How should Europe be represented in the world? This project proposes an Embassy for the European Community in Washington D.C. The design process seeks to reconcile several critical oppositions that are embedded within this task. The project develops and utilizes a new embassy programme which extends the notion of cultural exchange through diplomacy into the public realm. It integrates a tectonic strategy which provides necessary provision for building inhabitation while maintaining a sense of openness. In addition, this project conceives of a system within which individual and collective identities may coexist.
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MASTER OF ARCHITECTURE

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PARALLEL PROCESSES: Embassy for the European Community
par·al·lel

1. Being an equal distance apart everywhere.
2. Having comparable parts, analogous aspects, or readily recognized similarities.
3. Having the same tendency or direction: parallel motives and aims.

Grammar: Having identical or equivalent syntactic constructions in corresponding clauses or phrases.

Computer Science: Of or relating to the simultaneous performance of multiple operations: parallel processing.
This book is dedicated to the memory of September 11, 2001.
The project results from the careful articulation of the problem and a subsequent ordering of constraints within the context of a proposal.
As students of architecture, the purpose of our labor is to find our position in architecture. The process of iteration, approaching and solving diverse problems, is crucial in the determination of position. As we collect experience in design process, we must attempt to synthesize our individual responses into conclusions about architecture. The importance of a project's idea and the process by which they are developed is less contained in particular site, program, or solution, than in one's ideas and the process by which they are developed.

Design is a series of calculated decisions that contribute to the faithful resolution of relevant forces and the concretization of ideas. I believe in the model of a cyclic series of action and reflection. The processes by which we determine our responses may be more or less deliberate, but without exception, they are manifest in action. The act may be one of a multitude of possibilities: drawing, reading, writing, building, making. Equally important is reflection upon what we have done. It is in this process of extracting ideas from drawings, readings, writings, models, objects that progress in design is made. Progress is severely limited by the lack of action, of the lack of reflection.

To design is to cultivate a sophisticated definition of problem. Every design problem has contained within it, particular forces, exerted by general and specific aspects inherent in it. These forces contribute to the translation by the designer of the given problem into the problem. These component forces must be identified, sorted, and ultimately, prioritized, in the formulation of a design problem. Priority, though the result of careful analysis, is highly dependent upon the will of the designer; his/her sensitivity and imagination. As such, the architect is charged with the task of formulation of responses to architectural problems. During this process, the architect must identify the essential forces, and manipulate the scale of the design, the form, and the materials. Equally important is the need to be aware of and control these forces. These component forces must be identified and manipulated by the designer. They are not simply fulfilled, but to take advantage of what the project must be.
The experiments of architects only become 'architecture' when they are correlated with particular building tasks.

(Norberg-Schulz, Intentions in Architecture)
An essential component of the project is to re-interpret the meanings of Diplomacy and its institution: the embassy.
Embassies, like any other diplomatic missions, are designed to attract and accommodate cultural and social events. The Finnish Embassy in Washington, D.C., designed by Heikkinen + Komonen, exemplifies this approach. Situated in wooded surroundings, the building features natural materials such as copper and untreated wood, allowing them to weather and evolve over time. The embassy’s dedication to hosting cultural events, particularly saunas, has made it a prominent diplomatic space. The use of natural elements and open plans integrates the building with its environment, reflecting the values of its host country. This approach not only enhances the cultural experience but also demonstrates the Embassy’s commitment to the new diplomacy of Washington, D.C.
The case of an embassy representing many countries, the number of which may be still undetermined, is a complex problem in architecture. The political union of many nations inevitably seeks balance between the individual and the collective identity. A responsive architecture must define a clear unity within a dispersed collection. This unity often emerges naturally from the intersection and reconciliation of individual elements.

The Nordic Embassy Complex in Berlin, Germany, is perhaps the most relatable built precedent, in terms of programme. The Common Building & Master Plan was made by the Austrian/Finnish partnership called Berger + Parkkinen. It represents an attempt to reconcile issues of representing the five individual Nordic countries, as well as a cohesive whole.

The planners chose to divide the amorphous figure into six portions, each geometrically unique. Each of the five countries (Denmark, Sweden, Finland, Iceland, Norway) occupies a section, while the sixth houses a shared reception and exhibition building. The Common Building, a section within the buildings, houses a shared reception and exhibition area. Each country chose to design its portion, ranging from small to large.

An important defining force in this project is the issue of protecting the occupants of the building. Typically, an embassy has been classified as an attractive target for terrorist attack because of its symbolic political importance for the nation it represents. As this project intends to represent the European Community, a collection of nations that might be a target due to the symbolic importance, a high degree of protection is required. This is achieved through a combination of blast-resistant design and construction, which provide a primary measure of security in a responsible architectural form. Two categories of protection can be identified: reduction of risk and mitigating the effects. The nature of the attack is likely to be an explosive threat, either a car bomb or a missile in the case of a movement to harder-to-target embassies. The primary measure of security includes reduction of risk and mitigating the effects. The nature of an explosive threat is either a car bomb or a missile in the case of a movement to harder-to-target embassies. Two major considerations of blast-resistant design and construction are: 1) the fragmentation and propulsion of architectural and other building components, which become projectile threats to life safety; and 2) the loss of structural load-carrying capacity and stability.
As part of the investigations for this project, a diverse collection of precedents was discovered which informed the design. The issue of protection is a crucial constraint in the development of all products. Architects may inform their work, especially when dealing with technical constraints, through the study of fields outside of the traditional building practice. This transference of research and development into architecture is necessary as technology advances available means of production.
In the making of a new building type, the definition of a use-program substantiates the programme: How should Europe be represented to the World?
The European Union is a unique, treaty-based, institutional framework that defines and manages economic and political cooperation among its fifteen European member countries. The Union is the latest stage in a process of integration begun in the 1950s by six countries—France, Germany, Italy, the Netherlands, Belgium, and Luxembourg. These treaties gave life and substance to the novel concept that, by creating communities of shared sovereignty in matters of coal and steel production, trade and nuclear energy, another war in Europe would be unthinkable. While the EU has evolved common policies in a number of other sectors since then, the fundamental goal of the Union remains the same: to create an ever closer union among the peoples of Europe.

Due largely to the success of Europe’s economic integration, there are now 15 EU member states (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom), and membership may increase to more than twenty soon. Special, non-vetoing seats (known as ‘special representation’) and ‘special duties’ will likely increase to more than twenty soon.

Although the Union’s member states are committed to maintaining an open and free market economy and the acquis communautaire—a body of EU laws and regulations that candidates must be able to absorb and implement—there are now 15 EU member states. The Union is currently preparing for a fifth enlargement towards Central and Eastern Europe.

Admission is open to any European country with a stable democratic government and a functioning market economy. Membership in the Union is a major, treaty-based, institutional framework that affects and defines economic cooperation among the members of the Union.
The Competition Brief which prompted my interest in this project asked for a response to this crucial question: How should Europe be represented in the world?

It is interesting to examine how the European Community has chosen to represent itself in the Euro, its newly adopted shared currency. The winning designs, by Robert Kalina of the Oesterreichische Nationalbank, feature architectural elements from seven important architectural periods in European history. The decision to feature iconic architectural elements in the note series is an attempt to achieve unity both in the series and the participating countries, through a system that might be termed Theme and Variation. The system consists of two key components: the Format, and the Variables. The Format is a set of consistent characteristics throughout the series such as placement, size, font, and content. The Variables are used as clearly identifiable differences between each of the notes that help to establish identity. In this case, the identity is accorded to denominations (5, 10, 20, 50, 100, 200, and 500 Euros).

The winning designs, by Robert Kalina of the Oesterreichische Nationalbank, feature architectural elements from seven important architectural periods in Europe, culminating in a synthesis of national identities. The Euro coins can be used anywhere in the euro area, regardless of their national sides. Each coin can have one side that is common to all 12 Member States. The design shows variations of the map of Europe. The designs for the national sides were selected following a competition organized by the European Commission and were approved by the Ministers of the Member States. The reverse side of each coin shows individual designs relating to the respective Member State, surrounded by 12 stars. The decision to feature iconic architectural elements in the note series is an attempt to achieve unity both in the series and the participating countries, through a system that might be termed Theme and Variation. The system consists of two key components: the Format, and the Variables. The Format is a set of consistent characteristics throughout the series such as placement, size, font, and content. The Variables are used as clearly identifiable differences between each of the notes that help to establish identity. In this case, the identity is accorded to denominations (5, 10, 20, 50, 100, 200, and 500 Euros).
To build well in the city includes an obligation to contribute positively to the life of the place. Public institutions, especially, have the potential to provide the city with public gathering places of worthy significance. The urban room is characterized primarily by monumental scale and versatility to accommodate various uses. In many cases, the most architecturally powerful of these spaces endures despite the evolution of changing uses.

Urban Room: the 'old post office'
National Air and Space Museum
Union Station
National Building Museum
The Embassy for the European Community should embody the importance as well as the cultural values of Europe. It is rooted in the structure of European cities and is an architectural ambassador to the city of Washington DC.
Particular site conditions inform the ordering of space and formation of urban room.
The program suggested that this building should have a significant presence in the urban context. Therefore, a project site was chosen for its significant size, location, and possibility for expansion. The chosen site is strategically located at the termination of Embassy Row (along northwest Massachusetts Avenue), at Mount Vernon Square.
The site geometry is a product of the L'Enfant plan for Washington, D.C., which resulted from the combination of Baroque axial boulevards with an orthogonal street grid. The triangular project site is stretched along the east-west axis, its western end the widest. Its long side is oriented along New York Avenue, facing southeast.
The site offers an opportunity to contribute to the development of a particular zone of the city. In addition to the existing convention complex, the Embassy complex could be linked to nearby metro lines. The Embassy replaces existing surface parking on the site. The Embassy complex could be included in a growing network of the east end. The Embassy replaces existing convention center to the south of the site. A new, larger convention complex is under construction near the site.
As the surrounding buildings are relatively low, the site is free of shade for the entire day. The location of the site occurs at an apparent edge of dense commercial development along New York Avenue. This important axial boulevard leads to the monumental center of Washington, D.C., a significant landmark of the city's history and culture.
Attempts to order the project in accordance with the particular geometry of the site served as a way of beginning. Through countless iterations, three ideas were consistently maintained: 1) The inclusion of a set of similar repeated elements which represents the individual nations of the EU, 2) Though a specific program of spaces was still developing, the site should be claimed and occupied in its entirety, 3) The building should maintain a clear order which would allow for extension when needed.
The relations between the elements are usually more important than the elements themselves.

(Norberg-Schulz: Intentions in Architecture)
The project was developed as a coherent system, which strives toward legibility despite its overwhelming scale.
The building plan is responsive to the shape of the site and the desire to create spaces between the building volumes. The result is the creation of useful ground for public spaces amongst the building figures.

Parallel typological trajectories (wall types: A,B,C) coexist, while never merging. By definition, they maintain a clear and constant separation. These walls are periodically linked by perpendicular interruptions made by circulation elements, each receiving and responding according to its typological nature: Fortress, Threshold, Screen.

The result of structuring the program into several wall entities, and the situations created where they formally interact with one another, is a complex system. As such, it results from the harmonization of the individual orders (A,B,C), each with a particular set of forces influencing the formation. Architecture results in the affecting of one order with another. The aim is the creation of a syntax that mediates between the parallel orders, recognizing the 'points of alignment'. In this methodology lies an inherent position for making strong form based on consensus within the various parallel orders. This juxtaposition of orders forms a powerful, threshold, screen.

According to the typological matrix: Forces, Threshold, Screen, the creation of useful ground for public spaces amongst the building requires consideration of each receiving and responding role played by circulation elements. Each receiving a clear and consistent separation, merging by definition, forms the inside and outside separation.

The building plan is responsive to the shape of the site and the
CORRELATION: an Architecture of Three Walls

The spatial program for embassy is organized according to levels of relative privacy and protection. Three distinct wall types: (A, B, C) are differentiated through tectonic strategies of applied layers which respond to their individual programs.

Type (A): fortress
- 1 helicopter pad
- 2 bridge terraces
- 3 department offices
- 4 library
- 5 retail/dining
- 6 plaza entrance
- 7 draw bridge
- 8 mechanical

Type (B): threshold
- 1 secure conference
- 2 exhibit galleries
- 3 media screen
- 4 mechanical
- 5 entrance plaza

Type (C): screen
Wall (A) is a spatially democratic organization comprised of 20 equivalent modules. Due to its proximity to the street, its nature is a fortified structure which derives its protective character through the redundancy of bounding layers. View and light are selectively permitted through slots in the exterior screen. The stacked arrangement of modules consists of five segments, which act as independent towers in case of collapse. The most insulated volume contains the office of the ambassador.
Identity and Equivalence

Identity may be manifested in the relationship of parts to the whole. The identity of the individual parts contributes to the identity of the whole. The identity of the individual nations versus the identity of the whole. The identity of individual parts contributes to the identity of the whole.
The stacked arrangement of the modules expresses their structural interdependency, while the autonomy of each is maintained. The dense character of the modules is distinctly contrasted with the resultant void between stacks. These voids provide some measure along the vast extent of the northern facade. The modular distance recognizes the scale of the adjacent context along the street.

The outermost layer stands as a unifying gesture. The screen makes an equivalent recognizable. The scale of the adjacent context along the street.
The nature of the wall (A) construction is conceived of as a modern fortress in that it seeks to re-interpret the typology of Fortress and its particular quality: massiveness. Early design investigations focused on the tradition of mass as means of protection. Traditionally, mass in architecture had manifested itself as material density. However, this approach has proven inappropriate for medium and high-rise buildings. As a result, the focus in the development of the wall (A) construction was directed towards developing a contemporary interpretation of mass as visual density. By dividing the responsibilities required of boundary condition at wall (A), a system of discreet materials was developed that allowed for a modern interpretation of traditional fortress design.

For the concentration of mass-elements defined by adjoining surfaces, it is of decisive importance that the corners be intact. The treatment of corners, therefore, determines our interpretation of the mass-form, and tells us if the building is intended as a massive block or as a juxtaposition of thin bounding surfaces. (Norberg-Schulz)

**Kunsthaus Bregenz: Zumthor**
A massive system is defined as consisting of elements which are simultaneously bounding and supporting. The size of the openings is also of decisive importance to the characterization of the mass. Relatively small openings (holes) stress the massivity. (ibid.)

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San Carlino alle Quattro Fontane (1:1 model): Mario Botta | Accademia di Architettura

Signal Box: Herzog + DeMeuron
A multitude of proposals that explored the possibilities for expressing massiveness were made. Inevitably, these relied on a notion of deceptive appearance. Eventually, the study of mass led to an attempt to redefine, according to a contemporary understanding, mass as a density of bounding layers. A redefinition of mass as a density of bounding layers led to an attempt to redefine, according to a contemporary understanding, mass as a density of bounding layers.
The ambassador chamber is conceived of as an 'indestructible' object, which stands as the last layer of protection of the occupants of each chancery suite. In the case of a severe attack, the integrity of the layered facade and the overhearled structural frame could be compromised. In that case, there is a risk of progressive collapse ("pancaking" of floors, one atop each other). The ambassador chamber would be made to withstand the cumulative load of collapsed floors upon it, and its contents would survive relatively intact.
Stainless steel mesh is an interwoven fabric, which is available in several types and patterns. This material will serve as a barrier against flying glass and other projectile fragments.

Cast glass channels are more rigid than glass sheets due to their structural cross section. Glass channels serve as insulated double glazing and as an effective sound barrier when stacked back to back.

The spaces between the wall layers are habitable.
The precast concrete screen-wall is tied to the building frame with steel struts which are designed to absorb blast energy and strategically fail. This system can be understood as a 'crumple zone' for the building. A self-supporting concrete screen-wall serves as the absorber of energy from a blast. It must withstand the unpredictable blast force trajectories and withstand the wave of energy.
The exterior screen wall stands independent of the building structure. It is a redundant structural system. It is made to stand, despite partial destruction, by transferring structural loading to alternate short spans. Stacked, load-bearing columns carry dead loads to ground. A Vierendel beam comprised of prefabricated segments spans between stacked columns.
A set of prefabricated segments spans between secondary spacer-columns.
Wall (B) is positioned as the threshold between the very public wall (C) and very private wall (A). In this layer, the EU departments interact with the executives of member countries and the public. The form of this building layer is the result of the effect by adjacent orders. The occasional vertical core and the penetration of pipes measure the horizontal continuity of floors. The organization of functions within the wall is linear. Each department occupies a floor (that grows along its length when necessary). The skeletal grid construction creates spaces for adaptable and flexible uses.

A set of feature elements are used to articulate the public face of wall (B).

1. Public Threshold
2. Reading terrace
3. Retail display / cafe
4. Bridge Aperture

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ADAPTABILITY : EVOLUTION OF USE

The potential change in usage of a building is an essential issue for architects to address in design, especially as buildings are expected to adapt to changing needs of users. A building must be recognized as an instrument of the service it is intended to provide to a user, and its specific characteristics and means of expression when in terms of structuring space and shaping patterns of use are essential attributes. Partial means of use, it is expected to adapt to changing needs of its users, or to change in use. To anticipate reuse requires not to overestimate the initial use. This can be translated into structuring space and suggesting patterns of usage, without prescribing particular means of use. It is accomplished through an adaptable ordered system. Linear orders allow for logical means of expansion when necessary. The requisite flexibility required shifts focus toward the boundary condition and the degree of envelope presence.
Wall (B) defines the northern edge of the Urban Room. It serves as a means for controlling access to secure areas. Simultaneously, it contains uses which serve and sustain the public concourse.
DUALITY: PRIVATE

Wall (B): Section at Bridge Aperture / Public Entrance

Wall (B): View from Bridge Aperture
An alternating series of planar glass volumes and transparent glass boxes suspended between serves as protective barriers from street noise and ballistics. Each segment is served by a rigid core structure as a single column core, which supports crossing structure. Each volume serves as exhibit and conference facilities, while the conference volume is exhibit and conference facilities. Each is structured as a single column core, which supports crossing structure.
TRANSPARENCY

Wall (C) exploits a condition of extreme transparency. Its linear galleries are designed to reveal their contents to the city, while the secure conference rooms above become parts of an exhibition of democratic openness.
This project for an Embassy for the European Community is the result of a process of synthesis. It simultaneously makes a structure for public space in conjunction with the development of programmatic structure. It offers an ordering system that reconciles issues relevant to general (urban) and particular (local) realms. With the considerable scale of the complex, comes an obligation to make a legible architecture. The necessary degree of predictability increases with the scale of a project. Where a residence is closely related to the scale of an inhabitant, the vast, urban complex must mediate between a range of scales, from urban to the individual. The whole is rarely, if ever, viewed or experienced in its entirety. Instead, the reading of the structure must rely on a reasonable, repetitive module. Thus, the large project relies heavily on an ordering system.
I would like to express my sincere gratitude to all who have become a part of my life and work:

To my committee, I would like to express my appreciation for everything you have done for me and the time we have spent together.

To my friends, I have been a pleasure to learn with you.

To Daniela, no words can express my appreciation for everything you have done for me, and the time we have spent together.
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HONORS | AWARDS

SOM Foundation Traveling Fellowship: Portfolio Competition:SOM - finalist 2002
INform Magazine Annual Design Awards: Objects + Furniture Award | Publication 2001
VIrginia Society AIA: Virginia Prize Student Competition VA - honorable mention 1999
Graduate Faculty Award for Excellence in the Study of Architecture 1999
Bruce Scott Scholarship for the Study of Ethical Issues in Architecture 1999
SOM Foundation Traveling Fellowship: Portfolio Competition 1999

STUDY ABROAD

International Architectural Education Exchange Urban Design Workshop: Lisbon, Portugal 2001

ACSA |Wood Products Council International Student Design CompetitionFirst Prize 2000
Virginia Society AIA: Virginia Prize Student Competition VPI - finalist 1999
Kent State Chapter | Tau Sigma Delta Design Competition Finalist 1996
Kent State Chapter | Tau Sigma Delta Design Competition Finalist 1995
Ohio Concrete Block Association : Annual Design Competition KSU - Third Prize 1994

SKIDMORE OWINGS MILLER LLP san francisco, ca           : 2002
CAUS European Residency: Riva San Vitale, Switzerland 2001
SAED European Residency: France, they

SOM - English

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