THE RELEVANCE AND TRANSCENDENCE OF ORNAMENT: A NEW PUBLIC HIGH SCHOOL FOR THE SOUTH SIDE OF CHICAGO

A Thesis

Submitted to the Graduate School of the University of Notre Dame in Partial Fulfillment of the Requirements for the Degree of Master of Architectural Design and Urbanism

by

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A building without ornament is like heaven without the stars.
- George Santayana

Ornament, once an essential and communicative part of architecture, during the last century has experienced serious devolution. It is no longer considered an important and meaningful part of the way humans experience a building. The new century needs to reconnect with this language, which speaks to us of such concepts as function, space and symbolism, but also performs such work as direction, the designation of transition and expression of movement, among other roles.

Through the conferment of beauty, grace and honor, ornament enriches and enhances life while expounding the construction of delightful buildings that are fraught with meaning. Ornamented architecture will return enchantment and pleasure to the public realm while simultaneously educating and connecting humans with their past accomplishments and future endeavors. Through ornament, architecture will once again speak of relevance and transcendence.
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Ornament is a beast of a topic. The volume of literature on it is literally overwhelming and to hope to tame it without some help would be virtually impossible. In these short months on the subject, I have learned a great deal more than I had hoped, which was no small amount. None of this would have been even remotely possible without the help I have received:

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INTRODUCTION

*We walk through our streets and do not howl with shame at such deserts of ugliness. Let us be quite clear: these grey, hollow, spiritless mockups, in which we live and work, will be shameful evidence for posterity of the spiritless descent into hell of our generation.*

- Walter Gropius,
  Statement made at the Exhibition For Unknown Architects, 1950

How prophetic those words were, and how self-fulfilling they have become. This lamentation of the founder of the Bauhaus is especially ironic considering the future has become what he mourned, largely because ornament, once an essential and communicative part of architecture, has been severed from its integral and essential position in building composition, an act advocated and promoted by Gropius, his colleagues, and followers. Divide the last century into quarters and a steady progression of elimination appears. The fin-de-siecle (i.e. the first quarter) was an incredible epoch for ornament. While it certainly had its detractors in this period, the use of, and affinity for ornament was prevalent. This quarter also saw the introduction of the machine into the production of ornament, significantly in repetition of form and pattern. The First World War did its part to increase the use of technology for production, and subsequent ornament tended to have a manufactured appearance. Art Deco was prominent in the interwar period, and was a progression from the flourishing tendril type ornament of Art Nouveau and Jugendstil, to a more
streamlined and machine-produced type of ornament. It is also in this 2nd quarter of
the century that Frank Lloyd Wright developed and refined his ornament.
Unfortunately, one architect a movement does not make. While the beauty and
repetition of ornament was still apparent, it had begun to lose its status as a craft.
Following the Second World War in the 3rd quarter of the century, ornament was
systematically stripped from building programs by stylistic movements such as the
Bauhaus and the International Style. At this point it was no longer considered an
important and meaningful part of the way humans experience a building. In the last
quarter of the 20th century, ornament staged a comeback, although it has not regained
its former position or gravity. Postmodernists began using ornament with abandon.
Architects such as Robert Venturi and Charles Moore set in motion a brief re-
association with ornament, although their approach was much more whimsical and
for all the good it did re-establishing a connection with ornament, it primarily only
strengthened the notion that ornament was inconsequential and simply an applied
rather than integral part of architecture. In the last 25 years, buildings have become
ornament themselves, as evident in the forms of Santiago Calatrava and Frank Gehry
among others. But for all this revitalized interest in ornament, the modern day has
become a place where ornament no longer occupies a place of prominence and
importance. In fact, to look at contemporary buildings is to realize that not only do
they fail to incorporate ornament; they deny a place for it. This thesis is a
reconnection with the ornament of the turn of the century when it still had gravity and
importance and is a design that not only provides an opportunity for ornament, but
demands it.
If ornament is reincorporated to its rightful, inextricable place in architecture, we will rid ourselves and our posterity of the “deserts of ugliness.”
CHAPTER ONE
ORNAMENT AS USED IN ARCHITECTURE

Ornament and structure were integral; their subtle rhythm sustained a high emotional tension, yet produced a sense of serenity.
- Louis Sullivan

The language of ornament speaks to us of such concepts as function, space and symbolism, but also performs such work as direction, the designation of profound transition (e.g. between the sacred and profane), and expression of movement, among other roles. It enriches and enhances the experience of a space expounding the construction of delightful buildings that are fraught with meaning. In this frame of mind, ornamented architecture will return enchantment and pleasure to the public realm while simultaneously educating and connecting humans with their past accomplishments and future endeavors. Through ornament, architecture will once again speak of relevance and transcendence. It reminds us of Architecture’s origins in nature and history, and to attack or omit ornament is to deprive us of our own connection with the past and origin in nature. More explicitly, the denial of ornament is the abolition of our relationship with craft, which is a manifestation of design, the only thing that tangibly separates humankind from animal-kind.

1.1 Defining Ornament

It is appropriate to begin the thesis with a definition of ornament as it applies to this discussion because of the way the characterizations of ornament have changed
over time.\(^1\) It also requires the distinction from decoration and pattern for
approximate clarity. As an illustration of why we need to do this, the passage below is
from John Mack, the keeper of Ethnography at the British Museum. In his comments
on Tom Phillips’ Treatise in The Architectural Review of April 2003, he derives an
aphorism about the three terms, from fellow anthropologist Alfred Gell:

“Pattern, decoration, [and] ornament attaches people to things. Pattern links us
in more intimate ways to our surroundings, in a way that undecorated surfaces
do not. If ornamentation is a fundamental element in world artistic traditions,
and a fundamental aspect of human visual cultures, it is because at root it is
linked to questions of identity – individual identity and collective or social
identity.”\(^2\)

Mack seems to use the terms ornament, decoration, and pattern interchangeably. If no
distinction is made, this discussion could become very convoluted.

1.1.1 Ornament

The characterization of and attitude toward ornament is so varied it is suitable
to begin with a widely recognized definition and proceed from there. The Oxford
English Dictionary terms *ornament* as “primarily functional, but also fancy or
decorative” and “a quality, characteristic, or circumstance conferring beauty, grace,
honor.” The word ornament derives from the Latin “ornare” which translates as “to
honor or adorn.” From this cursory definition, we must analyze further thoughts on
ornament in order to construct a substantial contemporary definition and one that aids

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\(^1\) In the chapter “The Term Ornament” (*The Nature of Ornament*, pps.15-27), Kent Bloomer
dissects the “contemporary uses of the term itself” and also describes the different attitudes toward
ornament over the ages.

Article by John Mack. p.85 Both of the ideas presented, that is to say the idea of ornament as a
fundamental element in world culture and that it is a part of our innate identity are explored later, in
section 1.4 “Ornament and Human Nature.”
in the understanding of this thesis. Ornament can also be described as concrete manifestation of beauty; it is what makes beauty visible. In other words, ornament is the vehicle that delivers transcendent beauty to a tangible building. “Ornament serves strength with strength. It is not an afterthought as is decoration. It is not merely applied but becomes one with the object it helps create.”³ This last quote begins to summarize where a divide occurs in the commonly held thoughts about ornament. Some believe that it is merely an addition, something “superadded” (and therefore superfluous) to a completely functional object in order to make it more attractive. Others believe that ornament is inherent to an object and the only way to see or experience the beauty of that thing is to realize its ornament. This thesis takes the latter position but acknowledges that “It will require a great effort … to cease thinking of ornament as an add-on to buildings, when it should be as natural as the flower on the end of its stem.”⁴

1.1.2 Decoration

The OED defines decoration as “an embellishment temporarily put up on some special occasion.” While a good start, it is bolstered by the idea that both ornament and decoration celebrate visual pleasure but decoration implies extravagance of little consequence, because it is changed easily, while ornament implies purpose and celebration of function as well as gravity of position. As in its historical understanding, for the purposes of this discussion, decoration can be

understood as the process of preparing for a particular event, such as the celebrations of holidays, holy days or sentimental dates. Decoration as discussed here can also be expressed in Figure 1 below. The wall of the train station is embellished in two ways, both with ornament - present in the sculpted figures and flora, and with decoration - present in the colors of paint which divide the elements. The sculptural pieces are not easily changed and constitute integration in the composition, whereas the color is changed relatively easily and can complement with its addition but not necessarily detract with its subtraction.

Figure 1; Main Hall - *Hlavní nádraží* (Main Train Station) Prague
1.1.3 Pattern

The OED defines *pattern* as “a decorative or artistic design, often repeated.” Pattern is most closely linked to scientific cosmologies and mathematical equations. In a sense, many of these academic constructs traditionally arose from patterns created by humans. Pattern is often governed by rotation and symmetry.\(^5\) In fact, it is very difficult for pattern to exist without symmetry (and conversely asymmetry, considering it is a fundamental basis for symmetry). This is not to say that pattern always functions symmetrically, or that the ideal pattern is symmetrical. Symmetry in nature is usually imperfect and we find that in art, inexact symmetry is often more pleasing to the eye than the exact.\(^6\) Finally and most importantly, inherent and essential to pattern are three characteristics: a unit, its repetition, and an organizing system for both. Pattern, like ornament, has its roots in nature; it transcends style, and usually performs with rhythm often suggesting movement or direction. Like decoration, it also functions as an element within the framework of ornament.

1.1.4 Ornament as Framework

In 1967, Hungarian author and philosopher Arthur Koestler proposed the term “holon” to describe the basic unit of social and biological systems, in his book *The Ghost in the Machine*. It consists of the Greek word *holos* (whole) and the suffix *on* (part). It signifies something that is composed of parts *and* constitutes part of a larger

\(^5\) Thomas Beeby, in his essay “The Grammar of Ornament, Ornament as Grammar,” diagrams various pattern rotations and symmetries in a clear and concise format.

\(^6\) Louis Sullivan outlines the process for creating appealing asymmetrical (and symmetrical) parallelism in *A System of Architectural Ornament* (1924).
system itself. Best described, a holon is a component in a system that exhibits both
traits of self-sufficiency and interdependency or cooperation when the system
requires it. Every cell in our bodies is a holon and functions within a holarchy, just as
every human is a holon in the social fabric that constitutes culture, and our social
communities comprise humanity on a larger scale.

In a similar fashion, ornament can be described as a holarchy, or holonic
structure. Autonomous as it can be, ornament does not function exclusively without
assistance or contribution from something like pattern or color. Ornament serves as a
universal framework for the contingent individual holons of embellishment such as
Figure (e.g. sculpture), Image (e.g. painting), Pattern, Color, Support (e.g. columns),
Text (e.g. inscription), and Rhythm (e.g. foliated scrollwork) etc. (Figure 2) In a
larger composition (i.e. architecture), these elements come together to collectively
present and represent ornament, but concurrently are considered ornament
individually.
Figure 2: Study of Types of Ornament
Just like other systems present in architecture, ornament occupies a necessary role, and just as there are hierarchies in these other architectural systems, e.g. structure or typology, there is same in ornament. Color can constitute a part of Pattern, and Pattern can operate as a backdrop for Figure. Together all these elements convey the system and codify the parts of the holarchy.

1.1.5 The Role of Ornament in Architecture

I see ornament in architecture as having a dual function. On the one hand it offers support to the construction and draws attention to the means it employs; on the other... it brings life into a uniformly illuminated space by the interplay of light and shade.

- Henry Van de Velde

There has been much written about the place of ornament. The most convincing position is that it functions as the manifestation of order from Kosmos, which was “set in contrast to…Chaos,” and operates in the perimeters and boundaries of architecture. Among other things, ornament is born from the intersection between art and structure. It blossoms and thrives in unexpected places (Figures 3 & 4), and it brings us into contact with the unexpected, the phantasmal (Figures 5 & 6). It revives our humor and excites our imagination in places of transition and junction such as around doorways (Figure 7) and at the intersection of roof and sky (Figure 8 & 9), among other places. It designates moments of profound transition (Figure 10), such as from profane to sacred or from life to death, with monumentality and silent incantation (Figures 11 & 12) through repetitious image.

Robert Jensen addresses the ability of ornament to manipulate scale in his book *Ornamentalism*:

Another practical use of ornament in architecture is as a scale device: breaking down the overall mass of a building into smaller pieces that relate comfortably to the human observer. Even the biggest buildings meant to awe us at a distance…reveal layers of ornament that become more and more intimate as we approach. [Ornament gives] people some visual reference against which they can measure themselves and not feel overpowered.8

Virtually any building that employs ornament can be broken down into stages or planes of progression from which the different scales reveal themselves at a range of distances. This is not to say that one element dominant at one distance or “plane” will not be stimulating at any other. Simply stated, as we experience a building, we uncover the layers of scale at various stages through the details of the ornament.

Figure 3; Bracket – Building in Prague

Figure 4; Pier – Building in Coppedè Quarter, Rome

Figure 5; Keystone – Building in Coppedè Quarter, Rome
Figure 6; Gate – Barcelona
Figure 7; Doorway to Wool Market – Pompeii
Figure 8; Carbon & Carbide Building – Chicago
Figure 9; Roofline – Museum of Decorative Arts, Budapest

Figure 10; Ishtar Gate – Berlin (originally in Assyria)
Figure 11; Cosmati pattern – San Miniato, Florence

Figure 12; Pattern of repeating phantasmal animals – Ishtar Gate, Berlin
Ornament focuses artistic intention and frames architectural “moments.” It makes possible unorthodox combinations and resolves disparate elements into a single composition (e.g. the Sphinx (lion body with a human head) in Giza or a lion with wings from the Vittoriano in Rome, Italy (Figures 13 & 14)). It also illuminates form (Figures 15 & 16) and direction (Figure 17). Finally, “we have…frequent occasion, while considering [ornament], to notice symbolic forms; but we must not forget the fact that all good ornaments make utterance.”

Essentially, according to Christopher Dresser, ornament has the ability to teach, and we must, when in the presence of it “give ear to [its] teachings.”

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Figure 15; Synagogue – Prague

Figure 16; Stair Rail – Vittoriano, Rome
1.2 Review of Literature on Ornament

Over the centuries various texts on, and about, ornament have blossomed. A cursory study of the multitude would doubtless uncover certain “giants” of the topic including Owen Jones and Louis Sullivan. Most literature on the subject has been in the form of manuals, which attempt to show a sampling of ornament that belongs to an epoch of history or culture and sometimes both. Below are recommended books for further study.
1.2.1 Historic Sources

In the pre-modern era ornament functioned as an indicator of position in the hierarchy of architectural typologies. If a building was elaborately detailed and expounded with ornament it traditionally meant that the building occupied a place in the upper echelons of the architecturally established order. The conventional religious structure (Figures 18 & 19), and an edifice that served as a civic institution, for example a theater (Figure 20) or a parliament house (Figure 21), are a few illustrations of this type. If a building had little or no ornament it was because architecturally it did not deserve embellishment at its level in the hierarchy (Figure 22). The argument against ornament in the pre-modern era had entirely to do with decorum, not discrimination. This argument qualitatively changed in the modern era, from where ornament is appropriate to whether or not ornament is appropriate anywhere at all.
Figure 18; Exterior, Greek Orthodox Church – Ljubljana, Slovenia

Figure 19; Interior, Greek Orthodox Church – Ljubljana, Slovenia
Figure 20; Municipal House – Prague
Figure 21; Parliament House – Budapest
While most of what is written exclusively on the subject of ornament is quickly becoming ‘historic’, these titles are essentially the books which started the movement. Owen Jones’ *The Grammar of Ornament* (1856) is likely the most widely recognized survey. But there are others such as Alexander Speltz’s *The Styles of Ornament* (1906), which classifies the content into epochs ending with “German Neo-Grec” ornament, and Richard Glazier’s *Manual of Historic Ornament* (1927), which breaks it down in a similar way. Both are fantastic for renderings of ornament.

Additionally, there are a few books that dissect and/or advocate methods for designing ornament, such as Christopher Dresser’s *Principles of Victorian Decorative Design* (1873) in which he advocates purpose and meaning for ornament lest it be
superfluous. Louis Sullivan’s *System of Architectural Ornament* (1924) gives instructions with accompanying illustrations for the design of ornament.

### 1.2.2 Contemporary Sources

Like so many other aspects of architecture, for example structure, materials and form, the attitude toward ornament expanded and changed dramatically at the beginning of the 20th century, and it moved in two directions, i.e. both support for and opposition to ornament increased considerably. What most notably emerged in the early 20th century was the anti-ornament movement as typified by Adolf Loos, who, in *Ornament and Crime* (1908), said such things as, “A person of our times who gives way to the urge to daub the walls with…symbols is a criminal or a degenerate.”

More recently, which is to say in the last few decades, the discussion of ornament has less to do with morality and more to do with “practicality” and financial constraints. For the contemporary sources, at almost half a century old, Franz Meyer’s *Handbook of Ornament* (1957) is probably the most recent example of a survey on ornament. It divides the content into categories such as ‘Bands’, ‘Free Ornaments’, and ‘Supports’ etc. Later written analyses of ornament attempt to psychoanalyze its decline in the last century, such as Brent Brolin’s *Flight of Fancy* (1985 and subsequently published in later editions) and James Trilling’s *The Language of Ornament* (2001) and *Ornament: A Modern Perspective* (2003). The latter analyzes ornament and its relationship to all aspects of life. It tries to focus on anything that can be considered ornament, rather than specifically architectural ornament, as the other sources do.

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Finally, the most convincing and complete read in this category is Kent Bloomer’s *The Nature of Ornament* (2001).

1.3 Summation of Thought on Ornament

1.3.1 Pro Arguments

*The building’s identity [resides] in the ornament.*

-Louis Sullivan

Ornament is important and integral in the history of architecture. It was long held and unquestioned that buildings and tools should have ornament, and that ornament signified culture. The first known human paintings in Lascaux represent the beginning of ornament, and concurrently, the beginning of culture. Certainly they were a part of animistic ritual, but this is one of the avenues through which ornament established itself. From there, we have other examples of ornament for thousands of years which means literally, for millennia, humans have been beautifying their structures and tools (see Speltz’s *The Styles of Ornament* for a fairly comprehensive analysis for the period it covers, from prehistory to roughly the Biedermeier Style) before anyone divorced it from architecture. In the earliest surviving text about architecture, written by Vitruvius, he does not specifically address ornament as we know it today, that is to say separate from architecture. He dealt with ornament as an essential integral element of architecture. After Vitruvius we have Alberti who similarly does not deal with ornament as a separate entity but rather as one linked directly to beauty:

There is one particular quality that may greatly increase the...life of a building. Who would not claim to dwell more comfortably between walls that are ornate, rather than neglected? What other human art might sufficiently protect
a building to save it from human attack? Beauty may even influence an enemy, by restraining his anger and so preventing the work from being violated. All care, all diligence, all financial consideration must be directed to ensuring that what is built is useful, commodious, yes – but also embellished and wholly graceful, so that anyone seeing it would not feel that the expense might have been invested better elsewhere.11

This idea is borne out in at least one story, from the Second World War, in which the Nazi general leading the retreat from Florence was ordered to destroy all the bridges but could not bear to raze the Ponte Vecchio because of its beauty, and so instead destroyed the street leading to it. Alberti also believed that ornament was a form of heavenly light, and, it should be disclosed, that in this regard he saw it as something added rather than intrinsic. Beauty was inherent, and a building with ornament made that beauty visible.

From these first influential texts, it was simply a matter of time before someone began to write about ornament itself. In Alina Payne’s exegesis entitled The Architectural Treatise in the Italian Renaissance, she discusses how ornament became such a hotly debated aspect of architecture in 16th century Italy that Serlio devoted an entire treatise (published in two books dated 1537 and 1540) to it:

Where Alberti had offered a textual precedent in devoting one-half of his treatise to ornament, and where the taccuini (such as the Codex Coner, or Fossombrone, etc.) offered an extensive albeit only a visual instrument, Serlio went one step further and combined the two approaches, declaring ornament to be an independent and central concern, complex and important enough to claim the space of a full treatise.12


Due to the influx of ancient forms of ornament in the Renaissance, Serlio was trying to “decipher the logic of the ancient ornamental vocabulary and to set up principles for its use (‘regole generali’).” Essentially, this is when the real discussion of ornament as a separate architectural element and of its use and appropriateness began.

1.3.2 Con Arguments

*I do not accept the objection that ornament is a source of increased pleasure in life for cultured people.*

- Adolf Loos

In many circles, the fringe arguments against ornament have been elevated to doctrine through deception. The deception comes first in the form of Adolf Loos’ seminal essay against ornament at the turn of the century. In it he declares:

I made the following discovery, which I passed on to the world: the evolution of culture is synonymous with the removal of ornament….I thought by doing so it would bring joy to the world: it has not thanked me for it.¹⁴

Immediately apparent in this statement are two things. The first is the “cult of personality” that gives credibility to buildings stripped of ornament. This is not to say necessarily that Loos himself was a megalomaniac, but rather that in this archetype, the worth of a building lies in who designed it, not in the design itself. As an example, a simple observation of visitors to a city will note first that very few people are

¹³ Payne, 115, the first treatise devoted entirely to architectural ornament was written in 1568 by Gherardo Spini but unfinished and unpublished in his lifetime. He believed that “building is divided into fabrica and ornamento and that ‘from ornament is born the dignity, and beauty of the edifice.’” p.148

¹⁴ Loos, 167
compelled to marvel at a building devoid of any ornament unless they are in awe of the scale or admire the architect who is responsible for it. The observation would also note that people are drawn to ennobled buildings regardless of the architect involved. “It is no accident that so many of ornament’s highest manifestations are anonymous. While examples can of course be assigned to a named maker, ornament in general tends to resist any cult of personality.”¹⁵ Ornamented buildings are appreciated for their beauty and composition, not just for who their designer is.

The second thing clear in the above statement by Loos is that people did not agree with his so-called “discovery.” The admission by Loos that the world has not “thanked him” provides proof that his argument is not based on an observation (that people no longer appreciate ornament) but on an invention (that culture rejects ornament). History had not borne out the idea that evolution of culture meant the removal of ornament and therefore Loos’ argument is an invention based in personal preference, not a discovery based in the study of history.¹⁶ There is an argument to be made that Loos is trying to begin a dialogue about the place of ornament in architecture, but rather than a rational discussion of ornament, he begins by equating those who appreciate or embrace ornament to cannibalistic savages.

Anne-Marie Sankovitch states: “The apparent elimination of ornament in twentieth-century architecture is wrongly understood as responding to a possibility that had been immanent for centuries, rather than since the early 1800s when

¹⁵ Phillips, 83

¹⁶ See section 1.4 entitled Ornament and Human Nature for further evidence.
ornament first received its detachable status."¹⁷ The notion that ornament is removable from architecture is relatively new, and without voices of contradiction, the idea is presumed as a basic historical and inherent quality of ornament, even though it is not true.

Since the articulation of Loos’ moral position, the judgments against ornament have multiplied but still not gained much if any merit. Most of these have been deftly defrocked in Kent Bloomer’s chapter “On the Absence of Ornament” in his book *The Nature of Ornament*. An attempt to distill his counter-arguments here would only do a disservice to both author and reader. The following is his list of “the common reasons given for avoiding and even condemning ornament.”¹⁸

1. Ornament is dishonest because it contains forms that are adherent to the basic facts of construction. Unlike sculpture and painting, architecture is the ‘art of building’ and should confine its medium to those elements that denote the true physical structure. We should not be deceived.

2. Architecture today is primarily about space. It is by the expression of space that architecture can articulate worldly things. Ornament, on the other hand, has to do with nonspatial figuration and extraneous detail.

3. The aesthetic functions of ornament can be ‘abstracted’ and subsumed into the practical details of basic building.

4. The entire building can be an ornament. There is no need to ‘superadd’ ornament.

5. Ornament is too expensive. In a modern industrialized society, the normal costs of construction are reflected in standardized components. The expense of incorporating ornament is excessive.

6. Ornament is a dead language. It was a living language at and earlier stage of Western culture, when people both required and understood its special nature. Today we have other sufficient means of visual communication.


¹⁸ Bloomer, 206
7. The narrative and imaginative content traditionally provided by ornament may be provided today by more independent art forms and need not be an essential property of architecture or a derivative of utility. The modern practice of situating art in architecture can be regarded as a substitute for ornament.

8. Ornament has been traditionally associated with religions and ethnic groups as well as with institutions of power and wealth. Because it has emblematized such authoritative and self-interested groups, ornament is not appropriate in the public realms of a modern democratic and multicultural state.19

1.4 Ornament and Human Nature

Despite all the positions against ornament in the last 100 years, the strongest argument for ornament is that the urge to produce it is primordial.20 While Western society was busy debating and discoursing about the role and nature of ornament, the rest of humankind was, from prehistory, more or less, simply adorning things. It is intrinsic human nature to embellish the articles of everyday life, from buildings to utensils, and a conscious effort has to be made to deny this instinctual urge. In The Grammar of Ornament it is put this way:

From the universal testimony of travelers it would appear, there is scarcely a people, in however early a stage of civilization, with whom the desire for ornament is not a strong instinct. The desire is absent in none, and it grows and increases with all in the ratio of their progress in civilization. Man appears everywhere impressed with the beauties of Nature which surround him, and seeks to imitate to the extent of his power the works of the Creator. Man’s earliest ambition is to create. As we advance higher, from the decoration of the rude tent or wigwam to the sublime works of a Phidias and Praxiteles, the

19 Bloomer, 206-230

20 Just about every piece of literature on ornament acknowledges this fact, whether the author is for or against ornament. For more insights see anthropologist John Mack’s comments on Tom Phillips’ Treatise in The Architectural Review from April 2003 (v213). See also Trilling’s Ornament: A Modern Perspective chaps. 1&2 and Jensen’s Ornamentalism, p.3 “The Ornamental Impulse.”
same feeling is everywhere apparent: the highest ambition is still to create, to 
stamp on this earth the impress of an individual mind.21

Further examples of why it is instinctual can be found in everyday life. No 
one instructs a student to doodle during a lecture, or a child to put colored paint on a 
blank wall, yet most partake of it whether or not there are any inherent artistic 
abilities present. Graffiti artists work “without reward (and often at the risk of the 
opposite), [and they] prove the imperative of ornament for ornament’s sake.”22

Finally, and perhaps most telling, is that the urge to use ornament is so strong 
that even those who called for its eradication or proclaimed its uselessness and 
immorality could not prevent themselves in most cases from using ornament, albeit in 
non-conventional ways. Loos is a perfect example. On his controversial Goldman 
and Salatsch building in Vienna he used the natural veins of stone to form a pattern in 
a sense creating what was “structure ornamentalized” as defined by Robert Kerr.23 
(Figure 23 & 24) Another includes Le Corbusier and the use of patterned colored 
windows in Notre Dame du Haut at Ronchamp (Figure 25). The Futurists and 
Sant’Elia in particular, though so impassioned and bold with their severe visions of 
human life and architecture, still could not keep themselves from, sometimes in 
private sketches, adding ornament to their designs.


22 Phillips, 83

23 According to Tom Beeby, Robert Kerr defined four possible approaches to ornament which 
III Ornament The Graduate School of Fine Arts, University of Pennsylvania (1977). p.12-13 for the 
whole synopsis.
[Sant’Elia] exchanged the radical modernity of the Citta Nuova for the traditional wreaths and cartouches in *sgraffito* that had festooned Como’s palazzi for centuries. [He] fell back on the time-honored tradition of the local houses: neo-Renaissance swags, wreaths, and leafy bowers in reddish sgraffito. The man who had only a few months earlier called for the “abolition of the decorative” and heaped scorn on the “foglione seicenteschi” (seventeenth-century acanthus leaves) was now using the same foglione with loving care...24

![Figure 23; Goldman & Salatsch building – Vienna](Image)

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Figure 24; Detail – Goldman & Salatsch building – Vienna

Figure 25; Interior, Notre Dame du Haut – Ronchamp
Even Ludwig Mies van der Rohe, who decried ornament, could not refrain from adding “ornamental” section beams to the facades of many of his buildings, including the apartments at 860 Lake Shore Drive (Figure 26) and the Seagram Building. “At 860 Lake Shore Drive Mies expressed the structural frame exactly on the exterior of the building. This...ornamental device forms an unbroken vertical line the entire height of the building.”

Figure 26; Apartments at 860 Lake Shore Drive – Chicago

As a final indication of our innate attachment to and propensity for ornament, we have just to look in modern museums and galleries. There, often displayed on the walls far from their original compositions, are the only remnants we save from razed buildings, that is to say the *ornament*. (Figure 27 & 28)

Figure 27; Salvaged ornament from razed buildings – Art Institute of Chicago
Figure 28; Salvaged ornament from razed buildings – Art Institute of Chicago
CHAPTER TWO

THE DESIGN PROBLEM

Therefore when we build let us think that we build forever. Let it not be for present delight nor for present use alone. Let it be such Work as our descendants will thank us for and let us think as we lay Stone on Stone that a time is to come when those stones will be held sacred because our hands have touched them and that men will say as they look upon the labor and the wrought substance of them, "See this our fathers did for us."

- John Ruskin

2.1 Description

The design problem presents itself as a question of typology. The importance lies in the need to choose a building that will display ornament and all it has to offer while at the same time exhibiting the importance of ornament to architecture. This is not to say necessarily that certain buildings will not accommodate it, but there are typologies that are better suited in the hierarchy. Certainly ornament can and should manifest itself wherever it is appropriate. By this, it is meant that a civic edifice may be better suited to accommodate more ornament in its various forms than a private or utilitarian building, such as a residence or warehouse, which might benefit better from more restraint and whose ornament might better be realized as refined mouldings or simple patterns, respectively. It is also important to employ a typology common to any city in the country and to a certain extent to choose a building of secular origins.
as the religious realm of architecture contains inherent iconography that virtually requires the buildings to incorporate some sort of ornament. In this regard however there is some debate which should be noted. Alberti’s ideal church had high windows and little embellishment for example. There are other debates about the appropriateness of excessive ornament (e.g. the Baroque or Rococo) in a religious setting which need not be discussed here. The point is that there remains in virtually every religious sect symbols and iconography which serve to identify beliefs and helps to define and lead the congregation.

Essential to the design problem is the setting, as an urban location not only offers the opportunity for the building to act in a public arena, which is a principal reason to adorn a building, but also gives it a chance to respond to existing boundaries and to interact with other buildings on the level of urban scale. It is not a design for a “heroic building” that stands alone upon the stage or landscape, but rather a design that responds through ornament to location, culture, and function. In her essay on structure and ornament, Anne-Marie Sankovitch puts it this way: “The function of a building is consequently understood as primarily representational and often as actively engaged in defining the social world of which it is a part.”26 In this regard, should our buildings reflect a disinterest and disconnect with beauty, culture, and our collective past, or should they be representational of their function in the social world (in this case a civic duty to educate) and communicative of our origins, accomplishments, hopes and dreams? Should they reject or embrace our imagination and passion? Buildings which employ ornament and consequently encourage the aforementioned aspects of human life improve the social realm by drawing people in, activating the public arena, and consequently even making the streets safer through

26 Sankovitch, 687
the idea of pride of place and because of increased or heightened pedestrian traffic and interest. Bloomer states:

Observe what has actually taken place in many public settings in the United States that are particularly devoid of ornament. The spectacle of private property and privatized power virtually controls the visual life of the unornamented spaces of the recent built public realm. Critics of...eclectic and marvelously embellished downtowns....called for a more pure, regular, unifying style. But consider the consequences of a sanitized style of architecture stripped of its layers of conventional historical reference, including the conventionalized distributions of ornament. How, in the context of such uniformity do we find our way? What architectural clues are there in the unspecified and regularized geometry of windows, doorways, and passageways, or in the blankness of the plaza, that point us toward a particular residence, office, or meeting place? How do we escape a feeling of being displaced or being nowhere in particular?27

To this point, an important part of the thesis is that ornament enriches the public realm and this cannot be accomplished if the building does not participate in that “social world.”

Finally, because of the ability of ornament to teach as stipulated by Dresser in Principles of Victorian Decorative Design, the building would ideally have habitual constituents who would learn from, and be inspired by, the ornament.28

Considering the parameters set above, the setting for the reintroduction of ornament would best take place in a locale of great impression and the logical choice for a building typology that would be able to realize these needs and express ornament is that of an American high school. “Research strongly suggests that the experiences that adolescents encounter in the high school have an important influence

27 Bloomer, pps.224-228

28 Dresser, considered by many to be a seminal figure in the development of modern design, believed that ornament for ornament’s sake was excessive. He focuses mostly on commodity and objects of everyday use and addresses architectural ornament only in passing. See Principles for more on this.
on their aspirations...Four independent studies have found that the aspirations of students are influenced by the kind of high school they attend.  

Besides its ubiquity, the high school presents a number of opportunities to accomplish the task of reintegration of ornament. One is the opportunity to design a number of buildings or departments devoted each to an explicit purpose or Academy and each with their own ornamental essence but unified in a larger composition. This provides the chance to show how ornament can be done in many different specific ways catering to a broad range of ideas or themes, and how these forms are brought back together and function as one unit declaring and clarifying both the locality and universality of ornament.

As said above, the school is a common building typology found in almost every city in America. It is arguably the one typology that almost everyone can relate to, and in this regard, a school provides an opportunity to relate ornament to civic function and responsibility, as it would be educating younger generations in both academia and the relevance and purpose of ornament, in addition to the ornament acting as a tool for education, which is explained later. Concurrently, this would act on the research that found students’ aspirations are affected by the type of high school they attend. Providing a beautiful, unique and visually stimulating environment can positively reinforce the students ambitions, especially in an age concerned with homogeneity.

The American High School has suffered considerably since the Second World War because not only has the design and use of ornament changed in the framework

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29 Boyle, Richard, P. “The Effect of the High School on Students’ Aspirations,” *The American Journal of Sociology*, v71 No.6 (May 1966) p.628-639. Boyle analyses the four studies and offers additional sources which might be used to strengthen the findings.
of the high school, but like many other parts of the built environment, the physical placement of the high school has changed. Acknowledging there was also a change in the fabric of American cities, it is still interesting to note how the context of a high school changed. Once fully integrated into the fabric of the city, the high school since WWII has moved further from people, both physically and intellectually. Physically, instead of occupying the place of prominence in a neighborhood it once held, the high school has largely moved to the perimeter of community, occupying great tracts of land and resembling a “correctional institution” (i.e. minimum security prison) rather than an “institution of higher learning.” Intellectually, instead of acting as a tool for a better life, it has become a stepping stone or hurdle for the next best thing (e.g. kids entering MLB and the NBA directly out of high school).

In addition to the move from an urban or semi-urban setting, contemporary high schools are now devoid of ornament. Considering the way the design of American high schools fundamentally changed after World War II, this is an unprecedented opportunity to redesign schools and the contemporary school system to incorporate the idea and purpose of education into the physical architecture and restore high schools to a position of prominence in the lives of the students and American culture, as well as the urban fabric of a city.

Below are four Chicago high schools, two constructed before WWII (Figure 29 & 30 built in 1904 & Figure 31 & 32 finished in 1929) and two built after the war (Figure 33 finished in 1959 & Figure 34 opened in 1966). The absence of ornament and details is extreme in the latter two schools (as is the urbanism). Missing even are windows in the second example. While high schools have in the last 15-20 years moved away from the “prison” model, they are still relatively unadorned as evident in Figure 35 built in the mid 1990s.
moved away from the "prison" model, they are still relatively unadorned as evident in Figure 35 built in the mid 1990s.

Figure 29; Oak Park River Forest HS (Pre World War Two) – Oak Park, Illinois

Figure 30; Detail – Oak Park River Forest High School
Figure 31; Fenwick High School (Pre World War Two) – Oak Park, Illinois

Figure 32; Main Entrance – Fenwick High School, Oak Park, Illinois
Figure 33; Willowbrook HS (Post World War Two) – Villa Park, Illinois

Figure 34; Montini HS (Post World War Two) – Lombard, Illinois
The role of ornament in civic instruction can begin in the American high school. There is opportunity for the ornament to speak on many different levels. Through the vehicle of ornament, the beauty of architecture can be reclaimed. In this dissemination of beauty, ornament can speak of such things as location (Figure 36), culture (Figure 37), the past, and the future. It can speak of structure (Figure 38) and tectonics (Figure 39). It can speak of the impetus of youth (Figure 40) and the sagacity of old age (Figure 41). It can tell the stories of great individuals (Figure 42), for example in the history of Chicago, in the history of the US, and in fields of study. It can offer insight (Figure 43) and touch the senses. It can metaphorically transform (Figure 44) just about anything and bring to life allegorical figures. It can make the impossible possible (Figure 45 & 46) and offer inspiration. Ornament also reveals the strata between what is important and what is not in the hierarchy of space.
impossible possible (Figure 45 & 46) and offer inspiration. Ornament also reveals the strata between what is important and what is not in the hierarchy of space.

Figure 36; Relief (showing Chicago after the Fire) – Michigan Ave. Bridge, Chicago
Figure 37; Baptistery Door (showing scenes from the Bible) – Florence, Italy

Figure 38; Telemons (that used to hold the pediment above the door) – Prague
Figure 39; Telemon Figures (supporting the eaves) – Vienna

Figure 40; Youthful Figures (expressing the joy of music) – Budapest
Figure 41; Representation of Old Architects (showing the creative abilities that come with experience) – Ljubljana

Figure 42; Relief on Vittorio Emmanuelle Monument (heralding the State) – Rome
Figure 43; Caryatids (punished for colluding with the Persians) – Acropolis, Athens
Figure 44; Rooftop in the form of a dragon’s back – Casa Batlo, Barcelona

Figure 45; Entrance Archway (with eagles’ wings holding up the bay) – Prague
Accomplishing the parameters set out above will strengthen the design proposal. Finally, in order to aid the thesis, the building and its ornament must be placed in an urban setting, have consistent users, act in the public sphere, educate through ornament, interact on many different scales, and negotiate the local and universal.

2.2 How Ornament Functions in this Problem

Ornament functions in a number of ways in order to address and fulfill the above considerations. By educating and interacting with the public, the ornament will
provide a place that people are drawn to. Similarly, the students will be drawn to the school for more than just the reason of attending class. Through ornament, there will be a sense of location and a pride of place. The surrounding streets will be activated by the interest in the ornament and will therefore multiply the number of people in the area, which brings with it inherent security.

The ornament would also help tackle the challenge of negotiating the universal and the local in architectural design. Specifically the ornament will relate to both what has happened (the past) and what is yet possible (the future). It provides inspiration in vocation and creativity through a connection to what has been accomplished and those who have accomplished it, and with what does not exist but can be imagined, and those who envision it.

The different scales of the architecture will be heightened and outlined by the ornament. From the oversized scale of sculptural figures to the minute details of the mosaic work, the ornament provides a wide range of scale to which a human can relate.

Ornament can be considered educational as it probably evolved from an urge to convey something of permanence, whether it was the nature of construction or a ritual or tradition to be passed by each generation. Obviously, a high school is rife with opportunity to educate from the history and great thinkers of a branch of education, to an indication of what is possible in the future, to a complete story of the history of the location, to the forces resolved in the tectonic struggle of architecture.

Ornament relates specifically to the academic tracts in the following ways. In his 2003 Summary Treatise on the Nature of Ornament, artist Tom Phillips made a
series of declarative statements to the Royal Academy Forum entitled “Ornament on Trial.” They are below divided into topic:

**Art:**

Ornament is high art hidden everywhere.

The whole recipe of art was present at its birth in ornament; form, line, tonality, material, disposition, colour.

There is hardly a record of any group or community discovered, or known by its excavated traces, which had not developed a practice of art.

Music is the ultimate art form where technology is exposed. It is built before your very eyes and ears. It also serves as an exemplar of ornamental processes, both in its largest structures (thematic variations, canon, fugue) and in its details, such as turns and trills.

**Science:**

Ornament mirrors the structures of cosmologies (or is even cognate with them in the sense that cosmologies may be born out of the repertoire of ornament). The rings, stratifications, branchings etc in nature inform ornamental and cosmological systems alike.

Just as art is hidden everywhere in ornament, so science also finds many of its formulations already inherent in ornamental practice. The implications of map theory, game theory, topology, the fractals of chaos theory, have all lurked in ornament, awaiting their elevation to science.

Both the macroscopic and the microscopic structures imaged by science corroborate many of the intuited devices of ornament.

Ornament is not only the mirror of observable nature but and explorer of its deeper structures.

By this commandeering of the forms of nature, ornament tries to banish fear. It signals reverence towards nature yet, simultaneously, asserts its conquest and mastery of natural forces.

**Math:**

Art and mathematics are also cognate in such abstractions. First, in the act of abstraction itself and second, in the system developed as counting or mnemonic devices. As mathematics can be stored in the form of ornament, so ornament is secreted in the potential of mathematics.
Technology:

The binary system which governs information technology is one of the most ancient staples of ornamental practice, as is the mode of visual generation by pixels in mosaic weaving.

Ornament echoes the technologies of nature, whose strategies give rise to particular visual possibilities (in the manner of the imbrication of fish scales or the interference patterns of butterfly wings).

Language:

Ornament is a universal language that is transmitted by contact, trade and knowledge: its essence is universally understood even when its sources of symbolism have become arcane.

Transformations of nature into pattern, of narrative into schema, of figuration into device are what gives ornament its authentic character.

Wherever such transformations subjugate the literal or naturalistic modes of representation, the resulting ornament takes on and absorbs the power and energy of its sources.30

Given the above declarative statements, it is easy to see how well ornament relates to the Academies by its very nature, and therefore in so many ways is essential not only to architecture but to academic architecture. To summarize, it operates in and through the five major academies of the school. It functions as man’s first art. It uses universal principles first developed in ornament that have been extrapolated and “elevated” to scientific and mathematic principles. Its production through the millennia has been governed and aided by advances in technology, and finally, ornament functions as man’s first and only universal exoteric language.

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30 Phillips, 79-84
True ornament is not a matter of prettifying externals. It is organic with the structure it adorns, whether a person, a building, or a park.

- Frank Lloyd Wright

The program is a design for a new high school, to be constructed with state funds and money from private donors as part of Chicago’s new public school plan entitled Renaissance 2010. The school will serve as an anchor in the revitalization plans for the South Side of Chicago and go hand-in-hand with the redevelopment of multi-family housing on the southern edge of the site. “In this targeted area, which stretches from 31st Street on the north and 47th Street on the south and from Lake Michigan to the Dan Ryan Expressway, the [Chicago Housing Authority] plans to create five mixed-income communities with 8,000 new homes—one third of them reserved for public housing.” According to the Renaissance 2010 Request for Proposal booklet issued May 24, 2005, the CPS is looking for schools “with a special focus and mission. For high schools, we seek the following specialties: “High tech”; Math and Science; Vocational education; Language immersion and World Language programs; [and] Performing Arts,” among others. The design of this high school will offer much of what the CPS is looking for.


3.1 Renaissance 2010

Renaissance 2010 is a major overhaul of the Chicago Public School (CPS) system to be fully integrated and implemented by the year 2010. Introduced by Mayor Richard Daley in 2003, the plan is to create between 50 and 100 new schools in Chicago. It calls to shut down many schools and either raze or renovate them to be reopened as a smaller school that will operate in one of 3 ways: as a CPS school, charter school or contract school. The goals of Renaissance 2010 are, as reported by the Chicago Sun-Times, “By graduation, students should be ready to obtain certificates, if they desired, as pharmacy technicians, certified nursing assistants, surgical technicians, X-ray technicians, architectural technicians, and industrial or electrical designers….or they could move on to college.”

3.2 Size and Programmatic Description

The complex comprises approximately 650,000 square feet to accommodate 3000 students, under the recommendation of approximately 180-200 square feet allotted per student as recommended by the Washington, DC Public School system (DCPS) and adopted by the Chicago Public School system. The school program involves a redesign of Ellis Park, and the existing baseball diamonds and football fields there to include better organization and stadium seating. The high school campus comprises 10 parts and in the recent trend of small school planning, divides


3.3 Location of the School

the student body into specific interest Academies with the availability for cross-learning. There are five small learning academies designed to help students find prospective vocations, while also serving both the needs of the students and the community. The Academies are designated as follows: Technology, Arts, Sciences, Mathematics, and Languages, which as mentioned before, are suggested by the Renaissance 2010 guidelines for alternative school planning. This is also in line with the recent trend of small school planning. The other five parts of the high school are the Entrance, Library, and Administrative wing; the Performance Hall and Dining Hall; the Fieldhouse; the Parking garage; and finally the Athletic Fields.

Future plans include parts of the high school to function as a community and fitness center, as well as housing the Head-Start quarters that are being displaced by the construction of the high school. The building complex will also include underground parking of 224 spaces to supplement the on-street parking.

One of the expansive goals of this project is to serve as a model not only to enhance the quality of the design for the users of this school, but more importantly, to incorporate essential and symbolic ornament into all areas of the design and improve the condition of the design process for public schools in the United States. The contingent goals through the use of ornament are to build a school that inspires the student, kindles creative and innovative thinking, and provides an atmosphere that encourages and motivates the student, ultimately increasing the awareness of their surroundings and igniting a passion for beautiful places, while simultaneously connecting the school to the surrounding community. The universal goal is to provide a model that can be used to raise the level of current school design practices.
The site is located in a three square mile area on the South Side of Chicago which, under Renaissance 2010, is scheduled to have 20 of 22 schools closed as “part of an ambitious reform that hopes to shock troubled schools into dramatic improvement.”\(^\text{35}\) It is a brownfield east of the Dan Ryan express way between 35\(^{\text{th}}\) Street and 37\(^{\text{th}}\) Street directly adjacent to Ellis Park. It occupies approximately 350,415 square feet which translates to just over 8 acres. The total area of the site including Ellis Park is 787,420 square feet (18 acres). The plan for the school involves the redesign of Ellis Park as well as the razing of the abandoned building between 36\(^{\text{th}}\) Street and 36\(^{\text{th}}\) Place on the northern edge of the site and the one-story brick building on the southwestern corner. The current daycare center there will find a new home in the public areas of the high school.

The ornament of the school will not respond directly to the surrounding area as the immediately adjacent buildings are completely devoid of ornament. It will respond to the larger context of Chicago and the rich history of ornament present throughout the greater Chicagoland area.

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CHAPTER FOUR
THE DESIGN THEME

I wish to replace the old symbolic elements, which have lost their effectiveness for us today, with a new, imperishable beauty... in which ornament has no life of its own but depends on the forms and lines of the object itself, from which it receives its proper organic place.

- Henry Van de Velde

4.1 The Discussion of Appropriate Themes

The design of the ornament in relation to the program of the school functions in multiple ways. Each Academy identifies with specific themes, influences, allegories, and symbols that operate on both the exterior and interior and employs all types ornament, that is to say figure, pattern, text, color etc. This will establishes a specific relationship between program and ornament and demonstrates the relevance and contingency of ornament.

The ornamental programs of the exterior and interior do not operate independently of one another but the significant allegorical and symbolic themes and narratives function primarily on the exterior as a presentation to the public and a display of the nature of the building. The symbolism does carry to the interior albeit in a more understated way as the ornament evolves into a more abstract element principally designating the hierarchy of spaces and aiding in direction.
4.1.1 Historical Themes

The historical themes surrounding the building will tell the story of major events in Chicago’s history, in high and low relief panels that are installed in the base of the front elevation of the complex. The Performance hall and Entrance wing and Fieldhouse will each represent major events from the history of Chicago as a presentation to the street and as a unifying feature of each building mass. The interior courtyard/winter garden will also feature busts of famous Chicagoans. It will be articulated as the intersection of all the Academies. It will draw its theme and symbolism from Horace’s account of Akademe, the follower of Plato, whose woods were frequented by those wishing to find the truth. And from that account we have the idea of the Academy, where ideas and positions are discussed until the truth is discovered. Finally, traditional symbolism from the City will be featured throughout the school. The crowning jewel of the historical ornament is the School of Chicago painting installed in the Great Hall, at the main entrance to the library, much the same as the Western tradition of the Uomini Famosi who marked the entrance to great libraries in history.

The tradition from which the program descends is that of the “Famous Men” or the heroes of antiquity, frequently and appropriately chosen to decorate libraries.... Represented here are people from many different centuries, but they are imagined to be gathered in one space. [They] are participating in a lively discourse. That discourse is also intended to engage the viewer. [It] has left an opening for viewers to enter with their imagination, identify some of the figures for themselves, and take part in the dialogue.36

The figures of the School of Chicago are actively engaged with one another as a metaphor for how the Academies and intellectual disciplines should interact. Their

discussion throughout history is spoken with our words. And intentionally some of the figures are left blank so that we might aspire to join them someday.

4.1.2 Contemporary Themes

Contemporary themes take their residence mainly in each respective Academy and offer elements that relate to everyday life and modernity, for example a portrayal of a student using a computer or a vignette of a football or softball game. Communication or sports are not modern day inventions. Rather these depictions are a modern day mode of accomplishing these actions. The contemporary themes have more to do with representing human subject matter in a current method than displaying new topics.

4.2 Discussion of Precedents

Precedents for this building lie chiefly in high schools built before World War II. The design of the building and its attempt to disassociate itself with any singular style makes it difficult to point to a particular precedent, or even to a particular style of precedent. The advantage of designing without an established style is that the building welcomes any fashion of ornament, in a sense, creating a place for ornament, rather than the current, popular public building style which hardly provides a place for any ornament at all. The intention is to analyze and appropriate any and all styles of ornament available and necessary for the high school.

4.2.1 Building Precedents

Chicago has a rich heritage of ornamented high schools which this thesis draws from. Prime pre-Second World War examples are Fenwick High School and Oak Park River Forest High School. Other buildings with comprehensive ornamental and iconographic schemes such as the Nebraska State Capitol building and the United
States Capitol building also form a role in the influence. Granted, these are not typologically related to a high school, as they are civic or political buildings, but they are related in that they present a comprehensive ornamental program which educates the visitor. In the same vein, precedence lies in the Secession Building in Vienna and in the Harold Washington Memorial Library in Chicago. The Library has generated much interest in Chicago in the last ten years and has essentially laid the foundation for the school and a reconnection with ornament.

4.2.2 Ornament Precedents

The precedents for ornament are everywhere. Anything in nature that can even remotely be thought of as ornament is considered for use, in addition to ornament that adorns buildings. The allegorical figures of each academy were inspired by Cesare Ripa’s *Iconologia* as well as Bertram Goodhue and Lee Lawrie’s figures from the Nebraska State Capitol. Similarly, those figures resemble the Egyptian monumental figure and other monumental figures throughout history.

The rhythmized foliation of the botanical aspects finds its roots in Sullivan’s work, it being especially appropriate in Chicago. The botanical sources are purely from nature and in every case possible and where appropriate indigenous flora is represented.

The fauna represented have a historical or contemporary link with the location in most instances, but also are depicted if they traditionally represent a specific relevant virtue or aspect. Furthermore, fauna (and flora) from any location is considered if its relevance and appropriateness outweighs its inability to be recognized, as discussed in Chapter Five.

Patterns have found their inspiration in the work of the Cosmati and in traditional eastern and western motifs, as well as traditional strategy games in some
cases, but in many cases the rhythmic fluctuations in nature, for example the curling wisps of smoke, repetitive ripples in water, the alternation of leaves on a branch, or the striations in rock formations provided plenty of inspiration.
CHAPTER FIVE
DESIGN PROCESS AND METHODOLOGY

In my buildings I try to enhance what seems to be valuable, to correct what is disturbing, and to create anew what we feel is missing.

- Peter Zumthor

5.1 Style

Inevitably, the question of style will arise during the discussion of this school. As stated before, it is important again to note that the design of this school is not associated with any particular style. This is because ornament, while its amount and/or presence defines the style, transcends style itself. Ornament is a phenomenon found in every culture and “is born of a primary and elemental urge. It tries to make sense of the world and make the world make sense.”37 Using ornament itself as inspiration and influence for the “style” of the school is sufficient. There is enough documentation of the particular elements that comprise ornament to create a composition that adheres to the rules of ornament without begging the help of an “established” style, but rather uses the foundations of traditional architecture as a context for manifesting the ornament. Owen Jones and Otto Wagner sum up the approach to style that this thesis endeavors to employ. Jones states:

To attempt to build up theories of art, or to form a style, independently of the past, would be an act of supreme folly. It would be at once to reject the experiences and accumulated knowledge of thousands of years. On the contrary we should regard as our inheritance all the successful labours of the

37 Phillips, 79
past, not blindly following them, but employing them simply as guides to find the true path.38

Similarly, in his text *Modern Architecture*, Wagner says:

> The architect may dip into the full repository of traditional forms, but he must never copy a selected form; he must adapt it to us and to the purpose by reshaping the form or by finding his intended effect from those produced by existing models.39

There will be comparisons made between the design of this school and the prominent architecture of the early 20th century (i.e. Jugendstil, Art Nouveau), and while in a sense the design attempts to recapture that time when ornament was held in high regard and had gravity, the design of this school and its ornament actually attempts to use every available ornamental influence possible. Certainly this association might be made because that epoch was attempting the same process, that is to say erecting buildings and embellishing them with any influence available. The intention is a design that explores and takes advantage of all ornament has to offer.

### 5.2 Overall Form and Organization

The overall form of the school has a distinct bilateral symmetry. This is done primarily for value engineering. The building massing is virtually symmetrical in both plan and elevation, which gains efficiency and saves budget for the ornament. Additionally, because the school is divided into Academies that represent their curriculum to the public in the form of particular ornament, it was advantageous to organize the school into branches that have at least one “individual” street elevation.

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38 Jones, 2

This also allows every branch to recede away from the viewer so as to help distinguish itself as a particular academy.

The organization of the school functions on both theoretical and practical levels. The academies can be classified into two tracts; one of ‘Creating’ and one of ‘Reflecting.’ Art, Technology, and Science all belong to ‘Creating’ because of their focus on what is needed to produce new art forms, new technological advances, and new scientific discoveries. The Math and Language academies can be classified as ‘Reflecting’ because their focus is placed on deduction and calculation, and on what is needed to communicate, respectively. Following that theoretical and figurative construct, it is apparent why the ‘Creating’ and ‘Reflecting’ academies are grouped together. Technology, Art and Science all occupy the northern side of the site, while Math and Language occupy east and west respectively. Language is situated next to the Auditorium in support of the theory that those in a Performing Arts curriculum should have a mastery of language. The interior courtyard which is covered for climatic reasons provides a place for students from each academy to gather and socialize. The circulation of the building is designed so that there is one main entrance and from there the students have the opportunity to circulate past the other academies which gives the students an opportunity to see what is going on in other departments.

On a practical level, some academies benefit more from specific locations. For example, the Technology department benefits best in proximity to a road because the Automotive Technology curriculum requires access to vehicles, which can be driven into the building’s auto shops directly from the street. The Art department is situated with all the studios facing north, which provides flat, even light for producing art. The
Science department is located nearest the fields and adjacent to the only part of the site that would accommodate a greenhouse. This will allow easy access to locations for experiments that are environment-specific. The Library and Administrative branch, the Auditorium, and the Fieldhouse are all located on 37th street as a presentation to the public, and for the purely practical reason of each having an entrance at the front of the building for their respective special functions (e.g. theater performances, sports games, and parent-teacher conferences). The Fieldhouse is also located directly across the street from the playing fields for the practical reason of grouping the sports facilities together.

5.3 The Exterior

The exterior utilizes a number of different types of ornament and manages a number of different scales through the triadic structure that organizes the ornament. Divided into Base, Middle, and Top, each section presents the different scales, sometimes just one, and sometimes many, and plies different symbols, allegories, and/or stories. At the base, the school showcases narrative panels that relate to history, culture, and place, for example representations of the Great Chicago Fire of 1871, or the 1967 riots, or the founding of the city by Du Sable. In the middle are expressions of the nature of architecture and structure, in addition to the ornament that mediates different materials and the concept of solid versus void. Finally at the top allegorical figures are presented in the largest scale and ornamental elements are used where the building meets the sky. “In art emotion is traditionally expressed
through distortion, through the transformation of the familiar into the unfamiliar.”

The scale of these allegorical figures is meant to conjure the emotions of shock and awe to remove the viewer from everyday complacency, similar to ancient Greek pedimental sculpture, the Dipylon vases, or the Kouroi figures.

Each Academy is represented by allegorical figures of the major branches or driving forces. As mentioned earlier, the *Iconologia*, a reference manual used since the 16th century, provides most of the accoutrements that accompany these allegorical figures. It should be noted here that there is a fine line between the universal and recognizable and the contingent and unrecognizable when it comes to allegory. The *Iconologia* is a western representation and provides a base model from which to add or subtract suitable symbols, which may or may not have been borne in the western tradition. Through the collision and fusion of symbols and traditions, ornament can ignite curiosity and facilitate learning - but only if the viewer is willing to engage it.

The design of ornament should include subject matter related to time and place, but concurrently should not be restrained or hindered by location and culture. In such a pluralistic society it is difficult in some cases to determine what is appropriate and that is why whenever possible the ornament employs universal symbols and allegories. The ornament takes cues from the surroundings, but at the same time uses the open book of style to enhance the local culture and dialect. Incumbent on the viewer is the responsibility to inform oneself, or at least inquire about the intent of the design. Ornament, while speaking the local language, is also responsible for expanding the vocabulary in much the same way foreign words creep

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into spoken languages to enhance understanding and meaning. To that point, the allegorical program follows below. Each of the figures in the allegories are devoid of racial features and are robed in a seamless robe that represents wholeness and unbroken tradition.41

5.3.1 The Allegories

It is important again to note that descriptions from Cesare Ripa’s *Iconologia* provide the basis for the allegorical figures described below. Additional symbolic figures and elements are drawn from manuals and encyclopedias of symbolism such as J.C. Cooper’s *An Illustrated Encyclopedia of Traditional Symbols*.

**Entrance:** The figure of Academia tops the central tower. She is crowned with gold and robed in many colors that express the multiplicities of knowledge taught. She is seated on a chair adorned with leaves and fruits holding a tablet and garland. Near her feet perch 2 monkeys surrounded by books. The monkeys are symbols of imitation, letters and the equinox which stands for time (which the student must manage). Academia is framed by two large bears which represent transformation, initiation and the rite of passage.42

**Mathematics:** The figures of Calculus, Geometry, Algebra and Trigonometry crown the corners of the building. Their thrones are adorned with the symbols of each vein, for example Geometry is seen with a compass and plumb line, cubes and cones around.


42 Cooper, 18
Arts: The allegorical figures of Painting, Sculpture, Music and Dance crown the corners of the building.

Sciences: The allegorical figures of Biology, Chemistry, and Physics crown the corners of the building. Present in the moldings and capitals is a naturalistic theme as the Sciences focus on this area of study.

Language: The allegorical figures of Speech, Eloquence, Rhetoric, Grammar, crown the corners of the building. The Chrysanthemum features prominently at the base, emerging from the repetitive ornament, as a symbol of long life and remembrance.

Technology: Bower Birds representing Innovation and Invention perch alongside and in between the allegorical figures of Environmental Technology, Automotive Technology, and Digital, Electronic and Graphic (Information) Technology. Additionally, birds represent imagination, and 2 birds together can represent the unmanifest and the manifest, in other words ideas and the realization of those ideas.\(^{43}\) The Bower bird is a good example of the struggle between the recognizable and the unfamiliar. While it is confined, at least in the wild, to the South Pacific (e.g. Australia, New Zealand, and Indonesia), the Bower bird builds elaborate nest structures, an apt representation to go with an allegory of technology. Because of its small territory in the natural world, the Bower is probably not universally recognizable, but this is where the responsibility of the viewer factors in. Ornament can only teach so much; the onus is on the student in this instance. The capitals of the

\(^{43}\) Cooper, 20-21
piers that divide the windows contain a face that represents the “spirit in the machine.”

While apposite allegorical figures crown each building, unifying elements, such as the floral repetitive band and narrative friezes tie the various facades together even as other suitable elements handle the task of distinguishing each Academy. This is so the school appears as a single complex instead of a series of different buildings jumbled together. The rhythmic panel that sits just above the base of the building was designed using principles laid out by Louis Sullivan in *A System of Architectural Ornament*. Throughout the façade is also the use of a Lotus flower motif. The Lotus “goes far into the realm of metaphysics. It is a symbol of the pure essence of human nature which is undefiled…by the ignorance that the physical world generates; in other words, the Lotus is Enlightenment itself.”44 (See Appendix)

5.4 The Interior

The hierarchy of spaces in the interior is characterized by the amount and type of ornament they utilize. For example, the main entrance and corridor is far more ornate than a closet or even a classroom, which is not devoid of ornament but rather more subdued. Each Academy has its specific influences on the ornament but are linked through common mutable themes. One major theme is the circle. A circle symbolizes totality, wholeness, original perfection and the Self.45 The circle occurs in the floor patterns at the major intersections in each academy. It presents one of the


45 Cooper, 36
frameworks for contingent elaboration. Another is the flower, which plays into the symbolism of cultivation (explained later).

In the entrance to the school, at the intersection of the Grand Hall and the corridor that circles the Winter Garden is a large circular flower pattern. The flower represents, among other things, a receptacle. “In the bud, the flower is potentiality; in opening and expanding outwards it depicts development in manifestation.”46 The bud (or seed) can be considered a metaphor for the first year student, and the blossom, the fourth year student.

At the primary junction in the Math academy, the floor pattern uses the Ouroboros around the Cosmic Egg which Pythagoras defined as the psyche of the universe.47 In the Orphic mysteries, a serpent wraps around the cosmic egg and crushes it releasing the mercurial spirit, this relating to the myth that Mercury gave the gift of mathematics to humans. In other areas, mathematical constructs (e.g. geometry) and strategy games influence the floor and wall patterns. The hallway border utilizes a geometric cross-section of a flower, the same one used in the Science academy. Other geometrical shapes dictate the form of mouldings around the lockers and doors.

The Language academy draws its interior patterns from more abstract notions. The central circular pattern is a spiral with a pair of conch shells in the center of it. The spiral is “a highly complex symbol which has been used since Paleolithic

[^46]: Cooper, 70
[^47]: Cooper, 37
times.”\textsuperscript{48} It also signifies the ear of gods and kings, which a mastery of language will grant you. The conch shells echo the spiral and symbolize oratory, learning, and sound, and the ear that hears the divine.\textsuperscript{49} Other patterns in the Language academy arise from the Rosetta stone, hieroglyphics, and national flags as well as installments where language root systems and influences are shown. The border of the halls encases an ant motif, ants symbolizing essential and constant communication to achieve a common goal. Elsewhere the lockers are framed by a lesbian motif, the tongue being an important element in language.

In the Science academy, the large circular central pattern uses a microscopic cross section of a fossilized diatom for its inspiration. The diatom is a phytoplankton that forms part of the foundation of the food chain and represents an integral part of the web of life. In other areas the natural forms in chipped glass constitute other ornament, as well as the fossils and striations in rock for wall and floor patterns. The halls are bordered with a repetitive section of a flower, the more naturalistic representation of the same flower used in the Math academy. Mouldings and wall patterns are governed by natural flora and fauna, as well as the shape of microscopic entities. The two-dimensional patterns of the floor “grow” up the wall supporting and surrounding the lockers and emerging into three-dimensional forms above the lockers.

The Art academy uses a wealth of sources for its interior ornament, having painting, sculpture, music, and dance to draw from. The central intersection is a

\textsuperscript{48} Cooper, 156

\textsuperscript{49} Cooper, 42
Chrysanthemum flanked by ravens. In Native American lore, the raven is responsible for creating the dawn, and therefore a symbol for creation.\textsuperscript{50} The Chrysanthemum is a symbol for longevity and represents how the work the students create will be their legacy.\textsuperscript{51} Additionally, as stated before, paired birds represent the unmanifest and the manifest and a winged disk portrays the untiring journey of the sun across the sky (i.e. time).\textsuperscript{52} Through time (and effort) the unrealized vision becomes concrete.

Finally, the Technology academy draws its influences from technical processes giving its ornament a streamlined look not unlike Art Deco. The focal floor pattern is a wheel representing advances in technology and which symbolically is closely linked to the flower. The smaller patterns show the inner design of a touch sensitive pad.

Additionally, one academy might exhibit the famous individuals in that particular field of study while another might represent its various parts in symbolic or literal displays. Similarly to the exterior, the interior will be tied together with repetitive rudiments and a mutable framework providing a canvas for the conditional embellishments. One of these elements is the depiction of ivy in the border of the hallways that connect the academies. Ivy is a great metaphor due to its entwining and spiraling journey of growth. It represents a journey of initiation and descent into a great unknown into which the character wanders seeking finally the objective of enlightenment.

\textsuperscript{51} Cooper, 36
\textsuperscript{52} Cooper, 193
5.5 The Winter Garden

The Winter Garden serves multiple purposes. It acts as the intersection between all the branches of the school and as a unifying feature for all of them, where, on the interior, their respective ornamental programs are synthesized. It helps the school appear as a singular building on the exterior, despite its many branches and serves as a background for the individual Academies. Finally, it is a covered space that will be visitable year long despite the inclement weather of Chicago. Its ornament draws influence from most notably, and as mentioned before, the poet Horace’s account of the woods of Akademe. It represents a larger theme than the specific academic branches do, and incorporates ornament that reinforces that idea. For example it has a tickertape LCD panel that runs news stories daylong around the space. This grounds the students metaphorically in the larger world around them, where they bring what they have learned to bear upon the world as we know it, and which, through ornament, is represented as a place where all academia can come to discuss issues and search for the truth.

The Winter Garden also acts centrally in the theoretical performance of the school. The motto of the city of Chicago is “Urbs in Horto” – City in the Garden. Following this idea, the Winter Garden, in union with the rooftop garden, reinforces the idea of cultivation in the city. The school cultivates gardens as a metaphor for cultivating students as they grow into adults. Much of the ornament, including the gardens of the school, is inspired by nature, incorporates floral patterns and motifs, and repeats the central idea of the school: commitment to the development and
cultivation of students, by providing a foundation of education and appreciation for beauty through ornament, until they blossom into responsible citizens.
CONCLUSION

PRESENTATION OF THE SCHOOL

It will require a great effort ... to cease thinking of ornament as an add-on to buildings, when it should be as natural as the flower on the end of its stem. Without such a conceptual shift, ornament will last no better than cut flowers, for the enduring quality found in ornament comes from an internalization of the processes that make form rather than a reproduction of a model...

- Alan Powers

6.1 Written Presentation

Ornament enhances a building and subsequently our experience of it. This project is a demonstration of that thesis and how ornament can enrich and explain a building. Given the current and recent history of the design of high schools in the United States, this thesis project will provide a much needed reconnection with beautiful and thoughtful building, in tandem with providing an atmosphere which encourages rather than subverts the aspirations of the student.

The ornamental program of the school is a demonstration of two things: first it breaks the building down through the use of scale, in a Holonic progression, organizing the viewer’s visual experience and articulating forms at different scales. Second, it employs specific ornament that addresses the question: “What is education in 2006?” Important it is in this regard to remember that ornament performs two
functions at all times in the context of relevance and transcendence. Ornament plays a contingent role in everything it adorns, relating to the viewer the time, place, social situation, and history of the area. In this situation, the contingent aspects of the ornament are influenced by Chicago, be it through designs that use Sullivan’s principles and evoke his ornament or through narrative panels that portray the history of the place. Concurrently, ornament represents universal ideas in its manifestation. For example, the depiction of allegorical figures of Science or Art take on a universal appearance, in other words, they will appear the same no matter the location. It is through the relevant and transcendent aspects of ornament that the beauty and significance of a building is brought to bear on the witness.

Finally, the contingent goals through the use of ornament are to build a school that inspires the student, kindles creative and innovative thinking, and provides an atmosphere that encourages and motivates the student, ultimately increasing the awareness of their surroundings and igniting a passion for beautiful places, while simultaneously connecting the school to the surrounding community. The universal goal is to provide a model that can be used to raise the level of current school design practices. That being said, the hope is that this thesis raises awareness about the current state of ornament and subsequently the contemporary design of American high schools.
APPENDIX

FINAL PLATES AND DRAWINGS

Plate 1; Site Plan (with site outlined in red)
Plate 2; Analysis of how the High School serves to redeem the site over 50 years
Plate 3; Preliminary Studies of the Academies
Plate 6; Garage Floor Plan (also showing Cafeteria & Natatorium)
Plate 7; First Floor Plan (showing floor pattern in Greenhouse)
Plate 8; Second Floor Plan (showing typical floor patterning)
Plate 10; Fourth Floor Plan
Plate 12; Sixth Floor Plan (showing entrance to Roof Garden)
Plate 15; Detail of Entrance with floor patterns
Plate 19; Detail of Art Academy with floor patterns
Plate 20; Detail of Technology Academy with floor patterns
Plate 21; Detail of Language Academy with floor patterns
Plate 22; Detail of Auditorium with floor patterns
Plate 23; Entrance Detail
Plate 24; Detail of the allegorical figure of Academia

Plate 25; Close-up of figure of Academia (flanked by bears (representing transformation) and monkeys (representing man's ability to be taught))
Plate 26; Lotus boss (as mentioned on page 75)
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Plate 31; Perspective looking West (front entrance on right)
Plate 32; Perspective of Auditorium (looking toward balcony)
Plate 33; Perspective view of the Grand Hall
Plate 34; Sketch of the School of Chicago (central painting in the Grand Hall)
Plate 35; Perspective view of the Winter Garden


