800/82396-traffic-jam-at-mathura-road-during-india-international-trade-fai.htm

⁴⁰⁵ Lionel Bodilis. "India, Old Delhi - Chandni Chowk." *NowPublic*, JPG, www.nowpublic.com/world/india-old-dehli-chandni-chowk

⁴⁰⁶ D. Fretz. "Geography Dept. – Mr. D. Fretz." *First Class® Information*, JPG, web.dsbn.edu.on.ca/~derek.fretz/

⁴⁰⁷ "Is India's Government Redefining Poverty to Improve the Country's Image?" *Pigeon Project*, JPG, pigeonproject.com/2011/05/29/is-indias-government-is-redefining-poverty-to-improve-the-countrys-image/

almost half of Delhi's travel needs.⁴⁰⁸ Additionally, it is estimated that the number of cars grows by one-thousand per day.⁴⁰⁹ As the city converts to public transportation and more fuel efficient vehicles, the older, polluting cars will become obsolete. However, automobiles are still resources that can be used.

Atelier CMJN proposes to take these old cars and recycle them for parts and materials in order to construct their circular skyscrapers.

Skyscraper Architecture

The idea behind this skyscraper is to transform wastes into resources as they are no longer deemed merely unusable materials. Today the potential of reusability is greater in manufactured products than in traditional resources such as oil, which cannot be salvaged and disappears after its initial use. In addition, the energy that is created by bio-products is healthier and cleaner for our environment.

The driving force that captures the imagination and pulls the concept together is what the giant turbine is forged out of – old cars. The idea is to recycle the old cars from local junk piles and to use them as building material for the new structure. In other words, the most dominant factor that pollutes the atmosphere in modern society will be the main design element that cleanses it.

⁴⁰⁸ "LO2P: Delhi Recycling Center." *eVolo | Architecture Magazine*. www.evolo.us/competition/lo2p-delhi-recycling-center/ (accessed September 29, 2011).

⁴⁰⁹ "LO2P: Delhi Recycling Center." *eVolo | Architecture Magazine*. www.evolo.us/competition/lo2p-delhi-recycling-center/ (accessed September 29, 2011).

LO2P is one part recycling center, one part power plant and one part air filter – waste goes in and clean energy, air and food come out.⁴¹⁰

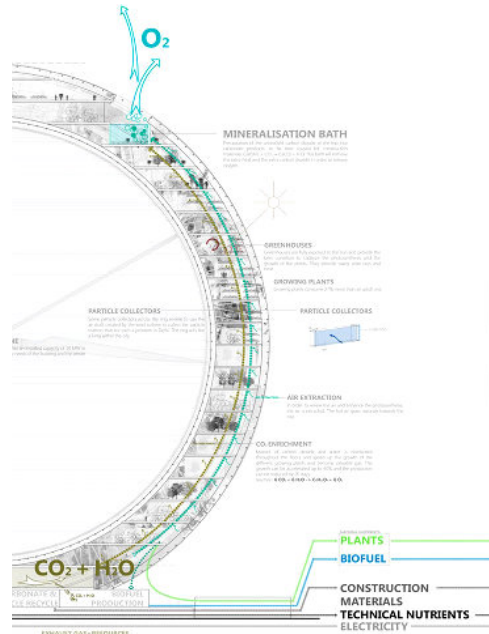


Figure 179. Diagram illustrating the ecological benefits of the design⁴¹¹

The towering greenhouse is designed as a giant lung that would purify New Delhi's air through a series of large-scale greenhouses that serve as filters. The recycling loop serves as the structure for the large wind turbine as well as photovoltaic panels on the exterior that generate clean energy.

⁴¹⁰ Meinhold, Bridgette. "LO2P: Delhi Recycling Center Announced Winner of 2011 eVolo Skyscraper Competition." *Inhabitat - Green Design Will Save the World*. <http://inhabitat.com/lo2p-giant-green-ferris-wheel-recycling-center-wins-the-2011-evolo-skyscraper-competition/> (accessed September 29, 2011).

⁴¹¹ Julien Combes and Gaël Brulé. "LO2P: Delhi Recycling Center." *eVolo | Architecture Magazine*, JPG, www.evolo.us/competition/lo2p-delhi-recycling-center/

The recycling center at the base of the tower captures particles in the air, pumping fresh air into the city. The energy produces waste heat and carbon dioxide, which is then used by the greenhouse to produce food for the community. The plants in turn produce bio-fuel energy.

Atelier CMJN's round skyscraper certainly does evoke some thought about how a skyscraper might look. The simple shape of a circle makes this interesting, since skyscrapers are traditionally thought of as super tall and straight buildings.

Interesting to note is the circular shape of the skyscraper, which mimics the center-piece of the National Flag of India: an iconic wheel imagery symbolizing an ancient depiction of the Indian Dharma chakra. The wheel – "Ashoka Chakra" consists of 24 spokes, each spoke symbolizing a spiritual principle. In addition, each spoke is said to depict one hour of the day.⁴¹²

Today ambitious and optimistic skyscraper design can be easily manipulated with the aid of advanced computer drafting and graphics. However, skyscrapers continue to maintain a rigidity, quite possibly due to elevators. Until a resolution is achieved to incorporate an efficient vertical transport system in more organic building forms, straight and rigid skyscrapers will continue to be the norm.

The recycling loop is an ingenious and ambitious concept relying solely on wastes for its input stream to produce valuable materials and cleaner air. Like a vertical garden, the LO2P is an eco factory and is easily conceived in other locations around

⁴¹² "National Flag of India." http://orange.hubpages.com/hub/national_flag_of_india (accessed September 29, 2011).

the world. The design is awe-inspiring as a creative solution to a modern way of envisioning the ecological skyscraper of the future – a design trend that is becoming more common in today's practice.

LO₂P - DELHI RECYCLING CENTER

Problems such as global warming, pollution, depletion of the resources and health problems have gained considerable interest lately. In particular, large and densely populated cities such as Delhi tend to create high amount of pollutants with very high population, which results in very serious health problems.

CITY ISSUE

In the case of Delhi, traffic is a major problem. It is the main responsible of air pollution and causes many health problems. Delhi's commuters and government have had to face a dramatic increase in pollutants resulting from the large number of personal vehicles. In addition, the city has a high density of small, 2 and 3-wheeled vehicles equipped with 2-stroke engines, which emitted more than 70 percent of hydrocarbons and 50 percent of carbon monoxide in Delhi. Overhead, poorly maintained buses and diesel trucks are also responsible for the air quality. The concentration led to a dramatic rise in pollution from total suspended particles (TSP) which reached a high of 450 µg/m³ in 1996. The city is the largest city in India by its size, the second by its population, with more than 22 million in the whole concentration. Delhi represents India:

- The fourth most polluted city in the world in terms of suspended particulate matters
- 8000 premature deaths due to traffic
- 70% of the pollution due to car traffic
- 13000 more vehicles than in Delhi

Since the early 1990s, India Ministry of Environment & Forests (MOEF) has undertaken a multi-pronged approach to solving Delhi's air pollution problem. Officially recognized early on that vehicles contributed almost two-thirds of total pollution figures and initially focused their efforts on converting Delhi's public transportation fleet to cleaner fuels, the first Compressed Natural Gas (CNG) bus was launched on an experimental basis in 1998. Negotiations between the local and national governments and private contractors, culminated in 2002 with the progressive conversion of city buses. Delhi now boasts the largest fleet of CNG-powered buses in the world, and has invented its unique network of CNG stations to cater for the demand. While buses account for less than 4% of vehicles on the road, they serve almost half of Delhi's travel needs.

WASTES = RESOURCES

The recent rise of the price of oil has raised awareness that humans had considerably tapped into oil resources and that we only had a few years left if humans kept up with the same rhythm. However, global resources in general have dramatically shrunk in the last two centuries and oil should not be the tree that hides the forest. Materials such as iron, aluminum, or ordinary have between 5 and 15 years left of resources. Also, most of the manufactured products such as cars which rely on fossil fuel materials are going to become obsolete when they sell out. At this time, the quantity of manufactured materials will be higher than the resources. Therefore, the current one-way flow "resources to product to waste" needs to be revised and then recycled. We need a dramatic shift of paradigm: wastes are no longer wastes; they are resources.

Manufactured products such as cars are rich in natural nutrients that can be recycled and reused. Metals and technical nutrients that are products extremely valuable for the industrial sphere such as copper, chromium, indium, though harmful for the environment, to products, the so-called non-toxic nutrients according to the code of noble engineering. For example, we take the waste of the steel, it means natural nutrients (steel) that could decompose naturally in normal conditions with technical nutrients such as chromium coming from the tanning, extremely valuable for the technical sphere. By mixing them, the product can no longer decompose safely and the technical nutrients are lost for the technical sphere. Therefore, it seems that the potential now is higher in the manufactured products than in the actual resources. Therefore, we need to see wastes as resources and manufactured products as pools of useful nutrients.

CONCEPT

The project is a recycling center made of recycled cars. Because of the development of the public transportation system and the depletion of their resources, personal vehicles are going to be replaced and their number will significantly decrease. Instead of throwing them, we will use them as resources. Composed of 74% of metal, they provide good material for construction. Therefore, manufactured products which have reached their entire life are the base of our new environmental device. In its functioning, it uses and recycles all of its energies. It provides new materials and services to the city. It is a wonderful laboratory and experiment, a new kind of project that meets the current one-way process turning resources into wastes. We dream of a project that would turn waste back into resources, something that would look like:

Wastes + Pollution + CO₂ → Resources + O₂

We aim at reversing the flow that turn resources into wastes. Ultimately, all the products should circulate all the technical nutrients should circulate in the technical sphere and all the natural nutrients should be reused in the natural sphere. All the gas that are produced should be consumed somewhere else. Vertically and horizontally in use. Let's cycle.

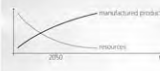
The movement itself is, by its shape, a tribute to cycling. **LO₂P** is a metaphor of cycles, of the production of energy, of a real change of relationship with nature. The building takes advantage of all the energy it produces, makes use of all its wastes. The one-way resource to waste process is over, the relationship between man and nature is now based on cycles. It combines efficiency, state of the art separation processes, purifying of the air through natural processes, renewable energies and production of renewable fuel for vehicles. Finally, the whole ring cleans up the major environmental problem in Delhi: the suspended particulate matters. Through a series of drying fans, the particles are separated and trapped in a net, thus cleaning up the air. It becomes a green wind, which cleans and helps the city.



**HIGH TRAFFIC
AIR POLLUTION
CAUSE HEALTH PROBLEMS**



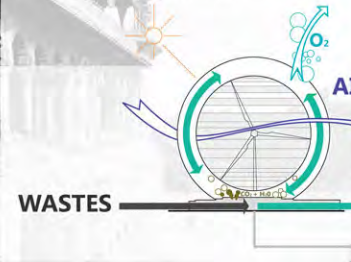
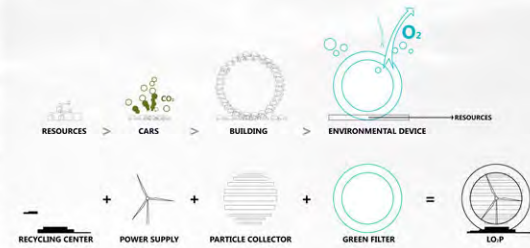
**PUBLIC BUSES
1% OF THE VEHICLES
50% OF TRAVEL NEEDS**



RAW MATERIALS DEPLETION



**WASTES = RESOURCES
NATURAL NUTRIENTS
TECHNICAL NUTRIENTS**



WASTES + POLLUTION + CO₂ → RESOURCES + O₂

LO₂P RECYCLING CENTER & CITY AIR FILTER

0212

CITY VIEW

Figure 180: 2011 eVolo Skyscraper Competition, LO₂P: Delhi Recycling Center, First Prize Winner competition board 1 (24" x 48" horizontal format)

LO₂P - DELHI
RECYCLING CENTER

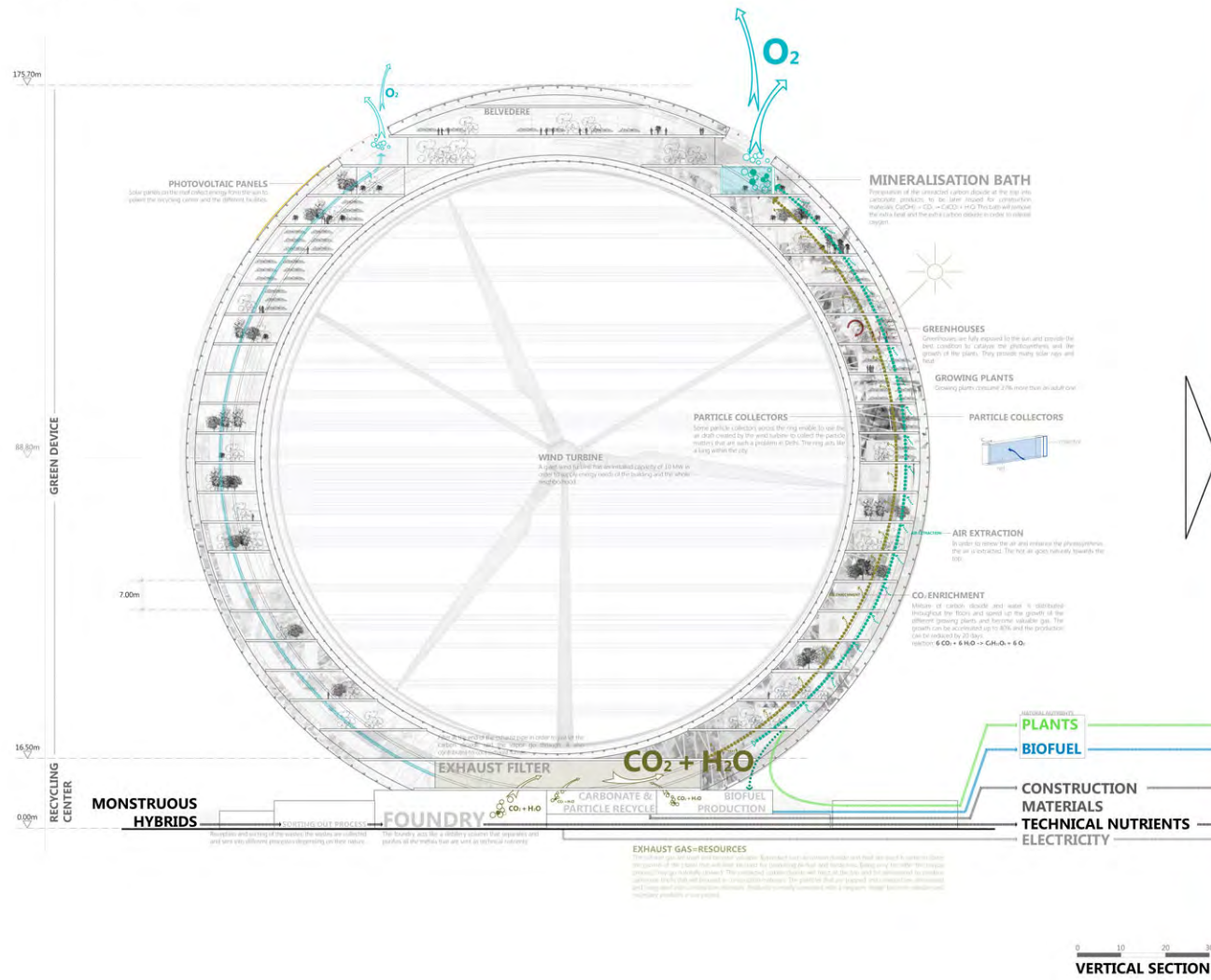


Figure 181: 2011 eVolo Skyscraper Competition, LO2P: Delhi Recycling Center, First Prize Winner competition board 2 (24" x 48" horizontal format)

*CRITIQUE OF THE EVOLO 2011
SKYSCRAPER COMPETITION*

Analyzing the Competition Program

The purpose of the eVolo Skyscraper Competition is to redefine the skyscraper with the use of novel technologies, new materials, and program aesthetics within the flexible, adaptable, and digital revolution.

The Habitat explores the idea of people living with animals; rather than a dominant vertical structure, the shape is stretched horizontally. The submission did not meet the requirement of forward-thinking novel technology.

The result seemed to be determined more as a focus towards form than function. The form illustrated a passive strategy of technology such as natural ventilation and sunlight, chimney effect, and water recycling. It is like comparing the idea of sustainability between a cave (which provides the necessities of shelter) and a house that is fitted with PV, electric saving appliances, etc. The competition is about the latter option.

The sustainable practices mentioned in reference to this building can be applied to common skyscrapers and structures today. It does not explore future technology enough, but is rather stuck in the *now*.

There is no mention of specific materials for the structure, rather the idea is simply to build with steel.

The Habitat acts as a battery for the city by absorbing natural energy in the forms of sunlight, wind, water, and waste, and releases this captured energy back into the

city. The idea of web skin is lost in the building form and lost in translation.

LO2P redefines the idea of a vertical garden, which is common enough, but adds to the body of knowledge and design ideas. It is a living habitat, which combines housing and gardening while providing for its inhabitants and the city.

The skyscraper has a very dominant form, which follows through on its purpose to serve as an air filtration system for the city. A giant Ferris wheel that cleans the air may seem farfetched – at what velocity will the propellers spin? What if people, airplanes or other buildings get sucked into the propellers? Will the propellers blow away the buildings, which are located directly in front of the Ferris wheel structure?

These questions stir the curiosity of those who see the design – as the means that cause pollution will be used to provide a solution. Old cars melted down to provide the primary material for the Ferris wheel is an innovative idea.

Analyzing Site

Why build a vertical structure in a dense city? A small area needs buildings, which extend upward and, therefore, leave small footprints.

The Habitat is designed for New York City. The site may be too specific of a location; it may have been a broader location (country) to imply flexibility to adapt this to various locations. Why New York? It is a dense concrete jungle. There is no real relationship between the architecture and the location of NYC. The site may be too realistic for the project and does not allow the author to be more innovative. Hence, the design was too

reserved. Renderings also did not evoke the zoo as in a dense cultural urban setting. It should have packed the rendering images with more people and animals to demonstrate full occupancy.

The authors gave reason for choosing New Delhi. The city has issues with population growth, traffic and pollution. Therefore, the proposed architecture is a solution to help alleviate the problem. The site of New Delhi is not too specific as it does not specify a certain area. The design is more concerned with a civil problem than with the idea of adding to the city's architectural look, which thus meets the criteria of the competition.



Figure 182. Ferris wheel-inspired skyscraper located in New Delhi, India⁴¹⁴

Analyzing Form

In elevation, the zoo is a horizontal skyscraper. The zoo transitions into various elliptical shapes in section cuts. Interior formations make for an interesting building program but become muddled in signifying a prime symbolic geometry. It somewhat resembles a nautilus shell showing the chambers arranged in an approximately

⁴¹⁴ Julien Combes and Gaël Brulé. "LO2P: Delhi Recycling Center." *eVolo | Architecture Magazine*, JPG, www.evolo.us/competition/lo2p-delhi-recycling-center/

logarithmic spiral. Maybe it would have been easier to grasp the shape with a diagram of a shell.



Figure 183. London Eye⁴¹⁵



Figure 184. Bicycle wheel silhouette,⁴¹⁶ vintage electric fan,⁴¹⁷ and wind turbines⁴¹⁸



Figure 185. Indian Flag⁴¹⁹

The LO2P's circular shape holds a number of symbols. The circle serves as a strong stable form. Imagine a bicycle. Although it may look fragile, its strong and stable form provides the main structure for the idea. The circular idea also redefines a traditional skyscraper. Not only does it tower over the city in a dominant and striking fashion, it acts as a traditional skyscraper by taking up a small footprint at the base, which the proposed circular form does.

The association with the Ferris wheel, for example, the London Eye, gives jurors a comparison in the potential construction and size of what this skyscraper may look like if it were built. Ferris wheels in general act as skyscrapers as they also take up a small footprint. Third, the shape of the skyscraper idealizes the iconic circular symbol of *recycling* – the main embodiment of the structure itself. Fourth, a common imagery we are all familiar with is the electric fan, which is circular in shape and has propellers. This association allows viewers to understand the practice of the hypothetical skyscraper design. Although the design may seem farfetched, it does not mean the design cannot be realized. Fifth, the circle shares the iconic imagery of India's national flag, where the skyscraper is proposed.

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⁴¹⁵ "London Eye." *Londres Assistance*, JPG, www.londresassistance.com/images.htm (left) ; Pilgab. "London Eye, London." *Wikipedia, The Free Encyclopedia*, JPG, hu.wikipedia.org/wiki/F%C3%A1jl:London_Eye_London.JPG (right)

⁴¹⁶ Ying Feng Johansson. "Shadow Of Bicycle Wheel On Sidewalk." *Stock Photo*, JPG, www.123rf.com/photo_8794859_shadow-of-bicycle-wheel-on-sidewalk.html

⁴¹⁷ "Vintage Industrial McGraw Edison ZERO Electric Fan." *W5RAN*, JPG, w5ran.com/2010/04/vintage-industrial-mcgraw-edison-zero-electric-fan/

⁴¹⁸ "What Is Wind Energy." *Solar Nation*, JPG, www.solarnation.net/solar-energy-show.asp?id=15

⁴¹⁹ Anuj Kumar Jha. "Indian Flag." *My Life & What Else...*, JPG, reasonsoflife.wordpress.com/indian-flag-its-different-avatars/

a common imagery we are all familiar with is the electrical fan, which is circular in shape and has propellers. This association allows views to understand the practice of the hypothetical skyscraper design. Although the design may seem farfetched, it does not mean the design cannot be realized. Fifth, the circle shares an iconic imagery to India's national flag where the skyscraper is proposed.



Figure 186. 2011 eVolo Skyscraper Competition, LO2P: Delhi Recycling Center, First Prize Winner⁴²⁰

Analyzing Graphics

Presentation boards for a student project, which include the entire process from beginning to end, often become too cluttered. Presentation boards should only include the final process. *The Habitat's* second board is more successful because it shows the final structure in NYC (the proposed site) while its first board contains

too many process sketches. The big idea picture should be of NYC, not Japan and the Sakura blossoms. Too much information is cluttered onto one board, making it difficult to read. The image is too small, making renderings illegible. There is too much text throughout. It should be consolidated in one location. Developed effective graphics should speak for themselves. The information on the second board could have been distributed between both boards so that the information is more legible.

The graphic presentation of the *Delhi Recycling Center* mimics the design in simplicity. The images focus immediately on the design; the circular form captures the viewer's attention. The blurring effect evokes the impression of a wheel turbine spinning. The second board faintly illustrates that the design is flexible and can be placed in various parts of the city to clean and filtrate the city's air. The light blue color of the sky imagines and portrays a cleaner air quality in New Delhi.

⁴²⁰ Julien Combes and Gaël Brulé. "LO2P: Delhi Recycling Center." *eVolo | Architecture Magazine*, JPG, www.evolo.us/competition/lo2p-delhi-recycling-center/

CONCLUSION

Among the pool of winning designs and honorable mentions from the eVolo 2011 Skyscraper Competition and previous eVolo competition editions, several common design themes were apparent: skyscraper as an environmental machine, tall buildings with repeating modules, the horizontal skyscraper, and the inverted structure.

One of the most frequent themes was the design of a skyscraper as an environmental machine, in which the competition program encourages participants to explore. The 2011 competition winner, *LO2P: Delhi Recycling Center*, falls into this design category. The honorable mention entry, *3D Green: Vertical Farmland Inserted in an Existing Urban Fabric*, also illustrates this theme by probing the idea of a vertical park and farm between skyscrapers in Shanghai, China to serve as a new lung to the urban metropolis – described by the designers as “a large block of concrete and glass.”⁴²¹



Figure 187: 2011 eVolo Skyscraper Competition, *3D Green: Vertical Farmland Inserted in an Existing Urban Fabric*, Honorable Mention⁴²²

⁴²¹ "3D Green: Vertical Farmland Inserted in an Existing Urban Fabric." eVolo | Architecture Magazine. www.evolo.us/competition/3d-green-vertical-farmland-inserted-in-an-existing-urban-fabric/ (accessed September 29, 2011).

⁴²² Yiqing Jiang and Ying Tao. "3D Green: Vertical Farmland Inserted in an Existing Urban

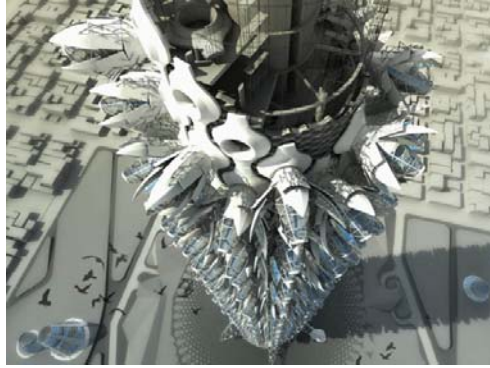


Figure 188: 2011 eVolo Skyscraper Competition, *Kinetic Skyscraper*, Honorable Mention⁴²³



Figure 189: 2011 eVolo Skyscraper Competition, *Flat Tower*, Second Place⁴²⁴



Figure 190: 2011 eVolo Skyscraper Competition, *Lady Landfill Skyscraper*, Honorable Mention⁴²⁵

Fabric." *eVolo | Architecture Magazine*, JPG, www.evolo.us/competition/3d-green-vertical-farmland-inserted-in-an-existing-urban-fabric/⁴²³ Victor Kopieikin and Pavlo Zabolin. "Kinetic Skyscraper." *eVolo | Architecture Magazine*, JPG, www.evolo.us/competition/kinetic-skyscraper/⁴²⁴ Yoann Mescam, Paul-Eric Schirr-Bonnans, and Xavier Schirr-Bonnans. "Flat Tower." *eVolo | Architecture Magazine*, JPG, www.evolo.us/competition/flat-tower⁴²⁵ Vidojević, Milorad, Jelena Pucarević, and Milica Pihler. "Lady Landfill Skyscraper." *eVolo | Architecture Magazine*, JPG, www.evolo.us/competition/lady-landfill-skyscraper

Another common thread in skyscraper design seemed to take inspiration from the Metabolism Movement where modules repeat themselves in the process of organic growth. Several 2011 honorable mention projects illustrate this theme: *NeoTax*, *Rhizome Tower*, *Seeds of Life Skyscraper*, and the *Kinetic Skyscraper*, which proposed the design of kinetic housing units to be attached to a main exoskeleton.⁴²⁶

A third theme that was present in many designs was the idea of a horizontal skyscraper, which the author's design was based on. A horizontal skyscraper may be a tall building but is mainly characterized as a longitudinal structure rather than a vertical one. The 2011 competition's second place winner, *Flat Tower*, deviates from the traditional skyscraper and is described by its designers as a dome-like horizontal skyscraper with a large surface area that is perfect to harvest solar energy and rainwater collection.⁴²⁷

The last common theme was the inverted skyscraper in which the building was either submerged or underground. One example is the honorable mention, *Lady Landfill Skyscraper*, a design proposal that consists of a series of underwater scrapers resembling floating islands that will be used to remove and recycle floating garbage in the Pacific Ocean.⁴²⁸

Overall, the pool of winning entries and honorable mentions illustrate and embrace a diverse assortment of design themes.

⁴²⁶ "Kinetic Skyscraper." *eVolo | Architecture Magazine*. www.evolo.us/competition/kinetic-skyscraper/ (accessed September 29, 2011).

⁴²⁷ "Flat Tower." *eVolo | Architecture Magazine*. www.evolo.us/competition/flat-tower/ (accessed September 29, 2011).

⁴²⁸ "Lady Landfill Skyscraper." *eVolo | Architecture Magazine*. www.evolo.us/competition/lady-landfill-skyscraper/ (accessed September 29, 2011).

Moreover, competitors addressed a wide range of international locations for potential development; many were indicated as areas of troubled times and could be used as a topic for future investigation in ecology. Furthermore, the open competition program accumulated an assortment of building configurations and potential skyscraper programs – an important objective of an open international architectural design competition. Likewise, the assortment of winning designs clearly reveals that a skyscraper does not necessarily mean a tall building, which we are familiar with.

Whether the contest is an open international ideas competition such as the annual eVolo Skyscraper Competition, or a local project contest held to explore designs for a memorial, the competition method and the array of design entries generated helps to explore the ideas that should inform future developments, while at the same time, helps to take the competition system in new and surprising directions.

The author's curiosities about design competitions lead him to ultimately challenge himself with two design competitions. With his competition projects, the author discovered that successfully winning a design competition does not always equate to what one might perceive as the most aesthetic building or board layout, but merely, how a designer achieves simplicity in conveying the idea.

CONCLUSION

Type of Competition

Program + Conditions

Design Process

Presentation + Submittal Process

CONCLUSION

In the course of research and writing this Doctorate Project, numerous points of information were uncovered, all of which could be helpful recommendations for student's undertaking competitions. The purpose of these recommendations is to guide a student to the right competition type and to tailor the contest procedure to their schedule and skills. This action to provide helpful hints to students assures they will submit a good and successful design competition entry. Recommendations are made on the following pages.

As winning a competition is a long-shot, the primary objective for a student to enter into a design competition is to engage in the dialogue of architectural design. The student should try to enjoy the competition process. Students should not try to be fashionable, but to analyze the works of other designers in order to understand the current trends and process of design. Students are encouraged to do what they think is best and to use it to their advantage to develop their architectural vocabulary and skills.

TYPE OF COMPETITION

By taking time to evaluate these first few strategies, you can gain a sense of the competition's potential popularity, and thus decide whether to compete.

- ◆ An open competition format is the only route for students to enter as it is 'open' to any individual (although, it means that the chance of winning also grows slimmer by the number of competitors that participate) with no technical or professional experience required. Thus, the open competition or a closed competition that is *open to students only* should be the competition format to pursue.
- ◆ An open competition conveys an outlet for suggesting ideas, hence, the jurors may be more accepting of avant-garde building possibilities.
- ◆ Select a competition subject that is of interest to you, something you would like to explore more of, to challenge yourself with, or a topic you have expertise in and feel comfortable designing for. Selecting a project that you may have explored in a design studio may enable you to refine that design for submission.
- ◆ Pay attention to the competition schedule. Select a competition that will allow you to manage your time wisely between the competition and your other responsibilities, such as school, work, etc.
- ◆ Evaluate the juror backgrounds. The members of a competition jury panel are selected for their reputation, and thus, are used to attract qualified and talented designers. As a competitor, evaluate the information given about

the juror's expertise, published works, awards, schooling and professional contributions. Tailoring your design and presentation to a juror's particular aesthetic may catch their eye during the deliberation procedure.

- ◆ Do the prizes and awards make the competition enticing to enter?
- ◆ Enter a competition with a public sponsor as they will most likely help your winning design be implemented if selected.

COMPETITION PROGRAM + CONDITIONS

Remember, it is essential to meet the program conditions to the degree of satisfaction of criteria established by the client/sponsor as the rules established by the client is to create a fair and sound competition procedure.

- ◆ Abide by the competition rules, being very cautious. Following the rules will ensure that you are a serious-minded and conscientious designer who will be taken seriously in the competition. Understanding the regulations and limitations of a project will allow you to understand how much freedom you have to explore.
- ◆ Digest all the design and program data at the outset, organize the information so it is easy-to-understand.
- ◆ Check to make sure that your design meets the mandatory requirements of the competition program and conditions. It can be useful to try to list criteria or qualities to be sought in the winning design, but this should be

employed as a mental stimulant, not a rigid guide.

- ◆ An exception to not following the rules in a competition is to make a qualified judgment in design. Be sure to "sell" your reason in presentation format. However, if you fail to do so, your competition proposal may be disqualified.
- ◆ Use the question and answer period of a competition to clear up any misunderstandings regarding the competition program and conditions to the professional advisor.
- ◆ Create a work schedule based on the given competition timeline provided.

DESIGN PROCESS

- ◆ Know the design problem.
- ◆ Know the site. Take the physical-site context of the project into consideration. In an urban setting, neighboring buildings set a tone. In a natural setting, it is the topography and vegetation that will dictate the design.
- ◆ Study previous winners of the competition topic you are entering. Competitions of the same program or building type are often held annually with reoccurring themes. Do your research to see what ideas have already been suggested. Maybe you will find inspiration in a past competition design idea that you would like to explore more of on your own. Seeing past winners may also inspire and encourage you in the competition process.

- ◆ Identify various prototype designs relevant to the competition program. This can be a useful mental stimulant, and should not be done with rigidity of purpose or view.
- ◆ Use the Beaux-Arts esquisse technique to generate quick and initial ideas regarding the design problem. That technique is to attempt a design as soon as you have received the design program. It compels you to come to grips and will also help you to familiarize yourself with the design problem.
- ◆ Use block models and space squares to get a graphic sense of the spatial requirements of the design problem.
- ◆ Develop a strong visionary concept.
- ◆ Do not be afraid of a design that reinterprets the design problem. That may be just the purpose of an open competition.
- ◆ If you are doing the competition as a team effort, ascertain skills and assign tasks. Some designers are stronger at conceptualization, weak at development. Some are strong on rote drawing, others on perspective rendering or model making, if required in the submission.
- ◆ If a team effort, have a mini competition among the team to arrive at a concept. If you have several good concepts, think about developing all and sending in the good ones, if the rules allow. Some Scandinavian designers have won two or even three of the first prizes in the same competition by submitting several schemes.
- ◆ Partner with an academic advisor or professional in implementing technical issues, if necessary. Winning a competition may also benefit the licensed architect you partnered with in realizing the design to its potential.
- ◆ Design your time. Allow breather intervals for collecting your senses, energy, and perspective. Do not exhaust yourself. Pace yourself. Allow some work time at the end, although it is hoped you will not need it.

*PRESENTATION + SUBMITTAL
PROCESS*

- ◆ Develop, as early as possible, an idea of your final presentation. It gives you a concrete goal to work toward.
- ◆ Create mock-up presentation boards and print them out in the scale required. Viewing the boards in actual size will allow you to correct mistakes that may have been overlooked on your computer screen. For example, it may prompt you to switch a low-resolution illustration, because it is too pixilated, for a higher-resolution image. An actual print-out will also help show if the color or contrast of the boards needs to be altered.
- ◆ A single eye-catching rendering may capture the interest of the sponsor and jurors to keep your project to the second round of deliberation.
- ◆ Sketch drawings can be as informative and eloquent as more finished renderings.
- ◆ Use drawing techniques and computer software that is familiar to you and which you can count on. Do not let

your effort be destroyed by an unforeseen delay.

- ◆ If time permits, learn a graphic software to enhance and professionalize your entry. Photoshop photographs and image scans that you may include into your presentation boards. Use InDesign to lay-out your boards.
- ◆ For digital submissions, view your presentation boards on numerous projectors and room conditions to ensure legibility of graphics and text.
- ◆ Ask a respected colleague or college professor to act as a design critic during various phases of your work. Take all the good advice you can. Your own judgment of your design cannot remain entirely objective during the work.
- ◆ Think of how the jury will see and read your work. Make sure your big idea reads into the overall design of the board presentation.
- ◆ In graphic layout make sure that the relations between component drawings are clear. Coordinate plans, sections, elevation, and so forth.
- ◆ Keep lettering to the minimum necessary. Do not let it overwhelm your drawings.
- ◆ Take time to write a good report on your concept to supplement the graphic aspect of your submission. Make it clear, short and concise. Use spell check when reviewing your written document.
- ◆ A design competition normally concludes in an exhibition of the

winning design and other entries to the professional and public community. In addition, results of the competition are also publicized in a booklet, with illustrations and the written document. Use the competition system as a means to showcase your skills and design in a professional manner.

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