UNIVERSITY OF CINCINNATI

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I, Allison E. Beer, hereby submit this work as part of the requirements for the degree of:

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A Residential College: A Living Complex for DAAP Students at the University of Cincinnati

This work and its defense approved by:

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a residential college

a living complex for daap students at the university of cincinnati

A thesis submitted to the Division of Research and Advanced Studies of the University of Cincinnati in partial fulfillment of the requirements for the degree of

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by

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Bachelor of Science in Architecture
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Committee Chairs

Gordon Simmons
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In recent years, university spending on housing has experienced huge growth, because universities have begun placing a new importance on student housing, considering it to be an important part of the “total university experience.”

Student housing holds enormous potential to contribute to the overall goals of a university, as well as to the development of students by providing opportunities in which living, learning and socializing happen simultaneously. The residential college system infuses social and educational opportunities into campus housing by including social spaces and opportunities for students to interact with faculty in a more intimate residential setting.

This thesis will investigate how the ideas of the residential college system can be translated into design principles and strategies in order to enhance the way in which student housing contributes to development of students and the goals of the university.
I would like to thank my boyfriend, Drew, who tolerated unending rants about my difficulties with my thesis and permitted me to discuss my design ideas even at the most inopportune times. Even more importantly, he never let me take myself too seriously and always encouraged me to have a little fun.

I would also like to thank my parents for their love and support through this process, especially my father who picked up the first draft of this thesis and read it from beginning to end without me even asking him to.

Finally, I would like to thank all of the DAAP faculty members who have helped me develop into what I am today. A special thanks to my thesis advisor, Gordon Simmons, who guided me through the thesis process as gently as possible.
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Still, we had some knowledge that the University of Cincinnati had big plans and we looked forward to, in the very distant future, state-of-the-art classrooms and an exciting new student union and recreation center. It was even rumored that the student union would have a movie theater and the recreation center would have a climbing wall and two pools!

It was easy to forget about all of these exciting plans, though, when I returned to Daniels Hall, where I was assigned to live as a freshman (see figures 0.1 and 0.2). Daniels Hall was built in 1967 and houses approximately 700 students, most of whom are freshmen, in primarily four-person rooms with a few two-person and one-person rooms scattered throughout the building. Daniels Hall is pretty typical of what most people think of when they think of a college “dormitory.” It features cramped one-room living areas with practically no privacy, and if you need to use the restroom or brush your teeth, you can find the bathroom down the hall, but be sure you wear your “shower shoes” if
you’re going to be walking in the public hallways. Uninspiring seemed to be a good term for this type of architecture.

Daniels Hall provided me with a secure place to live. It offered all of the basic amenities that I needed, but if I had been given a choice, I certainly would not have chosen to live there. I spent as little time at Daniels Hall as possible; often I stayed in my studio well past the point of completing a project.

When I came to visit the campus before deciding whether or not to attend UC, I didn’t take a tour of any of the dormitories. I knew these tours were offered, but I had been told by other prospective students and even UC advisors not to bother taking that tour, because there wasn’t much to see. The tour I did take, though, focused heavily on the brand new building projects UC had recently completed: the new part of the CCM Village designed by Henry Cobb was a must-see, as was the recently completed Engineering Research Center by Michael Graves, the Vontz Center by Frank Gehry, and don’t forget the highly acclaimed Aronoff Center designed by Peter Eisenman.

In the end I did decide to come to the University of Cincinnati, but I can certainly say that the housing options that UC offered had nothing to do with my decision. In the past few years, though, students nationwide have ranked availability and quality of on-campus housing as a one of the top five things that they looked at when choosing a college (El Nasser 2004). If quality of on-campus student housing had been an important issue for me, would I still have chosen UC? That’s a difficult question to answer at this point, but perhaps the more important question now is, what can the university do to improve the quality of the housing the offer?
Most universities see tangible benefits for their institutions in building new classrooms facilities and student unions, but often do not see the benefits of carefully considered and fully integrated student housing projects. A more difficult means of funding for residence halls, deemed “auxiliary buildings” by most states, certainly plays its part too, but since there are ways around these funding issues, it is certainly not the only force. It is easy for universities to see the educational, financial and recruitment returns that classrooms and impressive student union buildings provide, but not so easy to see that housing can also provide returns in all three of these areas as well. It is especially easy to see on-campus housing as a “necessary evil” when incoming students are required by the school to live on-campus for their first year. The residence halls are always full, so what’s the problem? The problem is that incoming students dread the “dorm experience” instead of looking forward to it. The problem is that the culture on campus quickly becomes that of freshmen-only, as all of the upperclassmen move off campus at their first possible chance. The problem is that these same students tend to get lower grades and have a high drop-out rate once they’ve moved off campus (Cleave 1996, 1). The problem is that these same students feel disconnected from campus and don’t get involved in leadership opportunities or other extracurricular activities (Cleave 1996, 2). And finally, from a financial standpoint, the problem is that the University is missing out on an opportunity to make more money from these students through room and board for three more years.

So, the goal now becomes how to demonstrate to the University of Cincinnati, as well as other universities, that improving their stock of on-campus student housing
can have huge benefits and to establish some guiding principles for the design of effective student housing. This thesis will address that goal through research and a design for a new residence hall on the University of Cincinnati’s campus. The design will be a culmination of the research and an example of how the research can be put to use.

The first section of the thesis, entitled “Problem Statement” defines the thesis problem itself, by giving a snapshot of the problems that exist in the current state of on-campus student housing ranging from an out-dated typology to uncomfortable town-gown relationships as well as lack of integration of housing into a campus’ master plan.

The next section, called “Background and Literature Review” traces the history of student housing in America, beginning with its origins at Oxford and Cambridge and ending with current trends in today’s student housing. This section considers the impact that housing can have on the development of students, both socially and academically, while also touching on its role in the greater university. It then investigates student needs in a subsection called “What Students Want.” The focus then shifts to universities’ needs, as housing is again examined in the larger context of the whole university and its goals, and the role that student housing can play in a university’s mission to supply students with both educational and social opportunities. Finally, the residential college system is investigated as a way of accomplishing all of the goals that have previously been set forth. This system has often been touted by university administrators as the solution to many common problems that universities face. Since the residential college system often places a strong emphasis on the development of community, the final section examines the balance of
privacy and community that is important in all student living environments.

Section 3.0, “Precedent Analysis,” examines significant student housing projects by Alvar Aalto, Steven Holl, Helmut Jahn, Thom Mayne, and Tod Williams and Billie Tsien in order to distill positive and negative aspects of these projects and investigate how the housing works for the student who lives within it as well as the university.

“Background Summary,” section 4.0, summarizes the key concepts of the research that have been presented previously. Section 5, “Proposition and Concepts”, then presents the design thesis and further distils the concepts from the research, setting forth how the concepts will be adapted for the design.
The Current State of Student Housing:

According to a book published in 2005, more than 50 percent of learning in college occurs outside of the classroom (Kenney 2005, 38). Learning happens everywhere on campus, and universities are finally picking up on this fact and improving campus facilities other than classrooms and libraries (Kenney 2005, 39). These places where learning occurs obviously include university residence halls, whether through organized educational opportunities or simply through students finding a safe, quiet place within them to study. Unfortunately, many university campuses are plagued with out-of-date housing, which does not adequately meet students’ learning needs or expectations.

The 15th Annual Residence Hall Construction Report, published in 2004, predicts that adding on-campus college housing will continue to be a priority for universities over the next decade as college enrollment increases by up to 10 percent and students demand more and more amenities (Agron 2004, 28c). This presents an opportunity for new and exciting campus housing to be constructed all over the country, but universities need to be careful to avoid the pitfalls of past student housing and to move forward thoughtfully, in order to insure that the new housing meets both the needs of the students it will house as well as the university it will serve.
Problems and Solutions:

University-provided student housing has certainly experienced highs and lows over its history. Universities have realized some of the problems of past residence hall typologies and structures and have worked to fix these problems. This section will briefly highlight some of the problems that have been apparent in past housing situations, as well as identifying ways in which these problems have been or could be rectified in future student housing developments.

In the dormitory building boom of the 1950’s and 1960’s very little consideration was given to the architectural character of the buildings or how they related to the campus context or mission of the university. The main concern was to build housing, and to build it fast while demand was high and federal loan interest rates were low. Dormitories built during this time were mere shelter, meant to warehouse students, with the bottom line as the main focus, not to aid their development (Smith 2000, 28).

According to a 2004 college housing report, nearly all colleges now have a master plan for campus development and 39 percent of colleges have a master plan for residence hall development specifically (Agron 2004, 28d). This seems to indicate that universities are putting a high priority on campus planning and architecture, and, unlike in the 1950’s and 1960’s, residence halls are included in the equation. This certainly seems to be a step in the right direction. The question now becomes, how are universities treating these new facilities? If they are still being treated as simply shelter, which is often the case, the problem still exists. The real problem that many universities are beginning to tackle is how student residences can
contribute to the academic and social development of students as well as providing them with shelter (Price 1993, 2).

In addition to their failure to include student housing in their master planning activities, universities also often neglect to realize or even consider the effect that students have on the surrounding community. When students are expected to make their own housing arrangements huge strains can be placed on the community surrounding the University. According to Clement Macintyre in New Models of Student Housing and Their Impact on Local Communities, student housing that is sensitive to the surrounding community can not only prevent problems, it can provide solutions to some urban problems (Macintyre 2003,114). Through appropriate planning and integration, Macintyre asserts, student housing can “make a major contribution in revitalizing areas of communities that are otherwise in decline and neglected.” For example, in the 1990’s Babson College in Wellesley, Massachusetts decided to build on-campus housing for the sole purpose of appeasing the residents of the community who were upset about students crowding into single family homes, keeping late hours and partying (El Nasser 2004, 03a). Once members of the community were no longer negatively impacted by the students, the community was able to build a much more vital and beneficial relationship with the college.

Similar to the strained relationships universities sometimes have with their surrounding communities, university housing departments often experience a strained relationship with the supposedly more academically oriented departments and faculty. According to Joseph Schwab, one of the partners at Cincinnati based GBBN
Architects and the project architect on the ongoing renovation of one of the University of Cincinnati’s residence halls, university professors often clamor for funding for research facility and classroom construction and renovation at the expense of facilities that will benefit student life, such as a new student union or improved residence halls. This is a symptom of what Robert J. O’Hara, a former administrator at the University of North Carolina in Greensboro, refers to as “the poverty of student life.” By this he is talking about how faculty members at most major American universities have relinquished all responsibility for student life outside the classroom (O’Hara 2002, 1).

The final problem with residence halls that universities are struggling with is the negative connotation they often have among students. The barracks style dormitories of the 1960s and 1970s were not pleasant places to live in; they were almost always sterile and institutional, giving in no way a feeling of “hominess” to incoming students. They weren’t “nurturing” in any way and often the supervisors and advisors placed in the halls to help the students acclimate to college life and keep them safe ended up seeming like wardens or gate keepers. Parents and past students certainly do nothing to help the cause by proliferating stories of sleepless nights in the always noisy dorms or endless fire alarms and impossible-to-get-along-with roommates.

Ray Kimsey, vice-president of the architecture and planning firm Niles Bolton in Atlanta, states, “The historical model that students had [when thinking of dormitories] was the same as prisoners or inmates of an asylum.” He asserts that, “Student housing can be a really delightful environment” (Fernandez 2004). The potential of student on-campus student housing is exactly what universities are
now trying to show to students, and they are doing this in large part by trying to strip away the institutional feel and provide a more intimate setting. Michael Evans, the vice president of the Virginia-based architecture firm Hanbury, Evans, Wright, Blattas + Co. says that his firm is returning to the more traditional English system of smaller residential units with a real sense of identity in its residence hall designs (Bergeron 2005, 14).

By examining some problems that university-provided student housing has faced in the past, some conclusions can be drawn. First and foremost, it is clear that advanced planning is a crucial step in the process of building a new student residence. If master planning concepts and community relationships are well thought out before the project gets off the ground, problems are less likely to occur in the future.

Secondly, it seems as though universities and faculty members may need to review their opinions and feelings about residence halls. In order to make residence halls a pleasant place to live and an important part of student life, the university as a whole has to be committed to making them such.
A Brief History of Student Housing

Origins in American: the English and German Systems

The origin of collegiate student housing in the United States can be traced to the founding of Harvard College in 1636 (Davis 2003, Frederiksen 1993, AIA 1956). The housing and educational systems of Oxford and Cambridge were closely related and often co-mingled; students resided in what were referred to as residential-instructional units along with faculty members. In addition to learning in a classroom, students were instructed directly within the living quarters of the faculty mentors who resided with them (AIA 1956, 2). This is also the system that was so famously employed by Thomas Jefferson for his brainchild, the University of Virginia (Wilson 1993, 10). According to S. Earl Thompson, the author of the introduction to the AIA Guide to College Housing, published in 1956, the problem with carrying this “Oxbridge system” of learning to the United States was the inability of American instructors to separate the functions of instruction and supervision. The faculty members became not mentors and teachers, but rather watchdogs who quickly became the enemies of students. This destructive relationship is one of the factors that led to the burning of Nassau Hall at Princeton 1802 and the “Bread and Butter Rebellion at Yale in 1828 (AIA 1956, 2). Consequently, by the beginning of the 19th century, America began to search for a new system of collegiate housing.

After the English system of higher education proved to be difficult to employ successfully in the United States, the German system came into favor (Davis, 2003,
Frederiksen 1993, AIA 1956, etc.). Under this system, colleges asserted that they were responsible only for “educational facilities” which were limited to laboratories, classrooms and administrative spaces, completely excluding student housing. Although many universities, including Brown, Columbia, Michigan and Harvard, adopted this system, it was short lived. The German system viewed students as self-sufficient adults, but administrators soon realized that most students were not yet self-sufficient or in many cases adults, and they were having trouble concentrating on academics when they were distracted by the “free life” away from campus (Davis 2003, 161). It was also realized that often the community surrounding a college does not have an adequate housing market to accommodate large influxes of students. Although the apparent problems with the German system renewed an interest in the possibilities of on-campus student housing, it took several decades to implement new ideas. At the beginning of the 20th century, the University of Chicago, Princeton and Cornell led the way in bringing student housing back to campus (Frederiksen 1993, 171). Funding, though, for new residence halls was still very limited, because the federal government, still functioning under the German system, was unwilling to offer funding for these projects, which they felt were not the proper function of the university.

1963: The Higher Education Facilities Act

At the end of World War II, the GI Bill of Rights resulted in large numbers of veterans capitalizing on their new benefits and entering universities. With very limited
available housing, most universities were not prepared to deal with this influx of students (Educational Facilities Laboratories 1972, 11). As an answer to the problem, universities nationwide embarked on rapid, large-scale building sprees. The result of the speed of construction and need for low building costs was an abundance of “dormitories that are cold, stark, inhuman and monotonous” (Educational Facilities Laboratories 1972, 11). These dormitories often featured long, double-loaded corridors, gang bathrooms, sterile lobbies and tiny cell-like rooms for two to four people. The buildings were often high-rise blocks in the International Style, which easily lent itself to repetition, modulation and prefabrication. These buildings were often built on the periphery of campus, having no relationship to their built context.

In 1963, the Higher Education Facilities act provided funding for the construction of student housing, but it further reinforced the construction of low-cost, standardized forms. Dormitories continued to be built to house the “maximum number of students in the minimum amount of space” (Educational Facilities Laboratories 1972, 12). These dormitories met the basic student needs of food and shelter, but did nothing to foster learning or community-building.

Behavioralists and Architects Intervene

By the end of the 1960’s student housing capacities had caught up with the demand. Spurred on by recent publications such as the influential work Dorms at Berkeley: an Environmental Analysis by Sim Van der Ryn and Murray Silverstein, college administrators became aware of
problems with the newly built housing facilities. In their book, Van der Ryn and Silverstein describe the current dormitory situation as follows:

The major mark of institutional environments is that they are standardized and uniform. The meaning of the message is not unambiguous: people are not competent to affect their environment; people are not worth much. (Van der Ryn 1967, 3)

It had become clear that students were not happy with their institutionalized housing. While universities were once again providing housing for their students, they had not returned to the philosophical ideas of the earlier Oxbridge system in which the housing environments were meant to foster educational and personal development as well as providing shelter.

In the 1970’s not only were architects such as Van der Ryn and Silverstein investigating the problems with student housing, but behavioralists and psychologists were involved too. In 1971 William Mullins, an architect and Phyllis Allen, a social scientist, collaborated to write Student Housing: Architectural and Social Aspects. In their book, Mullins and Allen detail not only physical needs of housing but also social and personal needs.

By the 1980’s the groundwork had been done for improving student housing, but universities were stuck with undesirable, indestructible, and inflexible buildings built in the 1950’s and 1960’s. Since these buildings were still deemed “functional,” universities were forced to continue using them and put off plans for new, better housing.
Today’s Generation and Current Trends

In the early 1990’s a strange thing happened: the children of the baby boomers, who had resided in the dormitories of the 1960s and 1970s, arrived at college. Many parents were shocked and amazed to find that not much had changed about college housing, even though society certainly had changed. These parents wanted and demanded more for their children. This displeasure, along with an increase in the number of students attending college and the long anticipated disintegration of the 1960s dormitory buildings, created an ideal environment for change (Smith 2000, 28). Universities across the country began forming focus groups of students and administrators to study the current state of student housing and to discuss its future. Overwhelmingly, students wanted more and better amenities, more privacy, and more opportunities to build communities and friendships (El Nasser 2004, 03a).

Currently, universities are moving away from two-person and four-person rooms with gang bathrooms down the hall, and focusing on suites and apartment style accommodations. Communal spaces and even classrooms are also common in new housing facilities and many have a convenience store or even a Starbucks (Berkman 2004, D01).

As discussed in the previous section, student housing has evolved and changed dramatically in the last 250 years. Let’s now take a look at the current trends in student housing.

“If You Build It, They Will Come,” by Jean Marie Angelo and Nicole Rivard, outlines several current trends in student housing. The first trend, the “live and learn” environment, seems to be in direct response to the
behavioral and architectural research completed in the 1970's and harkens back to the Oxbridge system of residential colleges. These live and learn environments attempt to make the housing experience an extension of the educational one, providing opportunities for learning and personal development. The exact formula for these facilities varies, but often it includes grouping students by academic majors, providing study and computer areas and incorporating classroom spaces into the building. Some universities provide housing for permanent or visiting faculty in these facilities as well (Angelo 2003, 25). This trend, which has immense potential for helping a university achieve its academic and educational goals, will be covered more thoroughly in chapter three.

Another trend is providing luxurious amenities to students. Focus group studies clearly show that incoming students expect many amenities previously not found in on-campus housing. Some universities have gone as far as providing swimming pools, state-of-the-art recreation facilities, and even movie theatres within new residence halls. This often goes beyond satisfying students and becomes a marketing tool for the university. Many colleges, even community colleges, are finding that desirable housing is essential for attracting the best and brightest students, many of whom are from other states or countries (Macintyre 2003, 110). This topic will also be discussed further in chapter three, as it relates to how a university can use housing to further its recruitment and retention goals.

A third trend in student housing is privatization. Many universities are realizing that although their residential facilities are deteriorating and enrollment is increasing, they do not have adequate funding to build new residence halls. As a response to this problem, some of these universities
are turning to outside partners to finance, build and sometimes even manage new buildings for use as student housing (Angelo 3003, 25). There is a broad spectrum within this arrangement; sometimes these new buildings are built on campus and sometimes they are built off campus and sometimes the university manages the building, while other times a management company does. In some ways this is similar to the German system of housing that was popular in the early 20th century, in which the university relied on outside sources for student housing. It is important to realize, though, that there is a difference; in most cases this new housing is built in collaboration and consultation with the university and students are not forced to find their own housing. Once again, this topic will be discussed in further depth in chapter three, as it relates to how a university can use housing to help achieve its financial goals.

The fourth trend in on-campus housing is an overall change of dormitory types. Suites and apartment style housing has now become the prevalent choice for new housing (Agron 2003, 58). This is quite a radical departure from the barracks style dormitory buildings built in the 1960s and 1970s. Suites often provide one-person or two-person bedrooms and semi-private bathrooms, while apartment style arrangements often offer a bathroom or kitchen for each unit, but may house up to four people per unit without separate bedrooms. These two new types obviously offer students quite a bit more privacy than the tiny two-person rooms with a shared bathroom on each floor that was at one time the standard.

A related trend is providing senior or upper-class-only halls. These halls generally provide more privacy and are more strongly academically oriented than residence
halls that target freshman and sophomores. While this sort of environment is often desirable to upperclassmen, many universities do not offer separate halls for upperclassmen, choosing instead to integrate them into environments with younger students to foster a mentoring relationship (Hill 2004, 26).

Student housing in recent years has been an exciting and profitable field. Universities are willing to try new concepts and invest money in desirable housing options that will attract and retain students. The five trends above, the live and learn environment, luxurious amenities, project privatization, a shift toward suite and apartment types and the creation of upper-classmen communities, seem to be the most dominant ones in the field at this time, but it seems likely that they will continue to evolve and adapt to current needs.
What Students Want

Judging by the new on-campus housing construction that is seen across the country, students, at least many of them, want to live on campus. They want a connection to the larger university and a sense of community (Smith 2000, 31). What, though, are students looking for from the on-campus housing itself? What amenities or features are expected and what are desired?

Recent studies have shown again and again that what students are looking for is privacy. We now live in a society where 85 percent of incoming college freshmen did not have to share a bedroom while they were growing up and 30 percent never shared a bathroom (Voyles 2004, 36). Privacy seems to be an expectation among incoming freshmen. In addition to providing more opportunities for privacy in living arrangements, many colleges are also using the lure of increased privacy in trying to attract upperclassmen back to living on campus Angelo 2003, 27), because of the vital role they can play in mentoring younger students (Angelo 2003, 27).

Often with increased privacy comes an increased cost for the student as well. According to an article by Bennett Voyles, which appeared in the July 2004 issue of University Business, these increased rates don’t seem to be a problem. Parents are not only willing to pay the extra money for larger rooms or units, but the are also willing to pay for added amenities like game rooms, pools and fitness centers, big screen TVs in the building’s lobby and integrated wireless internet systems. The article’s conjecture is that parents are already paying around $20,000 a year or more in tuition, room and board, so they are often quick to pay a 10 percent increase to insure that
their child is “living in the nicest, cleanest, safest, most convenient institution, versus an old residence hall” (Voyles 2004, 38).
What Universities Want

Educational Opportunities

In a book published in 1981, Harold Riker, a leading authority on college student development, noted that living in college residence halls affords students with the opportunity to learn about themselves as well as others and to grow in accordance with Chickering’s scheme of seven vectors. Chickering’s vectors describe the major development aspects for college students. The vectors are: developing competence, managing emotions, moving through autonomy toward interdependence, developing mature interpersonal relationships, establishing identity, developing purpose, and developing integrity. Riker labeled this learning process of self exploration and socialization as “residential learning,” a process that occurred naturally merely by placing college students together in a residential environment, because it allowed them proximity to other students and encouraged continuing discussion of classroom topics “over the dining table and throughout the day and evening” (Riker 1981).

An article written by Jan Arminio and published in the Association of College and University Housing Officers Summer 1994 Journal explains how the natural “residential learning” described by Riker can be further enhanced if it is coordinated and planned. Ms. Arminio refers to residential environments where this learning is planned as “Living-learning Centers.” She asserts that the key factor in the success of living-learning centers is the provision of planned interaction with faculty. She claims that students who have close faculty contact tend to participate more in class as well as formal study groups and are often more
Fostering a closer connection between students and faculty in living-learning centers is very reminiscent of the early days of collegiate housing in the United States under the Oxbridge system, which was discussed in an earlier section. This increased access to faculty, though, is not the only method being used for creating living-learning centers on campuses today. In fact, most colleges that offer on campus housing are using some sort of strategy to enhance the learning potential of their residence halls (Smith 2000, 30). The following portion of this section will focus on a few specific cases of universities that are implementing one or more of these strategies today.

During the 2004-2005 academic year, Baylor University began a new program dubbed the Leadership Living-Learning Center, which aims to “enrich students’ academic, community and living experiences” (Parker 2005). This program aims to create communities of like-minded students within specified residence halls. All of the students living in these communities are then required to take a leadership class together and participate in community service activities as a group. While the class and activities focus primarily on developing leadership skills, the underlying principle is creating a residential community of students in an environment where discussing class and academic issues and goals during “free time” is common and encouraged.

The University of Wisconsin at Madison also offers specialized residence communities to its students such as a “Residencia de Estudiantes” or “Spanish House” were students taking Spanish classes are encouraged to speak Spanish in their residential environment as well as in the classroom (Kallio 2004). The University of Wisconsin takes
learning in residence a step further, though, by providing classroom spaces within some of their residence halls. And, in order to make these classroom spaces as meaningful as possible, the university schedules special sessions of common freshman courses, such as composition, that only students living in that residence hall can sign up for. By doing this, the university ensures that the students in that class have a built-in, easily accessible, study group and support system within their living quarters. Students also enjoy the convenience of not even having to step outside to get to class (Kallio 2004). After a year of implementing these targeted sections of courses, the university was able to document real results and show that students living in residence halls on their campus earned, on average, a third of a grade higher than those who didn’t live in university halls (Fernandez 2004, 1).

Administrators at the University of Alabama think that their students have something to gain from a living and learning concept as well, and they have worked over the past five years to incorporate living-learning principles into almost a dozen of their residence halls. At U of A, freshmen are given the option of living in a hall with live-in faculty and upper-class fellows. The hall also has structured study hall times, and freshmen are grouped together based on academic major or interest such as leadership or community service. According to David Harwell, coordinator at one of the living-learning communities at U of A, “We teach our students how to ‘do college’” (Whitney 2004). This teaching aspect is addressed through mentoring and academic advising provided directly within the residence halls. The program has been so successful and popular that students are returning to the residence halls for their second and third years even though they are only required
to live in them for their freshman year.

Cornell is hoping that its new living-learning residences will attract more upperclassmen to on-campus living as well (Zeveloff 2005). Other Ivy League schools such as Harvard and Yale have widely known and respected residential systems, based on the residential college system. Cornell’s large size and diversity of academic programs, however, left administrators with a feeling that their students were missing out on the smaller, more intimate residential communities that other Ivy League schools offer. New residential “houses” on Cornell’s campus, such as the Alice Cook House, aim to remedy that dilemma by providing a “smaller, more personal atmosphere” where students and faculty are encouraged to interact (Zeveloff 2005).

In addition to the above examples, it is important to note that almost all universities with on-campus housing have special departments that provide staffing for the residence halls and work to incorporate educational programs into the mix. The most visible sign of these departments are the resident advisors or resident assistants who reside in university residence halls across the country. While they are often seen as merely police officers for the hall, they often provide in-house academic mentoring and guidance. Many hall systems provide regular educational and social programming for residents as well.

Social Opportunities and Recruiting

What ever happened to the “traditional college experience?” Movies and TV shows are full of scenes of parents helping children move away to college, nearly
always to live in a campus residence hall. Is that really what happens anymore, though? While many universities still require their incoming freshmen to live in university housing, many do not. Also, some students choose to attend close-to-home community colleges and strictly commuter colleges still exist. According to Robert Bronstein, a real estate consultant to Rutgers University, when given the choice students prefer that traditional experience of campus life. He suggests that students want to live on campus “not so much to avoid the commute as for the opportunity to live in a livelier, more diverse community” (Voyles 2004, 37).

College presidents are also interested in bringing back the traditional collegiate experience, according to J. Kendall Gallaugher, president of the college and university division of a Charlotte, North Carolina-based architecture firm (Smith 2000). These college administrators are realizing that by bringing a living, residential environment to campus, they can create a 24-hour campus environment, rather than the campus shutting down in the evening when classes are over. Surveys and studies have shown that a vibrant 24-hour environment is what many students are looking for (Siakavellas 2004).

In the late 1990s, the Illinois Institute of Technology devised what it called the IIT master plan or “the State Street Vision” (IIT website). This plan had four strategic objectives, one of which was to “build new residence halls which will attract the best students to IIT.” In response to this objective, a competition was held to find an architect to design a student housing project for a large, previously unused site on State Street. Eventually Helmut Jahn, who himself had attended IIT, was chosen for the project. This specific project will be examined more closely in the next
chapter on architectural precedents, but the more important thing to focus on now is that IIT realized the potential that student housing holds to recruit desirable students.

Jean Bingham, associate vice president of auxiliary services at IIT, says that their strategy of using new, exciting student housing as a recruitment tool has worked too. “It has really generated interest in our freshman class,” she says, and she says it has helped with recruitment as well (Fernandez 2004).

Some traditionally commuter colleges have recently turned to student housing for recruitment purposes as well. At the turn of the century, Rutgers University had a total of only 650 beds for its 10,500-plus students. Throughout the university’s history, their housing had been sufficient to accommodate all of the students that wanted to live on campus. In the past few years, though, demand for on-campus, university-provided housing has skyrocketed to a point where the university is currently renting 80 rooms at a nearby hotel and 25 spaces at the New Jersey Institute of Technology (Voyles 2004, 35). There are now plans in the works for the University to build a new, 600-plus-bed residence hall, but until that is complete in 2006, the university plans to continue renting spaces to meet the demand.

An article by Bennett Voyles, entitled “Cancel that Commute,” attempts to explain the phenomenon that Rutgers has experienced. According to the article, most students in the United States prefer an urban campus to a suburban one and they will chose to attend an urban college as long as they don’t have to “give up a traditional residential experience where you live away from home” (Voyles 2004, 37). The article also goes on to explain that many urban research universities have found that one way
to increase the interest in and visibility of their campuses is to add or increase their residential capacity for both undergraduate and graduate students.

In addition to building housing to meet student demand, commuter colleges are beginning to build housing so that they can become less dependent on the local population for providing a sufficiently large and bright enrollment. St. John’s University in Jamaica, New York was facing a decreasing number of qualified students for their school, due in part to a troubled local high school system. Consequently, St. John’s embarked on a residential program in 1995 in order to enable more geographic diversity as well as enabling them to more easily attract international students (Curley 2003).

The previous paragraphs have established that on-campus housing can be, and often is, in high demand, especially among freshman and students who are initially deciding to attend a certain university. What happens, though, to upperclassman? Is it correct to assume that an off-campus apartment, which is often what they get, is what they want?

A 1996 study published in *College Student Journal* by Shirley Cleave, investigated specific reasons why college students chose to either return to on-campus housing after their freshman year or move off campus. According to the study, the most common reasons given for why a student chooses to remain in on-campus housing relate to convenience factors, more opportunities for social interaction or cost. The overwhelming response from students who were not returning to campus was that the quality of the on-campus housing did not meet their expectations. Desire for more independence and roommate issues were also given as reasons for leaving campus.
Based on the responses to the study above, universities should be able to keep more upper-class students on campus simply by improving the quality of the housing they offer. Students certainly realize that on-campus housing can be much more convenient for them, and in a past section, other benefits of living on campus were discussed, such as increased interaction with faculty, increased leadership opportunities, more potential for socialization and a high average GPA. Students who continue to live on campus can benefit the campus as well mentoring younger students and bringing a more mature element to campus life.

Being able to retain upper-classmen in residence halls helps the university’s overall retention rate as well. Withdrawal rates among students living on campus have been, on average, 11 percent lower than withdrawal rates among students living off campus (Fernandez 2004). Recruitment and retention are both vital in the administration of a university; without students coming to and staying at the university, there simply would be no university. Although it can be an expensive thing to update and improve, student housing can, and routinely does, play an important role in these two functions. Whether it is the university’s intent or not, students do make choices about the college they attend based on both the availability and quality of on-campus housing.
The Residential College System

English Origins

The residential college system has its earliest origins in English universities, first established at Merton College (see figure 2.1, 2.2 and 2.3) in Oxford in the year 1264 (Duke 1996, 14). In this system, small, independently operated “colleges” associated themselves with larger universities, most prominently with either Oxford or Cambridge. While the larger university was responsible for student examinations and the matriculation and certification of graduates, the separate colleges were responsible for the education of their student members through college-employed faculty.

Figure 2.1 Merton College Site Plan
Over the 750 years that this system has existed in England, there have been many changes and developments. During the industrial revolution of the 19th century, larger facilities such as laboratories became necessary for some instructional programs. This need led to the strengthening of the central university, and the responsibility for student instruction began to shift from the college to the university (Ingram 1999). In the present day, collegiate systems such as that at Cambridge are typically associations of independent colleges which sub-contract the university departments for the teaching of their students (Ingram 1999).

Although the structure and composition of English residential colleges varies between individual colleges as well as between universities, there are some elements that are consistently present. According to the website for the University of Cambridge, “a College is the place where students live, eat and socialize. It is also the place where they receive small group teaching sessions” (www.cam.ac.uk/cambuniv/colleges.html). Living, eating, socializing and learning are the essential functions of the college system. In order to accommodate these functions, each college is equipped with a resident staff. At the minimum, this staff is comprised of a master or mistress (or president or provost), fellows who are senior faculty members of the college, and resident tutors who look after the welfare of the students.

As with the administrative structure of the college, the physical facilities of the college also vary. College size can vary from two hundred students to several thousand; consequently some colleges are located in one building while others have large complexes of buildings. All colleges, though, have their own dining facility and common
Quadrangles of Oxford

Figure 2.6 Kebles College Quadrangle

Figure 2.7 St. Anne’s Lawn

Figure 2.8 St. Edmund College Courtyard

Figure 2.9 New College Quadrangle

Figure 2.10 Worcester College Lawn

Figure 2.11 Jesus College Courtyard
rooms for students and faculty as well as private or shared bedrooms for students and attached or detached apartments for faculty (O’Hara 2002, 2).

The majority of these colleges are arranged around courtyards or lawns which provide formal or informal outdoor spaces where students can gather. The spaces also often provide a sense of identity for the college (see figures 2.6 through 2.11).

**Early American Examples**

In the early 1930s both Harvard and Yale Universities implemented modified versions of the English residential college system, based largely on the system used at Cambridge. The implementation of the system varies slightly between the two schools; for instance, Harvard decided to provide toilet facilities in each student room, while Yale opted for community toilet facilities. Both systems, however, were implemented through generous donations by the same benefactor, so it is not coincidental that the two systems are very similar (Duke 1996, 109).

There were three reasons given for the implementation of the English system at these two schools. The first was to involve undergraduate students in a coherent social life system. The second was to facilitate close ties between students and faculty, and the third was to facilitate expansion of the university in the sense that the colleges would not grow any bigger; instead new colleges would be founded (Duke 1996, 110).

Both Harvard and Yale paid the most attention to the development of the residential colleges as a social system rather than an academic one. The implementation of the residential college system was largely billed as a remedy to the existing exclusionary social systems at both universities.
(Duke 1996, 112). Consequently, though, students often became so involved in the social aspects of college life that they lost focus on their intellectual pursuits. Additionally, the colleges did not succeed in ordering the growth of the university, either; new colleges were not founded as the university grew, since new facilities are very costly and it is easier and less expensive to expand existing ones (Duke 1996, 113).

**Present Day Residential Colleges**

According to Robert J. O’Hara, a former administrator at the University of North Carolina at Greensboro, “The real crisis in higher education today is not the curriculum, it is about the poverty of student life” (O’Hara 2002, 1). Mr. O’Hara asserts that the faculty members of most large American universities have given up all responsibility for what students do outside the classroom, and that this void has been taken over by nonacademic residence life departments. This discourages a connection between the classroom and life outside the classroom. This lack of connection, he says, can breed social isolation and alcohol abuse.

The solution to the above mentioned problem, according to Mr. O’Hara is to return the faculty to their proper place, through the implementation of a residential college system based on the universities of Oxford and Cambridge. In this modern use of the term “residential college,” Mr. O’Hara is referring to a small social and academic unit within a larger university. These small units, though, must be diverse, including “young and old, rich and poor, student and professor, artist and scientist” (O’Hara 2002, 2). The purpose of the unit is to provide a stable and
challenging social and academic environment.

Other university professionals share Mr. O’Hara’s view. Reynolds Price, a professor at Duke University, has been railing against the inadequacy of Duke’s residential system for many years. According to Mr. Price, “Until students have a permanent residential base from which to pursue their studies and their friendships with contemporaries and teachers, they can hardly be expected to function at their best” (Price 1993, 2). Mr. Price further explains that the existing dormitories at Duke and elsewhere in America do not meet this need, and, in fact, they “were built as warehousing with no thought for intellectual or personal intimacy” (Price 1993, 2). Mr. Price, like Mr. O’Hara, asserts that the solution to these problems is to foster stronger connections between faculty and students, and the way to do this is through the residential college system.

In the early 1990s, Murray State, a public university in Kentucky with 8,500 students, decided to adopt the residential college system. By dividing the university into eight smaller colleges, they hoped to give students “something extra in which to take pride, as well as a place that feels like home” (Geraghty 1996, 1). University administrators were also hoping to provide more opportunities for student involvement and leadership in order to give students a personal connection to the university, making them more likely to remain at the university until graduation. The president of the university, Dr. Kern Alexander, asserts that students who live into traditional high-rise dormitories “have no attachment to the university in a social context” (Geraghty 1996, 2). So, just as in other universities, the development of a stronger social life for students was a major consideration in the
decision to form residential colleges. These colleges, however, were established in existing dormitory buildings (see figures 2.16, 2.17 and 2.18). There is very little written about the success of this arrangement, but it I would assume that it is difficult to form strong college communities in this system, because the buildings lack community spaces and the high-rise scale and corridor plan of the buildings promotes a sense of anonymity.

Architectural Considerations for Residential Colleges

While a residential college is primarily an organizational structure, there are some architectural and landscaping techniques that have been repeatedly used to reinforce and enhance the organizational and social structure of the college.

Traditionally, residential colleges have been arranged around an internal courtyard. This courtyard is

Figure 2.19 Plan of Calhoun College at Yale
important, because it channels pedestrians through a single entrance and it can create outdoor space that is screened from the rest of the university. Often, in conjunction with the courtyard, student rooms are arranged around staircases, as well as along corridors. These staircases open into the courtyard. This arrangement encourages vertical connections that are often neglected in strictly corridor arrangements. The plan of Calhoun at College (Figure 2.19) on the previous page demonstrates this concept. As the plan shows, there are more than twelve stairwells and a majority of them open into the courtyard. Residents are likely to have interactions with other residents who live in close proximity to them through use of these stairwells. When the resident enters into the courtyard, he is likely to meet residents from other areas of the college since the courtyard is the collector for all of the stairwells.

Common rooms, which should be placed along main circulation routes, are a very important aspect of residential colleges. These common spaces typically include a junior common room for students, a senior common room for faculty, a recreation room for playing games or watching television, a laundry room, a library, college offices, a fitness room, and possibly other special purpose rooms such as a music practice room, an artist's studio or even a wood shop. These common rooms are vital spaces in the residential college, where students have the opportunity to interact with other students and faculty members.

The student rooms themselves are ideally mixed, with small rooms next to large rooms and freshmen living next to seniors or even graduate students. Mr. O'Hara suggests the incorporation of small apartments next to dormitory or suite style rooms so that graduate students with families can be a part of the college as well.
Apartments should also be provided for the building’s live-in staff and any faculty advisors who live within the college. These apartments are sometimes fully incorporated, but they can be completely detached as well.

Much of the literature on residential colleges places special emphasis on the importance of maintaining a college garden or landscaping project. The general purpose of this outdoor space is to encourage college members to help in the upkeep of the place, but the landscape can also help to create an identity for the college. Many residential colleges are surrounded by low hedges or even have gates; these features serve to mark the passage from university ground to college property.
Privacy and Community

In an academic and social community, there should be multiple places for formal and informal interaction (Godshall 2000, 153), but spaces for private retreat are also necessary to the development and success of the student. The balance between communal spaces and private ones is a crucial consideration in planning any sort of student housing, but especially a residential college.

Today’s generation of college students grew up in households where a high degree of privacy was easily attainable. About 85 percent of incoming college freshman have never shared a bedroom while they were growing up, and 30 percent have never shared a bathroom either (Voyles 2004, 36). Consequently, these students often come to college ill-prepared to deal with the reduced level of privacy in most residence halls. The crowding and lack of privacy that occurs in these halls has been shown through various studies to influence aggressive behavior and the occurrence of vandalism (Brown 2003, 504).

A study by Timothy Bynum and Dan Purri, conducted in 1982, suggests that physical design that maximizes personal interaction and increases community cohesiveness may play a part in reducing crime in dense residential settings (Bynum 1984, 180). The study also outlines the concept of “defensible space,” which allows a person a perception of territorial influence and identity, which is closely related to privacy. When building occupants do not have a way in which to establish this identity, there is a sense of isolation and an unwillingness to participate in community activities and events even if the community space is provided (Bynum 1984, 184). This situation of
isolation and anonymity is especially problematic and noticeable in high-rise residential buildings. In this manner, it seems essential that an adequate level of privacy must be provided before a sense of community can be fostered.

So, what is an appropriate level of privacy? Current practices in residence hall design dictate that both single and double occupancy bedrooms are permissible. This is already a step away from the housing of the 1960s that often placed three and four students in one large sleeping area, which led to stories on some campuses of students moving their beds into a large closet, just to secure a little bit of privacy. Some firms, however, are beginning to discourage the use of double occupancy bedrooms, insisting that each resident needs a private bedroom to meet the high level of privacy that students, especially upperclassmen, are demanding (Voyles 2004, 36). While typically small, usually around 120 square feet, these private bedrooms provide a space that the occupant alone controls.

Another way in which architects are emphasizing privacy in residence halls is through the use of suite and apartment layouts. In the standard dormitory style residence hall, the bedroom is also the living room where studying and socializing occur; there is no division of space. In the suite and apartment styles, a separate living area is provided for television watching, entertaining friends, studying or other activities. This living area may be private, but most commonly it is shared by between two and four students. In these situations, this space is semi-private, it is the student’s space, unlike the hallways or lobbies, but it is shared not only with roommates, but also often with other members of the building’s community whether through parties or study groups. Under these arrangements,
bathrooms are also private or semi-private, shared by only a few residents rather than by the entire floor. Consequently, students feel a high degree of control over their own space. They have a choice as to the level of privacy that they wish to experience at any given time, whether it is complete privacy in their bedroom, with a small group of chosen friends in their living room, or with the entire community in a public portion of the residence hall.

Now that an adequately high level of privacy has been provided, the focus can be shifted to shared common spaces of the residence. These common spaces should provide opportunities for academic, social and recreational activities and they should be flexible, providing arrangements that work for both small and large groups (Godshall 2000, 153). The spaces should accommodate both planned events and spontaneous meetings. While these spaced can vary widely from building to building, there are some that should always occur. These are outlined below as presented by Robert Godshall in his 2000 article entitled “Creating Communities.”

A shared main entry is vital in establishing a sense of community, because it maximizes the opportunities for spontaneous meetings between members of the community. Similarly, a shared common path should be the core of the circulation system, along which public spaces are arranged. In this way, everyone who enters the building has an opportunity to view the shared activities that are happening in the community. The shared path also allows a type of innocent voyeurism in which students can observe what is going on around them or be observed themselves.

Large community spaces are clearly important, expressing that community activities are important to the community. These spaces should be able to be used for
gathering, presentations, lectures and performances. Often a dining hall is also a part of this network of community spaces. These spaces are where planned, formal activities will occur. Spontaneous, informal activities are important, though, as well. In order to foster these activities, care should be given to “in-between” spaces, nooks, alcoves, widened hallways, stairwell landings, window seats and vestibules. These spaces provide flexible space that can be used by one person or a small group.

As suggested above, flexibility and adaptability of shared spaces is crucial to their continuous use. Shared spaces should be able to be subdivided or expanded and furniture should allow for reconfiguration.

Godshall also provides a suggestion for how to arrange sleeping units and spaces. To avoid anonymity and isolation in the residential portion of the building and to promote interaction he suggests arranging units in clusters or “neighborhoods.” These clusters should then have their own shared spaces such as a kitchen, vending machines, a laundry room, and study lounges. This provides yet another gradient in the range of public and private spaces.

The last area that Godshall considers is outdoor space. He asserts that outdoor spaces can “provide useful outdoor community rooms for gathering,” providing a way in which the community can display its activities to the outside world. Outdoor spaces can be public and ceremonial, providing an identity for the building. More private areas such as gardens and terraces can provide more intimate opportunities for socializing or studying.

Moving away from spatial considerations, the composition of the community is also important. Housing that provides space for upperclassman as well as freshmen can foster a community in which mentoring relationships
are of vital importance. In a similar fashion, some communities incorporate visiting or resident faculty members in the community as well, this provides students and opportunity to interact with faculty members in a more informal setting.

As previously discussed in this section, living and learning communities are also becoming increasingly popular on American campuses. These communities often group students of like majors or interests such as community service or leadership. These function on the idea that people with similar interests or activities are more likely to form meaningful communities. Conversely, proponents of the residential college system often champion the idea that the communities with the greatest diversity of ages, majors, and interests are the richest and most rewarding (O'Hara 2002, 2).

The development of a strong community is something that can be fostered, but never assured. The best step in achieving a strong sense of community is planning for what a community will need once it has been developed and simply assuming that it will then form (Case 1981, 40).
Baker House at MIT by Alvar Aalto

In 1946, Alvar Aalto was commissioned to design a senior dormitory at the Massachusetts Institute of Technology, where he was currently a visiting professor. This dormitory, dubbed the Baker House, would, in fact, become a very important building that would help mark a departure from “strict International style” to a more humanistic style (Bowen 2003, 109).

The site chosen for the new senior dormitory was a long, narrow strip of land along the Charles River that runs by the campus. The size and shape of the site as well as the desired building program became early drivers for the building’s form. Alto felt that the strict orthogonal grid of the existing campus was very inhumane and needed to be broken (Jetsonen 2004, 52). The resulting building plan is a narrow waveform (see figures 3.2 and 3.3), which is not only very sculptural, but also provides views up or down the river from almost every student room.
Aalto saw housing in particular as a chance to address “problems in the humanitarian and psychological fields,” and he committed himself to design that was “functional mainly from the human point of view” (Speck 2000). By keeping these humanistic principles in mind while designing student rooms, group lounges, circulation routes and common rooms, Aalto has created a building that “entirely avoids the stereotyped rooms and anthill atmosphere of old-fashioned dormitories” (Rasmussen 1962).

The main idea behind Baker House is sociability. The configuration of spaces and circulation routes in the building are designed to promote spontaneous encounters and student interaction (Speck 2000). The building’s main circulation is focused into a cantilevered stair that protrudes from the North façade of the building; this stair feeds into the main circulation corridor on each floor (see figures 3.4 and 3.5). The spaces on each floor are organized “democratically” meaning, for instance, that lounges increase in size, the higher and further they are from the main lobby (Jetsonen 2004, 52). The balance between public and private spaces is paid careful attention throughout the building.

The student rooms themselves defy the typical dormitory of identical rooms. The curved form of the building produces rooms that are wedge-shaped and trapezoidal, in addition to rectangular plans. The size of the room also varies with its shape. The smallest rooms, which are typically placed on a curve and wedge-shaped, are for one person. Larger rooms serve two and sometimes three students. The dividing walls of the rooms were purposefully “stepped” to differentiate various zones within each room, such as a sleeping area and a studying area (see figure...
Natural corners were also used to create small, differentiated spaces (Jetsonen 2004, 62). Aalto also specially designed the furniture for the rooms. Although furnishings were spartan, they were extremely functional and specially considered for each room.

Another aspect of the Baker House that sets it apart from the standard dormitory of the time is its single-loaded corridor plan. As mentioned before, most of the student rooms have river views, leaving the North façade, which Aalto felt was less desirable, for corridors and common spaces rather than student rooms.

The Baker House recently celebrated its fifty-year anniversary, and some physical neglect notwithstanding, the dormitory continues to be one of the most popular on MIT’s campus (Speck 2000). During the summers of 1998 and 1999, the Baker House underwent a complete renovation in order to preserve its vitality. Although opinions on the success of the renovation effort are mixed, all critics seem to agree on the value of preserving this important building (Speck 2000).
Simmons Hall at MIT by Steven Holl

“Screen, net, aperture, passageway, sieve, unrestricted, honeycomb, riddle, sponge, opening, hole cribiformity, pervious.” These are all metaphors used by Steven Holl to describe his design of Simmons Hall, a dormitory at MIT that was completed in 2002, at a cost of nearly $66 million (Amelar 2005, 205). Whether or not Holl’s completed dormitory lives up to all of these descriptive words, the design is a success because of its ability to engage students and the surrounding community.

Simmons Hall occupies a narrow strip of land on MIT’s campus that is precariously located between institutional and educational buildings on the north and residences and playing fields on the south (see figure 3.9). To deal with this difficult location that needed to act as a link between the educational and institutional buildings, Holl employed a “porous building morphology” in order to provide a sense of permeability and invite open interactions between the two portions of campus (Amelar 205). So, Holl began with two metaphors: permeable membranes and natural sponges, which seems fitting for MIT, which is so richly scientific.

The 350-bed dormitory stands 10 stories high, 385 feet long and 53 feet deep. It is almost entirely wrapped in a matrix of 2-foot-square windows outlined in specially designed precast concrete panels called Perfcon, developed by structural engineer Guy Nordensen (Amelar 2003, 210). The rigid grid gives the impression of a large-scale grate which would become oppressive if not for several large notches that are sliced out of the building block, allowing for views through to the other side. Void
spaces on the façade are playfully occupied by decks or terraces or large windows that look down onto multistory atriums. Brightly colored window jambs also add whimsy to the otherwise strictly ordered building (see figure 3.11). The color of each window jamb was not selected randomly, though. Rather, it indicates the amount of shear strain on that portion of the concrete frame (Bernstein 2003). This also seems very fitting for a university comprised of so many engineers.

Despite the attempts at playfulness and whimsy, though, the building, especially as seen from a distance, can seem huge, overwhelming and even hostile. The two-foot window grid, which allocates 3 rows of windows per floor, can make the 10-story building appear to be a 30-story building when there is no sense of human scale (Bernstein 2003).
Common Areas

Figure 3.14 Performance Theater

Figure 3.15 Lounge

Figure 3.16 Stairway

Figure 3.17 Main Lobby

Figure 3.18 Study Lounge

Figure 3.19 Lounge Spaces
Upon entering the building, residents and visitors get their first real sense of the “mini city” that lies within (Amelar 205). The dormitory is not simply a place to sleep. It contains such amenities as a café-like dining area, a 250-seat performance theater, computer labs, a photo processing lab, an art gallery, lounges, classrooms, kitchenettes, and study rooms (see figures on previous page). This diversification of uses helps ensure that students become a real part of the culture present in the building instead of needing to go elsewhere to complete daily tasks and errands.

Intriguingly, but sometimes awkwardly, many of the gathering spaces in the building diverge from the system set up by the exterior grid and instead become part of the sponge metaphor (see figure 3.21 and 3.22). These spaces often cut through multiple stories and act like sponges or “lungs” drawing in students instead of water or air (Amelar 207). These spaces are also often lit from above and flooded with light, creating an inviting space for students looking to study or socialize.

Individual student rooms are also flooded with light, each containing at least nine 2-foot by 2-foot operable windows. In addition to providing light, these windows allow students greater control of their environment through natural ventilation and solar gain. All furniture for the rooms was custom designed by Steven Holl, diverging from the tradition of furnishing dormitories with the most standard pieces of furniture available.

One other exciting aspect of the building is its plan irregularities. Most dormitories have one standard floor plan that is repeated from floor to floor, giving a visitor the sense that each floor, and therefore each floor’s occupants, is
Student Rooms

Figure 3.23 Single Student Room

Figure 3.24 Double Student Room

Figure 3.25 Alternate Single Room

Figure 3.26 Single room with lounge protrusion
identical. In a college environment, that is simply untrue. Students have a variety of interests and attitudes and must be given choices and variety. The way the common, sponge-like spaces, cut through the building creates natural divisions and communities. Consequently, students feel a greater sense of individuality and belonging rather than uniformity and isolation.

Simmons Hall has created quite a stir on the MIT campus, and that alone is a great accomplishment. Too often the construction of a new dormitory occurs with no fanfare or anticipation. There is a prevalent idea that one dormitory is just like the next and they should be built to simply store students rather than really housing them. Simmons Hall shatters this perception, proving that dormitories can be high-design Meccas that draw students in and excite them.
State Street Village at IIT by Helmut Jahn

On July 22, 2003, State Street Village opened at the Illinois Institute of Technology. The fact that the building was designed by famous IIT alumnus Helmut Jahn was of interest, but even more interesting was the fact that State Street Village was the first new building on IIT’s campus in nearly 40 years. This building also marked Helmut Jahn’s first student residence hall and his first new building in Chicago in a decade (Becker 2003, 2).

In 1995, IIT began a master planning process to review the 1940 plan created by Mies Van der Rohe and address issues that were becoming critical to the university (Campaign 2003). One of the critical issues that the master planning committee identified was redeveloping the “State Street corridor,” a vacant strip of land that acted as a barrier between many of the academic areas of campus and much of the existing student housing. To complicate matters even more, this strip of land is under the CTA’s Green Line of elevated tracks (see figures 3.30 and 3.31).

As a result of the master planning process, competitions were held for the design of two new buildings for the State Street corridor. One building would be a student life center, and the other would be a residence hall. Together, it was hoped, these two buildings would close the “gaps” on campus and “reconnect the fabric of IIT’s facilities into a vibrant, urban and attractive environment” (Campaign 2003). IIT was very much committed to the university’s role in its community.

Helmut Jahn entered both competitions. He lost the student life center competition to Rem Koolhaas, but won the commission for the residence hall. The purpose and intent of the new residence hall was to help IIT realize its
goal of increasing on-campus population by offering something more than antiquated 1950’s dorms, while still acknowledging and respecting the spirit of the original Mies campus (Becker 2003). Suites and apartments were used to accomplish the former intent, while, smooth, clean lines and a bare-bones use of steel and glass accomplish the latter in Jahn’s design for the residence hall project (Schultze 2004,37 &39).

The existing dorms on IIT’s campus typically placed two students in an 11-foot by 16-foot room with shared bathrooms down the hall. The new suites at State Street Village are almost double that size and they include a semi-private bathroom. The apartments are even larger, with each student getting a private bedroom and each apartment having its own bathroom and kitchen (see figures 3.33 and 3.34). Increased space, though, is only one of the added amenities that State Street Village offers.

According to IIT’s housing website, “Every unit in State Street Village was designed for student comfort and efficiency.” Some of the amenities include key card access, 24-hour security guard, voice, data and television jacks in every bedroom, living room and lounge, 50” plasma screen tvs in each lounge, and outdoor terraces with panoramic views (http://iitstatestreet.org/index2.html).

The building itself is actually three separate five-story buildings, connected by an exterior glass screen wall (see figures 3.35 and 3.36) on the side of the building closest to the train line. One of the buildings has three-person, apartment style units while the other two are comprised of four-person, suite style units. The buildings are poured-in-place concrete, chosen specifically to mitigate the noise and vibration from the nearby trains through increased mass. This concrete rests on an 18-inch thick mat.
foundation, also designed to mitigate vibration. The exterior of the building is clad in stainless steel panels and glass, which completely obscure the underlying concrete system.

One of the most astonishing elements of State Street Village is the construction budget. The entire project cost $28,635,000, which, following the model discussed in the previous chapter, was financed by bonds issued by a non-profit 501-C corporation formed by the university (Becker 2003). This cost, which is surprisingly low for a 366-bed complex designed by a “signature” architect. This low cost was achieved in part by eliminating the need for applied finishes. Instead, Jahn kept the building as raw as possible, leaving concrete beams and ceilings exposed; floors are lightly finished concrete and fixtures are stainless steel. Jahn’s thoughts on the finishes in the building are as follows:

*Look around here, everything you see is what’s needed on the building, whether it’s the façade, whether it’s the screen, whether it’s the steel or concrete. Everything is left only as much as it needs to be. Because these are the things we need in a building, these are the most expensive things in a building, and often buildings cover them up, only to resort to cheap ceilings, paint, to drywall- all the things which don’t look good, don’t wear well and stand up to time. (Becker 2003, 5)*

It seems very easy to draw parallels between Jahn and Mies in statements of this nature. Jahn, like Mies often did, took his architecture deep into the interior of the building, designing most of the furniture in the student rooms (see figures 3.39 and 3.40). Unlike the furniture that Steven Holl designed for Simmons Hall, though, this furniture can easily be moved or even stacked. The windows at the State Street village are also fully operable, unlike those at Simmons Hall. These features along with
other conventional aspects of the building have helped State Street Village avoid some of the attention and controversy that has followed Simmons Hall.

While State Street Village may not be the publicity animal that Simmons Hall has turned out to be, State Street Village seems to do exactly what it was meant to do. Even though it hasn’t garnered much national attention, State Street Village has attracted the attention of incoming and current IIT students. One of IIT’s associate vice presidents, Jean Bingham is quick to point out that hall has, in fact, helped with recruitment (Fernandez 2004).
Graduate House at U of T by Thom Mayne

Graduate House, a residence hall for graduate students at the University of Toronto, serves a double duty not often seen in residence halls. Not only does the building house students, but it also serves as a very visible landmark and gateway to the urban campus (see figure 3.42). With the completion of Graduate House in 2000, Thom Mayne, with the help of local architect Stephen Teeple, has “rejuvenated a once proud yet often-neglected typology” (Stanwick 2001, 111).

According to M. Sean Stanwick, in his article in *Architectural Design*, Graduate House accepts “its metropolitan presence and responsibility. Transcending mere utility, it skillfully uses its form and siting to play a greater urban role than its programme dictates…Graduate House is at once a physical and theoretical portal between living and learning; city and campus” (Stanwick 2001, 111). This duality of purpose and function is prevalent in many aspects of the building.

Graduate House sits on a .79 acre site on the corner of Harbord Street and Spadina Avenue. The streets surrounding the new student housing project are occupied by a mix of slab apartment buildings and old houses, most of which have been adapted for commercial use. Sensing that an “object” building would not work in this urban setting, Mayne turned to a perimeter block housing scheme to give the building the correct “massing, height, and horizontality” (Stephens 2002, 81).

While it is one singular building, the perimeter block scheme allowed Mayne to play with four separate “wings” or “blocks” of the building (see figure 3.45), varying the height, fenestration and cladding of each block to relate it to...
the buildings around that particular façade. For instance, the west-facing portion of the building was kept to seven stories, as opposed to the ten-story height of the rest of the building, in order to relate it to the low massing of the existing buildings on the main street.

The West façade also contains the building’s most visible and controversial feature; a two-story glass corridor that acts a giant sign and welcome banner for the university, spelling out “University of Toronto” in fritted glass (see figure 3.44). Described as a “human cornice” by the architect (Stephens 2002, 82), the sign projects halfway across Harbord Street. While careful attention was paid to community guidelines and the opinions of neighbors in other design aspects of the building to try to mend an already strained town-gown relationship, Mayne purposefully rejected the criticisms and fears about the
cornice element and went ahead with the design (Kapelos 2001). Reviews and opinions of the sign may be mixed, but one thing is for sure— it’s attention-grabbing.

Along with the large expanse of glass used for the west-facing sign, Mayne employs a myriad of cladding types and fenestration systems to break up what can, at first, appear to be a very monolithic building. On the north side, which is the shortest façade, a mustard-colored stucco covers a concrete shear wall and aluminum clads an abstracted gable-like element. Ribbed concrete planks, painted a gray-brown, clad most areas of the other three facades, but are interrupted as special architectural events occur. For instance, the north side of the building contains the main entry, and where this penetration occurs, the concrete planks are overlaid by a perforated corrugated aluminum screen (see figure 3.46 and 3.47).

This system of concrete planks and short, horizontal windows is completely abandoned for the interior facades of the building, which face the courtyard created by the perimeter block scheme. Precast panels are used here as well, but in this case they are left light gray and unpainted and are used in a grid system rather than horizontal rows. This grid then outlines large square areas of glass, giving the interior façade a much greater feeling of openness (see figure 3.48). This central courtyard opens onto Spadina Street providing some much-needed outdoor open space on such a densely urban site as well as a welcoming gesture to the surrounding community (Kapelos 2001, 4). A setback plaza at the corner of Harbord and Spadina also provides public open space, while reinforcing that corner’s importance as a gateway to the university (Kapelos 2001, 4).

So much has been written about the exterior, and so
little about the interior, that one is left to question how successfully the building functions. The functional aspects of the building that have been detailed in writing include the decision to include two levels of parking for 158 cars under the courtyard of the building, and more often discussed, the decision to use an old housing typology— the skip-stop plan.

The skip-stop plan, which came into use in the 1920’s, allows a greater density in buildings by limiting the number of public corridors that are needed to serve all of the units. The method which Mayne uses for Graduate house uses duplexes and a double loaded corridor plan, where living rooms are on one floor, with bedrooms either above or below them. This type of stacking allows hallways with elevators to only occur on the first, third, sixth, and ninth floors of the building. Mayne avows his decision to revive this old typology to the opportunities it provided for more natural light as well as the greater efficiency and lower costs it enabled (Stephens 2002, 82). From a community development aspect, the skip-stop plan can help foster some vertical connections that may not otherwise be formed, since residents of several floors are being brought together in a common corridor.

Lower costs were very important in this design. The overall budget for the 433-bed housing project allowed only $53 American ($85 Canadian) per square foot, or only a little over twelve million American dollars for the entire 230,000 square foot project. This low cost was essential for the University of Toronto, because in realizing that the building had to be self-supporting, they also realized that they had to be able to offer rooms in the new project for rates that were competitive with cheap off-campus housing, so that it would be attractive to graduate students (Kapelos 2001).
In his article, *Learning Experience*, George Kapelos calls in to question some of Mayne’s choices in regards to budget. He wonders why such design energy and money was spent on elements like the glass cornice sign and the screen system near the entrance, which essentially creates a double wall, when these moves seem almost redundant and don’t do anything to promote a better quality of life inside the building (Kapelos 2001, 7). Perhaps this is one of the reasons why I have only been able to find one picture of the interior of the building, and no article describes the building’s interior.

After building’s completion, an artist named Noritoshi Hirakawa chose to use Graduate House as the setting for a series of 14 provocative photographs. According to the website for Salon 94, the gallery hosting the exhibit, the collection, which Hirakawa entitled “Subject,” is meant to question the tradition in which architecture is photographed without people or interaction (see figures 3.50 through 3.55). The photography also aims to question cultural limits, by sexualizing the architecture and bringing taboo scenarios to a university residence hall. The photography also aims to “humanize” the architecture by activating it with human interaction (www.salon94.com/exhibitions/19:description.htm).

Graduate House was an ideal selection for this project, due to the transparency and layering that occurs in the building. Hirakawa consulted extensively with Mayne on the photography project. Both agreed that “human appropriation is utterly important not only in photography, but in the creation of architecture as well” (www.insituparis.fr/artitse.asp?id=5&rub=2). In this way, “Subject” shows how humans incorporate architecture in their daily lives, whether they use the space in the way the
architect intended or not. Graduate House was already controversial upon its completion because of its bold style and presence, “Subject” simply added to the hype.
New College at UVa by Billie Tsien and Tod Williams

Construction for the original quadrangle of the University of Virginia, planned and designed by Thomas Jefferson, began in 1817. Although Jefferson had consulted on the design of other colleges, such as the College of William and Mary and a new college in Tennessee, Jefferson considered the University of Virginia to be one of his crowning achievements (Wilson 1994, 13). The AIA also realized the value of Jefferson’s work, designating the original portion of the University of Virginia as the “Proudest achievement of American architecture in the past 200 years” (Lay 2000, 91).

Many of the ideas that Jefferson employed in the original quadrangle were very different from the universities that were being built in America at that time. Jefferson stated that his “university would be a village, not a big building” (Lay 2000, 91). Jefferson asserted that this “Academical Village” scheme “would afford that quiet retirement so friendly to study,” rather than “a large and common den of noise, of filth, and of fetid air” (Wilson 1994, 11). Jefferson also suggested that the system would be well served if professors were to dine with their students in small, intimate groups that encouraged conversation and learning (Wilson 1994, 12).

One of the other revolutionary ideas that Jefferson employed at the University of Virginia was the absence of a chapel at the center of the institution. At UVA Jefferson placed the library at this central point (see figures 3.57 and 3.58), signifying that knowledge was the center of the university rather than religion (Lay 2000, 95).

Jefferson’s configuration of UVA encouraged students and faculty to interact frequently by interspersing
faculty dwelling units between groups of student units; the faculty apartments were actually placed above small offices and classrooms. The small size of these classrooms and their placement near student and faculty housing was meant to facilitate small, informal instructional sessions (Wilson 1994, 10). Often the pavilions which contained the faculty apartments also housed small dining facilities that reinforced Jefferson’s notion that faculty dining with their students was an important part of learning.

Nearly two centuries later, many things have changed about the University of Virginia. While much of the original Jeffersonian quadrangle remains intact, the university’s enrollment has grown to approximately 18,000 students, necessitating the addition of many new buildings by many architects. Over the years, the housing system of the university has changed as well. As more and more students began attending UVA, the original student living quarters and faculty pavilions were outgrown and large dormitory buildings were constructed to house incoming students. At the very end of the twentieth century, the university decided to overhaul their housing system, turning to the “residential college” model to provide answers (Stein 1993, 101).

The strategy by which UVA planned to implement the residential college system was through building self-sufficient living-dining precincts (Stein 1993, 101). In 1992, one such project was constructed, Hereford College, was designed by New York architects Tod Williams and Billie Tsien and to house 525 students and an adjacent dining hall.

Building on the much revered campus of the University of Virginia is most certainly a daunting task, so the architects devised a few strategies for honoring the
original ideas of Thomas Jefferson while still producing up-to-date student housing. The first of these strategies was simply to locate the new complex nearly a mile away from the original quadrangle. While the site allowed for psychological separation of the complex from Jefferson's portion of campus, it also allowed physical separation of the new development from the rest of campus. This separation reinforces the idea that this new residential college is self-sufficient (Stein 1993, 101).

Another concept that Williams and Tsien employed was the creation of enclosed outdoor spaces. This was a concept that the architects drew directly from their analysis of Jefferson’s work. The steeply sloping eleven-acre site chosen for the project did not permit a traditional four-sided quadrangle like the one devised by Jefferson, so, instead, the architects created smaller, triangular “lawns” between three rows of housing complexes (see figure 3.60). These lawns were left primarily unprogrammed, with only a few sitting steps and paths, to encourage spontaneous activity and flexible use (Stein 1993, 103). The large site was instrumental in allowing both large quantities of open space as well as relatively short buildings, with the average building height being forty feet.

An additional connection to Jefferson’s ideas is the inclusion of a dining facility in the complex (see figures 3.63 through 3.66). Realistically, though, this was not the decision of Williams and Tsien, but rather the decision of the university which wished to extend its new foray into the residential college system. In including a dining facility in the complex, the architects were also able to combine the budgets of two separately funded projects (Stein 1993, 103).

The final obvious connection that Hereford College
shares with Jefferson’s ideas is the inclusion of faculty apartments within the fabric of the student housing units. These apartments are available as housing for either permanent or visiting faculty members. Although this is certainly not the same as Jefferson’s concept of bringing students to the faculty members quarters for instruction, it does encourage continued communication between faculty and students outside of the classroom.

Programmatically, the complex is much more than simply student housing. As previously mentioned, it also contains a dining facility as well as faculty apartments. Additionally, it contains, a library and resource center, small meeting rooms, multipurpose rooms, a recreation facility, and specialized spaces for practicing music (Stein 1993, 105). These are spaces that residents can utilize either privately or in small or large groups, reinforcing the idea that the complex is self-sufficient, providing everything the student needs.

Hereford College seems to successfully carry on some of Thomas Jefferson’s ideas about residential education while also taking into account UVA’s new effort at creating residential colleges. In truth, these two systems, Jefferson’s and the system of residential colleges share many similarities; both systems stress the importance of learning outside the classroom, providing spaces for social interaction, strong relationships between faculty and students and finally enclosed outdoor spaces for student use.
background summary

The previous sections of this document have outlined various roles that student housing has played throughout history as well as analyzing some recent residence hall projects that have aimed to bring excitement and recognition to a building typology that is often neglected (Stanwick 2001, 111). Additionally, they have outlined specific ways in which student housing can help universities meet their educational, recruiting, and retention goals. The task at this point becomes meshing the principles of the residential college with the architecture of a new student housing complex. Some of the projects that were analyzed, such as Graduate House at the University of Toronto, exemplify some of these principles in architectural form. In the case of Graduate House, the layering and transparency that Thom Mayne has employed sets up a very intricate system and hierarchy of private and community spaces. Up to this point, though, a specific set of guiding principles or concepts for completing this task has not yet been identified. This section will layout the framework for a set of actionable principles by identifying and summarizing the key ideas and concepts that have been previously discussed.

The History of Student Housing

By looking at the history of student housing in America it is clear that American universities are often conflicted in their views about the role that they should play in housing students, from being very involved in the housing and mentoring of students, as in the Oxbridge system, to shunning student housing entirely, as in the German
system. Accordingly, the amount of energy and money invested in student housing has also fluctuated over time. Recent years have shown increased interest and financial investment in student housing, painting a promising picture for the immediate future of this building type. Universities are trying out various types of housing in order to better suit student needs. Trends include: integrating a learning component into the residence system, providing enhanced amenities comparable to those at apartment complexes, and the provision of ever-increasing privacy through lower density and apartment and suite style housing.

What Students Want

Students are no longer satisfied with the barracks type dormitories that were widely constructed in America in the 1960s. Today’s generation of college students grew up with amenities such as private bedrooms and bathrooms, high speed internet and, of course, air-conditioning, and parents are willing to shell out extra money to insure that their sons and daughters have these amenities in their college housing as well. Students also want to be close to the action, conveniently located on campus for easy access to classes, libraries and student unions.

What Universities Want

Universities want to attract the best and brightest students to their institution, and they want to be able to retain these students until they receive their degrees and as active alumni. In order to do this, universities aim to provide the “whole campus experience” where on-campus student life is exciting and vibrant, with things happening on campus twenty four hours a day. For this to happen, students have to live on campus. Of course, universities
also want to take advantage of any and all opportunities they have to educate students, and often these opportunities can occur in on-campus housing, run by the university. Often the attempt to integrate more educational opportunities into the housing environment is done through creating “living-learning centers” which often group like-minded students, hoping that they will form an academically minded community. Last but not least, universities want to make money so that they can continue to grow and prosper, and with careful planning and thoughtful, creative financing and fundraising, student housing can actually raise money for the university.

The Residential College System:

The residential college system has its origins in Oxford and Cambridge Universities in Great Britain. The individual “colleges” not only housed students but they also were responsible for the day-to-day education of the students. The larger university was then responsible for the testing and matriculation of students. As the system developed, instruction slowly shifted away from being the responsibility of the college and was taken on by the university.

Although residential college models vary from school to school, a college always provides opportunities and facilities for eating, sleeping, learning and socializing. In America, the most well-known examples of residential college systems are found at Harvard and Yale, where they were implemented primarily as a way to provide more university sponsored social opportunities.

The residential college is primarily an organizational structure, but there are some architectural techniques that are widely used in the system’s implementation. These
include outdoor spaces, such as courtyards, common social rooms placed along circulation routes, and a diversity of student room plans to accommodate students of different ages and interests.

Privacy and Community:

Community involvement is the primary focus of the residential college system. Students have very high demands, though, for personal privacy. In order for students to be willing and able to engage in community interaction their privacy needs must be met. The adequate level of privacy can be provided through a gradation of privacy and community, allowing students to choose how much privacy they desire for a specific activity. For example, student bedrooms should provide the highest level of privacy, while semi-private living spaces shared by just a couple students provide a slightly lower degree of privacy. Common areas such as lounges, computer labs, lobbies and a dining facility provide varying levels of community involvement based on the size of group the space can accommodate as well as the transparency and accessibility of the space itself.

The complex as a whole should be designed in a way that promotes interaction, both spontaneous and planned. This means including spaces such as a shared entry, wide hallways and alcoves where chance meetings can occur as well as classrooms, lounges, or other common rooms where events and programs can occur.

The community should also be viewed in terms of its composition, striving for a diversity of age, year in school, major, ethnicity and background in order to establish a rich learning environment.
Precedent Studies:

Baker House:

Designed in 1946 by Alvar Aalto, Baker House marked a return to humanistic student housing in the United States. Student rooms were designed with things like view and function in mind, unlike the standard dormitory housing that was being designed at the time. The rooms were carefully thought through, assuring that every activity that a student may perform in his room was accounted for, and furnishings were specially designed to meet student needs. Circulation routes were also given special attention by Aalto. He designed the circulation to promote sociability, encouraging spontaneous encounters and interaction.

Simmons Hall:

This residence hall, designed by Steven Holl, is not merely a place to sleep, it also contains a café, a performance theater, a photo lab, an art gallery, lounges, classrooms, kitchens and study rooms. These common spaces diverge from the linearity of most of the building, appearing as sinuous cave-like forms cut through the building. These plan irregularities contribute to the overall character of the building and create divisions, around which smaller communities of students form, decreasing the sense of anonymity found in must large residence halls.

State Street Village:

This residence hall, by Helmut Jahn, is a portion of a master planning process undertaken by IIT to develop a vacant strip of land that separated the campus’ institutional buildings from its residential ones. The project was in many ways a marketing ploy, meant to help IIT reach its goal of increasing its on-campus student population. In order to
achieve this, Jahn offered students a great deal of privacy by designing suite and apartment style housing that was much more luxurious than IIT’s existing housing. Like Simmons Hall, this project also attempts to divide the large community of students who live into the complex into smaller “houses.” In this case, Jahn uses open air courtyards to physically divide the housing block into six segments.

**Graduate House:**

Thom Mayne’s project for the university of Toronto focuses on layering and transparency. He uses these techniques to create varying degrees of privacy and intimacy within the space in some parts of the building and as a way to put occupants on display to other occupants and the public in other locations.

Graduate House also acts as a landmark building for the university, announcing its presence in the community boldly with a two-story inhabitable glass sign that reads “University of Toronto.” Other portions of the project respond to the site with more quietly. Heights of the four facades of the building are carefully coordinated to respond to the surrounding buildings and a corner plaza creates a welcoming entry to the building.

**New College:**

The quadrangle of UVa, designed by Thomas Jefferson, is a hard act to follow when designing student housing for the university. Tod Williams and Billie Tsien attempted to do just this by adopting a set of strategies that honored Jefferson’s ideas without replicating them. The result is New College, located almost a mile away from the original quadrangle.
One of the most evident correlations between Jefferson’s design and that of Tsien and Williams is the inclusion of partially enclosed outdoor spaces, meant to encourage spontaneous activity and flexible use. Like in Jefferson’s design, Tsien and Williams also planned for the inclusion of faculty members in the daily lives of students, locating three apartments within the housing complex for use by visiting or permanent faculty members.

As with Simmons Hall, this complex provides many additional facilities, such as a library and resource center, a recreation room, music practice rooms, meeting rooms and a dining hall. These spaces reinforce the idea that the complex is self-sufficient and can meet all of the daily needs of its residents.
My proposition is that ideas of the residential college system can be translated into design principles and strategies in order to enhance the way in which student housing contributes to the academic and social development of students. As a step toward this proposition, I will identify and describe the most important architectural concepts of a residential college.

Residential College Concepts

Community and Privacy: The residential college system places a large degree of emphasis on the importance of developing a sense of community within the college. This community should be both social and academic in nature. While community is the focus, the student’s need for privacy must be met before he is psychologically able to be a productive member of any sort of community. It is therefore necessary to attain a suitable balance of privacy and community interaction. This may be accomplished by providing a gradient of spaces such as private bedrooms, semi-private living areas, semi-public lounges and public lobbies. This gradient allows students to choose the appropriate level of privacy for their current needs and uses. The use of transparency and the layering of spaces are two techniques that may be used when establishing this gradient. Large spaces may lead to smaller, more intimate spaces as in figure 5.1, which shows a very public common area at Simmons Hall leading into a more private lounge. Figure 5.2 shows how Thom Mayne has used different types of glazing and varying degrees of transparency at Graduate House to indicate how private an area is. Large
expanses of glass enclose public corridors and spaces while small windows are used in private dwelling units and no glazing is used where mechanical and service spaces are located.

**Identity and Ownership:** In order for members of a community to take pride in their community, they must have a sense of ownership of their membership. This often occurs when the community has a strong identity that the member can relate to such as a community of athletes, a community of honors students or a community of artists. This identity can also be relayed to the general public through the attitudes of the members, but also through the actual design and treatment of the community’s facilities. In this way, the mural on the exterior of St. Anne’s College (Figure 5.4) seems to indicate to the public that St. Anne’s is a place for creative, artistic students. A sense of ownership is also very important in a large residential community. This can be accomplished by allowing students to personalize their living space by painting or rearranging furniture, as well as by architectural considerations such as providing a formalized, private entry to each unit. In their Slither Housing project in Japan, Diller + Scofidio wanted tenants to approach their entry door head-on instead of passing it in a corridor, so they offset each unit and placed the door on the offset side rather than the corridor face (see figure 5.5). Providing residents with a sense of ownership and pride has been shown to be beneficial in the creation of a close community as well as important in the prevention of vandalism and violence in large housing developments.

**Opportunities for Informal Interaction:** The provision of an environment where social and academic opportunities
are readily available where a student lives is the core of the residential college system. Many of these opportunities are often informal and of a spontaneous nature. Students are not always willing to seek out opportunities, but if they simply happen upon them, they are much more likely to take advantage of them. Therefore, the architecture of a residential college must permit these chance and unplanned interactions. Most of the ways in which these interactions can be ensured are programmatic in nature. Examples could include: wide hallways, with alcoves or nooks to encourage chance meetings between friends or between students and faculty, atriums near entries, stairways, community rooms and outdoor spaces such as terraces and plazas. Many of these spaces should be highly visible and placed on main circulation routes so that residents routinely see activity. Flexible spaces are likely to draw students for a variety of informal activities. Figure 5.8 shows an impromptu performance in one of Simmons Hall’s lounges.

Diversity of Students and Adaptability: Students have differing needs, depending on their background, age, year in school, academic major, and many more factors. The residential college system stresses that a broad diversity of students is necessary for the development of a rich college environment. This diversity broadens the range of activities and events that can happen in the college, and older students can act as mentors to younger students. The architecture of the college must permit this diversity. Undergraduate students have much different needs in regards to space and privacy than graduate students do. It is generally accepted, and widely practiced by most universities, that freshmen students benefit from the
socialization provided by relatively high density housing arrangements with students having one or more roommates and sharing kitchen and sometimes bathroom facilities as well. As students develop more autonomy and take on a more challenging course load in their junior, senior and graduate years, they often need more privacy. Apartment and suite style housing options are necessary to meet these privacy needs as well as retaining older students in on-campus housing. An example of this is shown at the right (figures 5.9 and 5.10). As a result, a successful community with students of different ages must provide units of different types to meet the needs of its residents. Additionally, the common spaces of the complex must be flexible and adaptable in order to allow students with different needs and interests to use the same spaces in different ways. The library by Michael Manfredi shown in figure 5.11 shows such a strategy. A diversity of common spaces such as exercise rooms, a game room, study lounges, computer labs, classrooms, project rooms and even retail spaces is also necessary to meet the entertainment and academic requirements of a diverse population of students.

**Scale and Hierarchy:** A central focus of the residential college system is its ability to reduce the scale of a large university, bringing together a few hundred students rather than the entire population of the university. Within the smaller college setting it is easier for students to make friendships and connections; anonymity and isolation are reduced. To further enhance this effect, the residential college should be broken into even smaller “residential neighborhoods by establishing clusters, or smaller communities, within the college. In this way, a hierarchy of
spaces and communities is established. These clusters should have strong physical and visual connections and characteristics that differentiate the cluster from other clusters. Historically, clusters have been established either by floor or around vertical elements such as stairwells.

**Outside Connections:** The residential college never exists in isolation from the university as a whole, and students in the college should never lose sight of their role in the university. The facilities and opportunities provided within the residential college complex need to compliment those provided elsewhere on campus. The physical connection of the college to the rest of the university is also important. Outdoor spaces are often a means by which to establish this connection because of their informality. Outdoor spaces often imply a sense of public ownership, inviting students who are not directly involved in the college to use them. Often residential colleges have a sort of “front yard” which is formal space, sometimes a plaza, which announces its entry, and a “backyard” meant to be used informally. Many residential colleges also include a courtyard which is a private outdoor space with little or no connection to the rest of the university. This courtyard is often meant for the exclusive use of the college residents. This concept is closely related to that of community and privacy, but on a larger scale, involving not only college residents, but the university as a whole.

In the case of a residential college designed to meet the needs of a certain body of students, and placed in close proximity to the existing academic facilities that these students use, the connection between the existing facilities and the new one must also be carefully considered.
The outcome of this thesis will be the design of a residential college that will serve the College of Design, Architecture, Art and Planning at the University of Cincinnati. The design will be explained through drawings and models, as well as through a written program and site proposal. Throughout the design process, individual aspects of the building such as program unit type and layout will be critiqued by University of Cincinnati students and resident advisors.

The design will be a complex where DAAP students can eat, sleep, learn and play in close proximity to the existing college facilities. Consequently, it will be vital that the complex compliment the existing DAAP complex programmatically, architecturally and aesthetically.

The site that is being considered is the current site of Crosley Tower, a 1960’s concrete monolith of a building that is not functional in its role as a laboratory building and generally viewed as unsightly by the public. The site also contains the Clifton Court Parking Garage which could be replaced or left intact. The site is also immediately adjacent to the existing DAAP complex.
Site and program will be irrevocably linked in the creation of a residential college that will serve the existing College of Design, Architecture, Art and Planning at the University of Cincinnati. DAAP has several nationally ranked design programs, according to the 2006 *Design Intelligence* rankings, such as a first place interior design program, a second place master of architecture program and a second place degree in industrial design. DAAP, however, does not currently address students’ lives outside of the classroom. The construction of a connected living complex to the existing DAAP facilities would extend the college’s reach into this realm.

The large university setting often serves as an isolating force, separating students with similar interests rather than connecting them. The existing college system at the University of Cincinnati begins to address this issue by placing all of the classroom and office spaces for a program or related group of programs within one structure. This gives students, even commuters, an identifiable “home” on campus and begins to form a sense of identity for the students in each college. DAAP does an especially good job of this, in part because of the architecture of its facility. Eisenmen’s Aronoff Center addition the existing complex is such an identifiable icon that it is immediately associated with the students it serves.

While DAAP students are in class or studio they are very much a part of a creative environment with other creative students. After class is over, though, many students quickly leave the complex returning to an on-campus dormitory or an off-campus apartment, neither of
which are designed to foster creativity or enhance their learning, or connection to DAAP or the university as a whole. A residential college devoted to DAAP students would change this.

This new residential college would address the issues presented in the research portion of this thesis, demonstrating how student housing can contribute to the academic and social development of a specific group of students. The design concepts previously presented will be explored through the design of a residential college complex as well as examined in the larger context of college and university.

Not only will the project examine the creation of a residential college, but it will also address the need to tailor the facility to the specific needs of its users. Additionally it will be designed to fit in a tightly constrained site adjacent to the existing DAAP facilities and bounded by a busy street and other university facilities. To further complicate matters, the new complex will have to relate to the existing, iconographic, DAAP facility programmatically aesthetically and perhaps even theoretically.
User Groups:

Users of the complex will be of two distinct groups: residents and non-residents. While some spaces, such as individual living units, will be designed to meet the needs of residents alone, other spaces, such as a dining hall, will support use by both residents and non-residents.

The resident group will consist of DAAP students from all four segments of the school: design student, architecture and interior design students, art students and planning students. These students range in age from traditional college freshmen who are eighteen-years-old to non-traditional graduate students who may be in their late twenties, thirties or older. Through the inclusion of faculty apartments, permanent or visiting faculty members (or lecturers) may also be included in the resident group.

The non-resident group will naturally be much broader. The largest number of non-resident users, however, will still be DAAP students who have chosen other accommodations either because of personal preference or lack of space in the DAAP living complex. Other user groups include DAAP faculty members who may teach a class or meet with students in the complex and University of Cincinnati students in other colleges who use the dining or social spaces in the complex. Parents and friends of residents may also be included in this non-resident user group.

Figure 7.1: DAAP Students will be part of the resident and non-resident groups

Figure 7.2: All UC students are part of the non-resident user group
Facility Program:

The majority of space in any residential college is devoted to the individual living units. Often, though, the supplemental common and public areas are just as important in meeting the needs of the complex’s residents. Aside from the student units, the complex will include common areas such as study lounges, exercise rooms, computer labs, and project rooms for use by residents. Other facilities included in the complex will be geared for use by non-residents as well as residents. These spaces include, a dining hall, classroom/theater, a café/bar, game rooms, and a large lobby.

The included spaces aims to meet the general needs of the primary user group through their type and number as well as the varying needs from person to person through variety and flexibility.

Community and public spaces are of two general types: learning focused, such as the study lounges, computer labs and classrooms and socially focused, such as game rooms, the café, and lobby. Ideally, though, these spaces can be designed in such a way that they can encourage both learning and socializing in the same space or even simultaneously.

Many of these spaces are allocated in accordance with typical practice at the University of Cincinnati. The current housing portfolio of the University of Cincinnati is described in Appendix A.

Space Program:

Living Units:

Living units are of three types: student units, faculty
Student Units:

The student units of the complex are the primary housing units. They are the private realm of the students who occupy them. Because students of different ages have different needs regarding space and privacy, as discussed in the proposition and concepts portion of this document, these units should be of three types to house three different age levels of students. I am terming these types, described below with their support spaces, introductory, intermediate and graduate.

Introductory Student Units:

These units are tailored to the needs of traditional freshman and sophomore students. Privacy is important to students in this group, but socialization is even more important. At this age, students are still trying to establish their place in the university and DAAP, and in order to do this, they must expose themselves to other students as a means of support academically and in order to form social structures. These units will feature primarily two-person rooms, with some one-person rooms. Residents of these units will share restroom facilities with between fifteen and twenty other residents and kitchen and lounge facilities will be shared as well. These single-sex units will be clustered together to create a small residential neighborhood. While a resident may not have a private room, there should be partitioning or other means by which a resident can achieve a higher level of privacy. Central facilities will act as a means of bringing residents together as a community,
encouraging spontaneous interaction and the formation of friendships. Student units should allow for a sense of ownership through customization, such as furniture placement, wall color and/or other means. The cluster itself should then create a sense of identity for the members of the cluster, through, materials, configuration of space or other means.

Restrooms: As indicated above, restrooms for this type of unit will be shared and provided for each cluster. To serve the twenty residents of the cluster, four toilet stalls, four showers with dressing areas and six sinks should be provided. The restrooms should be located in a central, convenient location, but not in a conspicuous one, to allow users a sense of privacy.

Kitchen: Like the restrooms, the kitchen should be centrally located, but unlike the restroom, the kitchen should be very public, with opportunities for residents to casually pass by it or even through it. While the kitchen must be a functional place to prepare a meal it should also be a space that encourages interaction and enables social gatherings, with enough space for a dining table or two for casual meals.

Laundry Facilities: The laundry facilities are mainly functional in nature with two or three washers and dryers for each cluster and could be adjacent to the kitchen facilities to capitalize on the social potential of that space.

Lounge: In addition to the social space provided by the kitchen, the lounge will be a flexible space that can serve as both a study space as well as a social one, with natural light and flexible furnishings.

Intermediate Student Units:
These units will be designed to meet the needs of traditional juniors and seniors as well as some older, non-
traditional freshmen and sophomores. In these units, single and double bedrooms will be arranged in a suite-style manner, with four residents sharing shower and toilet facilities and a small living area. While these units will provide more privacy and more semi-private spaces, they are still not completely self-contained, with residents needing to leave their unit for some facilities such as a kitchen or laundry equipment. The small living area also encourages them to utilize larger common areas for entertaining groups of more than just a few friends. Like the introductory units, these suites will be clustered in order to create a residential neighborhood, with approximately twenty residents in each cluster. These clusters, however, may be co-ed, with males and females living in the same cluster, although not the same unit. The cluster would then share a kitchen, lounges and laundry facilities. As with the introductory units, these units should allow for student regulated partitioning for a varying degree of privacy as well as room customization and a means of identity for the cluster.

**Kitchen, Laundry Facilities and Lounge:** These facilities are of the same type and number as described above for the introductory units.

**Graduate Student Units**

Graduate students (as well as those in the fifth year of their program) have the greatest level of autonomy, and consequently, the highest need for privacy. While community involvement is still an important need for this group of students, their privacy needs must be met before they will be willing to participate in community activities. As a reflection of this, these graduate units should be almost entirely self-sustaining, providing the resident with all of the...
facilities they may need, and following the model of a typical apartment. All of the bedroom in these units should be private, meant for one-person only. Apartments, however, should be studio, one, two and even three bedroom units, allowing for a variety of pricing structures as well as allowing more social students to live with a few friends. As with the other two unit types, these units will be clustered together in a neighborhood of around twenty students. These clusters would be served by social spaces that would encourage interaction between residents. Units of this type may also be co-ed, with the understanding that graduate students are mature enough to choose their own unit mates. Similarly to the other two unit types, these units should allow for customization within the unit as well as features that create an identity for the neighborhood.

**Laundry Facilities:** Centrally placed laundry facilities to be shared by the cluster.

**Lounge:** As with the lounge space for the other two unit types, this lounge has dual functions as a study space and a social one.

**Faculty Apartments:**

At least two faculty apartments should be included in the complex. While these apartments could serve as permanent residences for DAAP faculty members, their more likely use would be as short term housing for visiting faculty, guest lecturers or candidates during faculty searches. The inclusion of these apartments serves many purposes. For one, the principles of the residential college system stress the importance of daily involvement of faculty members in students’ lives and having faculty available to students in residence relays this message to students.

Additionally, this housing can be an asset to the
college of DAAP. Currently, the college houses guest lecturers and prospective faculty members at the Kingsgate Conference Center on UC’s East Campus. While this is certainly a nice hotel, it is quite a distance from the DAAP complex. The ability to house visitors in a complex so close to the college facilities would be not only convenient, but also a valuable opportunity for visitors to more fully engage the DAAP students, faculty and facilities.

These apartments could also serve as housing for visiting faculty members who may be in Cincinnati for only one or two quarters. The college has had trouble in the past finding desirable short-term housing in the area, so having an available unit, right in the heart of campus, may actually help the college bring in more visiting professors.

These faculty units should be fully functional one or two-bedroom apartments, with a kitchen, bath, living area and laundry equipment. The location of these units is crucial. These units should not be surrounded by student units or included in the student residential neighborhoods, but they should not be completely removed from student activities either. This could be accomplished by placing them in a location with screened views of student common areas such as the lobby, or the café. While faculty members should not have to pass through resident-oriented areas of the building, the units should be accessible through the main entry of the building so that they are seen as members of the complex’s community.

**Staff Apartments:**

Staff Apartments are of three types the residence coordinator apartment, the assistant residence coordinator apartment and the advisor apartments. These three levels of staff are the pre-established positions employed at the
University of Cincinnati. While this system is adaptable to the residential college, it is absolutely necessary that the advisors placed in the complex be DAAP students. Below are the descriptions for these three apartment types.

**Residence Coordinator Apartment:**

The resident coordinator (RC), is a full-time employee of the University of Cincinnati and is in charge of the day-to-day administrative and supervisory matters of the living complex. This person must hold at least a bachelors degree, but preferably a masters degree, and is typically twenty-five to thirty years of age. While most RCs are single, some are married and a few have young children. The RC apartment is the home for the RC and his or her family for a period of up to three years, which is the maximum period of time that the university will allow the same person to hold an RC position.

The RC is on-call for the living complex twenty-four hours a day, seven days a week. Despite being on the complex's premises, the RC apartment must allow for a maximum amount of privacy for the RC and her family. Therefore, location within the complex is very important. The apartment should be located somewhere that is not easily accessible by residents, and a private entry in addition to the entry from the interior of the complex is desirable.

The apartment itself should be fully self-sufficient with a kitchen, bathroom facilities, and laundry facilities in addition to a living room and two bedrooms. This apartment should be similar to size and amenities to the RC apartments provided in other residence halls on campus.

**Assistant Residence Coordinator Apartment**
The assistant residence coordinator (ARC) is a graduate student who assists the RC in the operation of the living complex. The ARC may be a single student, but could be married as well. Like the RC, the ARC is always on-call to respond to emergencies, consequently the ARC apartment should also be located in a manner which provide an optimal level of privacy, though, an exterior entry is not necessary. The ARC apartment should be located so that it is not a part of any of the residential neighborhoods, because the ARC should have equal interaction with all members of the complex’s community.

While smaller in size than the RC apartment, with only one bedroom, the ARC apartment should also be self-sufficient, with a kitchen, bath and laundry facilities. The design of the apartment should be mindful that the ARC is still a student and will have many of the same needs as other residents of the complex.

Advisor Apartments:

Resident Advisors (RAs), are trained to provide support and guidance for the undergraduate residents of the complex. The RA is often a mentor, a counselor, and a policeman all rolled into one. RAs are at least sophomores but are preferably juniors or seniors. The primary means of compensation for RAs is “free” room and board. The nature of the job requires that each advisor have his or her own private space because they often deal with confidential matters and may receive phone calls twenty-four hours a day. These apartments should be one bedroom units with a private bath and a living room that can be used when the RA is meeting with residents. While kitchens would not be absolutely necessary in these units, they would be desirable. RAs should have daily contact with their
assigned group of approximately forty undergraduate residents, so their apartments should be easily accessible to the residents they are assigned to. Ideally the RA apartment will be located in a way that forces the RA to pass by the units of his assigned residents on the way to his own apartment.

**Resident Common Areas:**

These common areas are for use by residents and their guests, but they are not for use by non-residents who may be using other more public parts of the complex.

**Exercise Room:**

The University of Cincinnati has a state-of-the-art recreation facility that just opened this year. The exercise room is in no way meant to compete with the UC recreation center, it should merely offer a limited variety of fitness equipment for easy, convenient use by the complex’s residents. This could include equipment such as treadmills, elliptical machines, stationary bikes and weights. Because this room would be for the use of all residents, it should be centrally located and accessible by all.

**Project Rooms**

Many DAAP students are not provided with the studio space that they need in the existing DAAP facilities. Consequently, students often try to work at home, but often the home environment is inadequate as well as distracting because of the presence of items such as a bed and a television, making real work unlikely. This problem can be mediated with the provision of project rooms. These rooms should be sized to allow one to four students to work on a large project. While no one “owns” these spaces, they can
be acquired for a day or two at a time, when students have large projects. The finishes of these spaces should be durable and washable, with the anticipation of paint spills and glue mishaps. A large project table, perhaps built-in, should also be provided. One or more of these rooms could be sound proofed, to allow for work on projects that include audio elements. All of these spaces should have large amounts of both exterior and interior glass to allow for natural light and to allow other residents to peer in on the work that others are doing.

**Computer Labs:**

The majority of DAAP students own their own computers. Some however do not, and even more often DAAP students do not own the expensive software that they need for some classes. The DAAP facility already offers computer labs with both PCs and Macs, but the labs are only open until midnight, which does not always work very well with the often nocturnal nature of DAAP students. These computer labs, one with Macs and one with PCs, would supplement the DAAP labs especially during late hours when the DAAP labs are closed. These labs should also be equipped with color and black and white printers and a copier.

**Public Common Areas:**

These areas are for use by residents as well as non-residents. They should be separated from the living unit areas for reasons of security, and they should be located near the complex’s main entrances for the same reason as well as for increased visibility and ease of access.
Dining Hall:

Opportunities for communal dining are very important in the residential college system. These easy availabilities are especially important for busy DAAP students whose only opportunities for casual social interaction may be during meal times. The dining hall must be large enough to accommodate the approximately 240 residents of the complex as well as an average of 200 additional DAAP students and faculty members who may use it for any given meal. The dining hall should be set up to use the marché style which is now being used by the university’s other two dining facilities. This format offers several small food stations with varying types of cuisine from which students may choose. Two and four person tables should then be arranged around these stations. These tables should be lightweight and mobile, allowing students to pull tables together in order to accommodate larger groups.

Classroom/Theater:

The inclusion of a medium-sized (250 - 300 seats) lecture classroom will allow faculty members an alternate location outside of the existing DAAP building for daytime or evening classes and lectures. The existing medium-sized classroom (5401) is almost constantly booked with back-to-back classes and events. The size of the space would also allow the space to be used as a theater for movies performances or other events, melding an academic space with a social one.

Seminar Rooms:

Another facility that the existing DAAP complex does not provide an adequate number of is small seminar rooms that accommodate ten to twenty people. As DAAP begins to
offer more and more graduate level seminars, these spaces will be at an even higher premium. These small seminars also provide an opportunity for the more intimate faculty-student interaction that the residential college system strives to provide. The rooms should allow for users to gather around a table or face a projection screen. These rooms may be either grouped together or scattered among the public areas of the complex. If grouped together, it may be possible to provide a large multi-purpose space that can be subdivided into small seminar rooms. While natural light and exterior views are not crucial for the function of this space, they are highly desirable.

**Café/Bar:**

Café and bars are typologically places of interaction and relaxation. English residential colleges often employ both cafés and bars as means for bringing people together and encouraging interaction. The current DAAP café is, in fact, a place of interaction, but it is a very busy, fast-paced space with no opportunity for relaxation. This space would ideally function as a café during the morning and afternoon hours and then switch over to being a more traditionally bar in the evenings. The space would be adjacent to and open on to other public areas such as the lobby of game room (described below) to draw people in and to capitalize on the voyeuristic nature of most college students. The atmosphere of this space would be very relaxed, possibly with movable soft furnishings as well as tables and chairs. A small kitchen or serving area could allow the café/bar to serve sandwiches or snacks as well as drinks.

**Game Room:**

The game room should provide pool tables, ping-
pong tables, air hockey and/or foosball. One portion of it should also contain a large television and movable furniture so that students can watch sporting events, movies or television shows. Because of noise considerations, this space should be isolated from other common areas. Large areas of interior glazing, though should allow students in other areas of the building views into this room.

**Lobby:**

The lobby captures building visitors from primary and secondary complex entries. It also serves at the node around which other public common areas occur. The lobby may have some flexible seating, but the lobby primarily serves as a connection point and a circulation hub. Many of the public common areas may open directly onto the lobby while others may be adjacent to it for acoustical and visual separation. The lobby will also be a security control point, with electronic or human means of allowing only residents into resident only portions of the complex.

**Support Areas:**

The support areas of the building do not have direct means of enhancing a residents learning or social opportunities, but they are necessary for the day to day operation of the complex.

**Parking:**

An attached parking garage for 400 to 450 cars will provide parking for residents of the complex as well as other students and DAAP faculty members. The existing Brodie garage contains 360 parking spots, some of which will likely be preserved and then supplemented. Additional parking for residents may also be found in Library Garage.
to the East of the complex.

Office:

A main office is necessary for use by the RC and ARC of the hall. This office may be one large area or subdivided into two smaller offices. The office will be used for record storage as well as meeting with residents. The offices should allow for maximum storage as well as a comfortable seating area.

Mailroom and Mailboxes:

A residence hall receives multiple bins of mail and dozens of packages a day. A room must be provided for the storage and processing of this mail. This mailroom should also provide access to mailboxes for at minimum each student unit, but preferably for each student.

Janitor’s Closets:

Janitor’s closets should be provided on every floor for the storage of cleaning carts and supplies.

Mechanical Room:

A large mechanical room is necessary to house the large coils of pipe which supply residence halls at the University of Cincinnati with hot and chilled water which heat and cool the building as well as the drinking water pipes and other equipment.
Site Location and History:

Given the nature of the program, and the strong relationship it must have with the existing DAAP complex, a site immediately adjacent with the complex was necessary. The large size of the facility program further limited possible locations for the site, and finally the partially vacant, partially built area directly to the East of the DAAP complex was chosen.

This site is currently partially occupied by Crosley Tower, a 15-story laboratory building, and a portion of Clifton Court Parking Garage. This site, while currently used for other functions, is slated by the university for future student housing. Use of this site would necessitate the demolition of Crosley Tower and the removal of 140 of the parking spaces of the 384 parking space garage. While Crosley tower is still marginally functional, the lab spaces that is houses are not very flexible and are unable to be brought up to state-of-the-art standards. Additionally, the building, which was created using a continuous pour of concrete, is monolithic and brutal and considered by most UC students and staff to be an eye-sore. The University has plans to demolish the building, because UC’s current masterplan steps away from tall buildings in favor of lower building clusters. More information on UC’s masterplan and initiatives can be found in Appendix B.

The “tongue” staircase designed by Peter Eisenman during the design of the Aronoff Center portion of the DAAP complex would also be likely need to be removed. This staircase was created as a physical link between DAAP and
Figure 8.05: Large Aerial Photo of the Site and its Surroundings

Figure 8.06: Topographic Map of the Site
Crosley tower as well as an extension of the complex’s main circulation aspect onto the site. With the demolition of Crosley, this physical link becomes less important, but the circulation extension could be continued through the design of the new project. More ideas for relating to the existing complex can be found in Appendix C.

The Northwest quadrant of campus, where the DAAP complex is located, is almost entirely comprised of academic buildings. There are currently no housing facilities or support building such as dinning halls or student centers in this portion of campus. This presents a problem for DAAP students who often work late in their studio at DAAP and then have to walk 15 to 20 minutes across campus at midnight or later. The location directly adjacent to the complex solves this problem.

This corner of campus is also closest to Ludlow, a neighborhood to the Northwest of campus that is often regarded as an artist’s district with coffee shops, ethnic food stores, shops, restaurants and entertainment venues. Placing DAAP students as close to this neighborhood as possible, while still being on campus, seems to be a logical move.

**Surrounding Structures:**

There are three buildings that are immediately adjacent to this site. First and foremost is the DAAP complex which is dominated by the Aronoff Center of Design designed by Peter Eisenman. The other two buildings are Reiveschl Hall, a building of laboratories and classrooms, and Langsam Library, the campus’s main library building. Pictures of these buildings are presented on the following pages.
DAAP Complex Photos

Figure 8.08: Aronoff Center for Design Addition

Figure 8.09: Wolfson Portion of the DAAP Complex

Figure 8.10: Alms Portion of the DAAP complex

Figure 8.11: DAA Portion of the DAAP complex

Figure 8.12: Close-Up of Aronoff Addition Façade

Figure 8.13: North Façade showing the “tongue”
Rieveschl Photos

Figure 8.14: West Façade of Rieveschl

Figure 8.15: North Façade of Rieveschl viewed from DAAP

Figure 8.16: Rieveschl Viewed from MLK

Figure 8.17: Rieveschl Viewed from MLK

Figure 8.18: Current Relationship Between Crosley and Rieveschl
Langsam Library Photos

Figure 8.19: Main Entrance to Langsam on SE corner

Figure 8.20: East Facade of Langsam Library

Figure 8.21: North Facade of Langsam Facing MLK Drive

Figure 8.22: Close-Up of North Facade Closest to the Site

Figure 8.23: Northeast Corner of Langsam Facing the Site

Figure 8.24: West Facade of Langsam
Site Grids

The existing buildings on the site (shown on the previous three pages) create a variety of possible grids on the site. These grids are primarily formed by the edges of Langsam Library and the east façade of the DAAP complex which occur on a north/south axis, and the northern façade of Rieveschl Hall which is canted by 15 degrees off the true east/west axis. This 15 degree cant is present in many of the buildings on the University of Cincinnati’s campus and is often referred to as the “mystic axis” or the “force field.” The curves of the DAAP complex and the West to East slope of the site further complicate the grids. The following pages present a variety of site grids that may be used as an initial means of envisioning a building on this complicated site.

Figure 8.25: Site Grid #1- North/South axis and 15 degree axis
Figure 8.26: Site Grid #2- North/South axis and 15 degree axis

Figure 8.27: Site Grid #3- North/South axis and 15 degree axis
Figure 8.28: Site Grid #4- Incorporating curved geometry

Figure 8.29: Site Grid #5- Incorporating curved geometry
Landscape Design

The University of Cincinnati’s campus is unified through consistent landscape architecture designed by Hargreaves and Associates. One of the hallmarks of this plan is the use of angular mounds. These mounds are used extensively on the North edge of the DAAP complex in order to mask the building’s true scale from Martin Luther King Drive (see figure 8.31). These mounds then continue along the North edge of the chosen site.
b i b l i o g r a p h y


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Current University of Cincinnati Housing Portfolio

As a whole, the University of Cincinnati’s portfolio is out-dated, most of the halls were built in the 1960s and of “dormitory” style, with small double rooms and shared bathrooms. In the past few years, though the University has added a few new options to its housing portfolio. This section will examine the currently available housing that the University of Cincinnati offers, in an effort to find out what is working well and what is missing.

Very simply, this chapter will review each residence hall that the university presently has separately to identify what each offers and then the entire portfolio will be examined as a whole. The halls will now be presented in chronological order of when they were constructed.

Dabney Hall (1960)

Dabney Hall is the oldest of the residence halls on UCs campus today, as well as the smallest, housing only 202 students. This hall has gone through several incarnations as a residence hall. A few years ago, Dabney was used as upperclass housing, housing all students one per room in rooms that were originally designed as two-person units. Consequently, students had more personal, private space, but at the time, the hall was not air conditioned and the bathrooms were still shared and down the hall. So, while the need that many students feel for more privacy was met in the units offered in Dabney, the need for other common amenities was not.

In the year 2002, Dabney was reverted to primarily
freshman housing, with two people per room, once again. At the same time, the rooms were updated slightly, with the addition of window air conditioning units and new furniture. Like all of the residence halls that UC currently maintains, Dabney is coed. Interestingly, though, unlike several of the other halls, Dabney houses men and women on the same floor.

Some of the amenities that Dabney does offer include, a computer lab, a central kitchen, and a lounge on every floor. Another interesting thing that Dabney has to offer is proximity to the campus housing and food services office, which is housed on the first floor of the building. At least you don’t have to go too far to complain if you are unhappy with your housing. Dabney is slated for demolition within the next few years to make room for a new College of Applied Sciences building.

**Sawyer, Scioto and Morgens Halls (1964)**

The University of Cincinnati opened four residence halls in 1964, with the help of the 1963 Higher Education Facilities Act. Three of the four hall were identical in exterior appearance; these halls were Sawyer, Scioto and Morgans Halls. The interesting thing about these three halls, often referred to as “the three sisters” is that they were built as apartments instead of using the typical dormitory typology; each unit in these halls contained its own private bathroom and kitchen.

I have yet to be able to find much information about the original uses of these three halls, but as things stand today, Morgans and Scioto house graduate students, international students and students with families in efficiencies, one and two bedroom apartments. Unlike everywhere else on campus, units in these two buildings are rented by unit, not
by students. Consequently, according to Joseph Schwab, a partner at GBBN architects, a local firm that has worked on many projects at the University of Cincinnati, these units are not at all profitable for the university. According to Mr. Schwab, the university offers this type of housing, at a very low cost to the student, as a recruitment tool, in order to attract and retain the best and brightest international and graduate students.

Sawyer Hall, is currently an undergraduate, put primarily upper-class hall. Like all of the other undergraduate halls on campus, but unlike Morgans and Scioto, units are rented on a space by space basis, with each student paying the same room fee to the University for a space within the unit. According to Todd Duncan, director of the university’s housing department, demand for Sawyer has always been much higher than demand for other dormitory type halls, because of the private kitchen and bathroom. He points out, though, that privacy is often compromised in Sawyer hall, because of the building layout which puts as many as six students per unit without private bedrooms. Scott Oyler, a 2003 graduate of UC’s College of Business, points out another problem with Sawyer hall. “Living in Sawyer as a freshman, it just really sucks…it’s really hard to meet people.” While all UC residences halls, encourage community building, Sawyer Hall has always posed a problem for resident assistants, since people tend to stay in the rooms more when they have a private bathroom and kitchen.

Beginning this year, Sawyer hall will be closed for a total renovation. EHDD out of San Francisco has been hired to completely renovate Sawyer Hall and Scioto Hall a few years from now. The renovation will involve completely reconfiguring the interior of the building, getting rid of the
undesirable six person units as well as entirely new finishes, furnishings and appliances, and new “updated” exterior facades.

**Siddall Hall (1964)**

Built at the same time as Sawyer, Scioto, and Morgans, Siddall hall is of the dormitory typology typical of buildings built under the Higher Education Facilities Act of 1963. Like many of the student housing projects built under this Act, Siddall is of a rough “International Style” composed of a prefabricated curtain wall system which could be quickly assembled on site to help the university meet the influx in demand for student housing after World War II. Costs we certainly kept to a minimum for this building, with most walls being painted CMU, even in the student rooms; even the ceilings are left unfinished, with only a subtle pattern created by the plywood used to form the concrete slab and a coat of paint. Plumbing and electric lines that were added during or after construction have simply been suspended below the ceiling or tacked to the walls. Typical of buildings funded by the act, furniture was originally built in to the hall and immovable. This occurred commonly because, by building the furniture into the hall, the university could include the cost of the furniture in the low interest loans that were offered under the Higher Education Facilities Act (Smith 2000).

Siddall was designed as, and operated as, an all female hall until 2002, when it finally became co-ed like all of the other halls had a few year before. 450 students are housed in mostly double occupancy rooms, with a few interspersed single rooms on eleven floors of units. A room for two people measures approximately 15 feet by 11 feet. During the summer of 2000, the university performed a light

Figure A.8: Siddall Hall Exterior

Figure A.9: Siddal Hall Interior

Figure A.10: Siddall Hall Unit Plan
renovation on the building. This renovation removed the built-in furniture replacing it with movable furnishings. The renovation also updated the building’s electrical capacity in an effort to accommodate the growing number of electrical appliances students were showing up with. New vinyl floor tile and a new coat of paint were also supplied.

Like Dabney hall, Siddall provides some community features such as kitchens on each residential floor, lounges on each floor, a computer room and a roof sundeck. Siddall is also directly connected to one of the two campus dining halls, which is a draw for students, because they never have to step outside to eat their meals.

**Calhoun Hall (1967)**

Calhoun Hall, completed three years after Siddall Hall, is nearly identical to Siddall with only a few exceptions. Calhoun is constructed of the same prefabricated curtain wall system, with an identical module. Calhoun though, is slightly bigger in footprint and taller, having twelve residential floor instead of eleven and having 32 student rooms per floor as opposed to 24 rooms per floor in Siddall; overall, Calhoun can house 680 students in single and double rooms.

A little more attention was paid to finishes in Calhoun than in Siddall. In Calhoun, the concrete block walls have been covered in gypsum board, allowing most electrical conduits and sprinkler lines to be hidden behind the walls. Soffits have also been provided to hide ductwork in the student rooms, but not in the hallways. This seems to be important to students, with many thinking that Calhoun feels a little more “homey” because it is slightly more finished than Siddall. Calhoun also received a light renovation to remove the built-in furniture and make small updates.
One problem that Calhoun does face, because of the building’s orientation, is oppressive heat gain in half of the rooms, which have a curtain wall which faces south. Individual heating and cooling operation for each room helps mitigate this problem slightly, but excess heat is still a very noticeable problem, especially in the afternoon.

Daniels Hall (1967)

Daniels Hall, built at the same time as Calhoun, is another massive high-rise which houses 700 students on twelve residential floors. This hall, though has an even higher density than the already cramped Calhoun and Siddall halls, housing four students in a 12 feet by 19 feet room, once again, with communal bathrooms on each floor. Daniels, unlike other halls at UC still has its built-in furniture.

There are some significant architectural differences between Daniels Hall and Calhoun and Siddall Halls. Most noticeably, from the exterior of the building, Daniels does not have a curtain wall system. The building is primarily brick clad, with more residentially scaled windows. It is also easy to see that Daniels has a much different plan. Rather than having a long, skinny, double-loaded corridor plan like Calhoun and Siddall, Daniels has a cross-shaped plan, with student rooms clustered in the arms of the cross and common areas and elevator cores in the center of the building. This type of building plan is also pretty typical of the late 1960s, as an attempt to create a greater sense of community (Davis 2003, 174).

Daniels, Calhoun and Siddall Halls are typically regarded as the three freshman halls at UC, in large part because very few upperclassmen apply for housing in these three halls. As a whole, these three halls provide very little
privacy and minimal amenities. They often do, however, provide great opportunities for socialization and community formation, which can be very important for incoming freshman especially, who are trying to make a place for themselves within the university and make friends and feel connected.

**Sander Hall (1971)**

Sander Hall was imploded in 1991. Although Sander no longer exists, it is still very vivid in the minds of many college administrators, especially since the university is still paying the debt service on a building that was demolished almost fifteen years ago. Sander is, in many ways, a story of when residence halls go bad.

The top of Sander Hall, when it was still standing, was the highest point in the city (geographically). At 27 stories tall, it was also, by far, the tallest building on UC’s campus and housed an amazing 1,300 students. According the the March 2000 issue of the University of Cincinnati’s *Horizon* magazine, “by 1982 student demographics had changed. UC faced a surplus of housing, and high-rise intrigue was waning.” Students who lived in Sander though, would blame Sander’s downfall on the middle-of-the-night fire alarms pulled by students who just thought it was fun to watch the painful evacuation of a 27-story building, as well as the fact that the building, with its pink mirrored glass, was just plain ugly.

The University considered converting Sander in to an administration building when it became clear that it was no longer desirable as student housing. Renovations, though, would have cost the university in the neighborhood of $25 million and a new building was estimated to cost only $2 million more (Ventre 2000). So, On June 23, 1991, Sander...
Hall became the tallest building to be imploded in North America (Fuller 2002).


Completed in 2003, Jefferson Complex, which consists of Turner Hall and Schneider Hall, is the first new housing built on UC’s campus in over twenty years. The two buildings together house 578 students in suite-style units in six separate buildings that are connected by glass corridors and courtyards. The three buildings that comprise Schneider Hall house upperclassmen in four person suites, with each student having a private bedroom. The three buildings of Turner Hall house primarily freshman in four person suites, with each student sharing a bedroom with one other student. Each suite contains a bathroom, but no kitchen; students are expected to do all of their cooking with the microwave that is provided for each unit.

This residence hall, because it is so new, is often very impressive to incoming freshman who are touring campus. It also offers, in the case of Schneider Hall especially, much more privacy than the other halls on campus. Each suite also has a small living room area which means that each student is getting more personal space as well. The bright colors and expensive furnishings in the lobbies are also quite appealing. This added privacy and space, though, come at an added price, with spaces in Turner and Schneider costing at least $400 more a quarter than Calhoun, Siddall and Daniels.

Some issues, though, have certainly arisen with this new dormitory. It is by far more up to date than the other halls on campus, but it is still not quite successful in meeting all of the needs and expectations of today’s students. For instance, they is only one cable and phone
hook-up per suite. Many students grew up with a TV in their bedroom and have been upset with this set up and most other new housing projects provide cable hookups in each bedroom and common area. Also, students are unhappy with only a microwave in which to prepare meals. At the very least students expect a shared community kitchen within the building, and neither Turner nor Schneider provide a full kitchen anywhere.

Another significant problem with this complex is security. Because the complex is broken up into so many buildings, there are many separate entrances. It is UC’s current policy to provide a 24 hour security staff at each entrance, and this is very difficult to do with so many doors.

Jefferson Complex marks an important step that UC has taken in improving its housing stock. It continues to be a popular choice for incoming freshman as well as some upperclassmen. The key is to learn from the problems that the project has experienced and make improvements on future.

**Campus Recreation Center (2005)**

The Campus Recreation Center, which is scheduled for completion this year, will house 224 upper-class students in two person suites. Each suite will contain a private bathroom, and each student will have a private bedroom. Since the building is not yet open, it is difficult to predict how successful it will be. It is known, however, that the rooms have been completely booked, despite the fact that they are the most expensive spaces on campus, costing nearly $600 more per quarter than a space in Calhoun, Siddall or Daniels.
Affiliated Housing:

In addition to the residence halls listed above, the university now markets two “affiliated housing” projects, set to open in the fall of 2005. These two projects were built by an outside development and management firm, Allen & O’Hara, but will house only University of Cincinnati students. In other words, UC has already begun participating in the privatization trend that has swept the country. Although the University of Cincinnati had some input on the design of these two new project, and actively markets them to students, the university’s housing department has no control over these buildings, or the residents within them, now that the buildings are completed. Instead, Allen & O’Hara will hire a residence life staff that is very similar to the resident assistants and resident coordinators present in university provided housing, but not under the control of the university. Since these projects were built and operated by an outside firm, the University does not profit from room fees paid to live in these projects. These two projects are described in more detail below.

University Park:

Located on Calhoun Street, near Calhoun and Siddall Halls, and actually on University of Cincinnati property, University Park will provide housing for 749 students in one, two and four person apartments. Each apartment includes a private bathroom and a full kitchen. Unlike most apartments available around campus, the apartments at University Park are fully furnished and all utilities including wireless internet, phone service, and cable are included in the monthly rent. This rent charge, though, is substantially higher than a typical room on campus, ranging from $423 to $802 based
on occupancy. When the project is complete, it will also include twelve retail shops/restaurants on the first level of the building.

Stratford Heights:

Stratford Heights will provide suite-style accommodations for 710 students beginning in the Fall of 2005. This project is set on a large 10.5 acre site directly across the street from the university, and is comprised of many three to six story buildings. Units in these building house one, two or three students per suite, with most units sharing a semi-private bathroom with one other suite. These units do not include kitchens. Rent in these units are more on par with on campus housing, ranging from $365 to $575 per month based on occupancy and length of lease. Like at University Park, this monthly charge includes all utilities, cable, wireless internet and phone service. Stratford Heights also offers several community rooms, a fitness center, a convenience store and a sports bar, as well as convenient lot and garage parking.
University of Cincinnati Plans and Initiatives

UC Master Plan:

In 1977, the University of Cincinnati became a state university and subsequently experienced a huge boost in enrollment, rapidly growing from 15,000 students to 35,000. This growth spurred some very rapid and often haphazard construction. In the Early 1980’s the university’s new president, Joseph Steger, decided to take on the negative architectural image that the university had garnered due to the new, ungainly construction (Stephens 2000, 77). In 1989, the University of Cincinnati set into motion its most recent master plan. Two of the central portions of this plan call for the construction of architecturally significant campus buildings and the reclamation of green space around campus. The plan, though, doesn’t merely cover on-campus development, the master plan also considers larger issues, such as the revitalization of the community that surrounds campus.

The master plan was developed by the university in conjunction with landscape architect George Hargreaves. Hargreaves was faced with the seemingly insurmountable task of uniting campus through the use of green space, while at the same time, adding over two million square feet of facilities to the campus. The resulting plan called for the demolition of some buildings as well as the removal of almost all of the university’s existing surface parking lots. Where new buildings were called for, big named architects were hired to design them. UC’s collection of “signature” architecture now includes buildings by architects such as...
Michael Graves, Peter Eisenman, Frank Gehry, David Childs of SOM, Henry Cobb of Pei, Cobb Freed, Gwathmey Siegel, Moore Ruble Yuddel and Morphosis. This master plan also calls for the development “Mainstreet” a student-centered corridor that cuts diagonally across West campus, beginning on Clifton Avenue and Ending at Jefferson Street. Officially, Mainstreet is comprised of new and newly renovated buildings such as the Tangeman University Center, University Pavillion, the Steger Student Life Center, the Campus Recreation Center and Turner and Schneider Residence Halls as well as connective green space. According to UC’s website, this student life centered portion of campus is intended to “transform campus into a 24-hour hub of living, learning and working, as well as social and recreational activity.”

In coordination with the Mainstreet plan and other portions of the master plan, UC has developed a 15 year, $151 million Housing Master Plan. This plan has already been put into action, with the light renovations of Siddall and Calhoun halls, as well as the construction of Turner and Schneider Halls, the first new student housing at the University of Cincinnati in over thirty years. The money set aside under this Housing Master Plan will also fund the renovations of Sawyer and Scioto Halls as well as the demolition of Dabney Hall and possibly the construction of approximately 400 more student housing spaces.

**UC| 21: Defining the New Urban Research University**

UC| 21 is UC’s strategic plan for charting its academic course for the 21st century, set into action by UC’s new president, Nancy Zimpher. The plan includes five values that underscore UC’s commitment to the community. These values include scholarship, citizenship, stewardship,
leadership, and partnership.

UC|21 also sets forth a set of goals and actions that define the role of the new urban research university. Student housing, if it is attractive and accessible, can aid the university in achieving almost all of these goals, especially the ones duplicated below.

**GOAL 1: Place Students at the Center:**

Become a university of choice, a destination campus, by keeping students at our core.

- **Students First** – adopt a philosophy and key mechanisms that put the priority on students’ needs; develop a real and virtual, university-wide concept of one-stop service.

- **Selectivity with Clear Access Pathways** – enhance UC’s national rankings and ability to attract the highest quality students, while maintaining clear pathways for students who seek opportunity.

- **UC Anytime/Anyplace** – create a 24-hour-a-day, seven-day-week learning, living and social environment.

**GOAL 3: Achieve Academic Excellence** –

Encourage an environment of high-quality learning and world-renowned scholarship.

- **National Presence and Recognition** – pursue marketing efforts beyond the Cincinnati region that draw attention to the university’s unique assets and help move UC into the top tier of rankings.

**GOAL 5: Establish a Sense of “Place”**

Develop an environment where members of the campus community and the community at large want to spend time – learning, living, playing and staying; provide
long-term support to build a better Uptown.

**We’re All UC** – develop a “UC Community” to unify and create a sense of belonging for students, faculty, staff, alumni and friends.

**East-West Connections** – build programmatic bridges, people-to-people access, and incentives for collaborations and joint programs that promote a unified campus.

**GOAL 6: Create Opportunity**

Develop potential, not just in our students, but in our local and global communities.

**Economic Delta Force** – strengthen UC as an educator of a skilled, principled workforce, as a catalyst for entrepreneurship and as a partner in economic development.

**Cultural Competence** – foster students’ ability to appreciate, investigate, and understand a cultural background different from their own.

**Revenue and Budget** – provide incentives for performance with effective accountability and identify alternate ways to generate revenue.
Adding to the Aronoff Center for Design

The Complexity of Additions

Adding on to any building presents important issues of context, programmatic relationships, aesthetic results and even a question of intent. The case studies that we completed during the first half of the quarter spoke to the numerous ways in which these questions can be addressed. On a base level solutions tended to either mimic the existing building or contrast the original building. This, of course, is not as simple as it sounds because of the numerous means by which you could mimic the building, such as programmatically, aesthetically, or conceptually. Additionally, if you chose to contrast the original building, what should you contrast? The form? The materials? There are so many choices and so many potentially valid solutions.

To further complicate matters, as we have discussed throughout the quarter, there are several ways in which a building can be added on to or adapted for more effective usage. Perhaps all the work happens within the original shell of the building and merely reconfigures the space for more effective use, or perhaps the addition triples the size of the initial structure adding on to existing programmatic elements as well as providing space for new ones.

The idea of adding on to an iconic or "signature" building by a well-known architect adds yet another layer of complexity. Very few people would be likely to protest an addition to your local post office, but when people begin suggesting an addition to Frank Lloyd Wright’s Guggenheim or Louis Kahn’s Salk Institute sparks an architectural debate within seconds. Who do you chose? You could do an understated addition that blends into the context like the Kahler addition to Eero Saarinen’s Milwaukee Art Museum and Veteran’s War Memorial or you could do an addition that garners more attention than the original as in the case of Calatrava’s addition to the same building.

The final layer of complexity is the question of who makes all of these difficult choices. While the architect is certainly an important part of the process, many of these choices have already been made for him by the time he receives the commission for the project. In many cases a board of trustees holds the power to decide that there will be an addition, to determine the scale and program of the addition and then finally to chose an "appropriate"
architect for the work. While this may, at first, seem to simplify the job of the architect, by leaving him with fewer choices, it can actually complicate it. For example, the board of the Salk Institute chose the firm of Anshen & Allen to design the addition to the Salk Institute with a preconceived vision for the project. The design presented by Anshen & Allen aligned perfectly with the desires of the board, but many members of the architectural community found the addition so disrespectful to Louis Kahn’s masterpiece that it sparked a long series of debates.

Conversely, you may look at the case of the Whitney Museum in New York. In this case, the board chose Michael Graves to add on to the original building by Marcel Breuer. The proposals presented by Michael Graves, though, were so out-of-line with the vision of the board that Graves was eventually booted from the project.

All four of these layers of complexity come into play when considering an addition to the Aronoff Center for Design. Since it is difficult, though, to predict the exact mindset of the administrators at the University of Cincinnati, this paper will focus primarily on the first three layers presented above: the type of addition, continuity or contrast, and supporting or iconic building. It is important to keep in mind, though, that the University will have an important position of power in the eventual process of an addition. While these three layers are ultimately inextricably linked, they will first be discussed individually. They will then finally linked together later in this essay in order to suggest a course of action.

Types of Additions

Three levels of additions or alterations are possible, and perhaps necessary for the DAAP complex. The first level is a level of “fixes.” These fixes would allow the existing complex to function more efficiently. While “fixes” of this level certainly require thought and planning and have some ability to affect the character of portions of the building, they are primarily functional in nature and would not interfere significantly with Eisenman’s conception of the Aronoff Center. These “fixes” would include things such as, correcting acoustical issues in the grand stair and 5000 level critique areas, increasing the number of electrical outlets throughout the building to meet the increased demand caused by every student having a computer, enabling wireless internet connections throughout the building, and perhaps items like embellishing the DAAP café to make it more appealing, addressing usage requirements of the courtyard and reconfiguring the video exhibit on the 4000 level. Some of these fixes require no real "design" such as adding wireless connectivity and should simply
be completed as money and manpower allows.

Items such as improving the acoustic aspects of the critique spaces and embellishing the café would require some “design” and therefore be subject to some of the complexity described above, namely the question of continuity or contrast. Since each of these projects is relatively small, a strategy of continuity seems to be the most appropriate, because one of contrast would seem very out of place. This strategy, though, could change, depending on future larger scale plans for the complex. If, as we have discussed in class, a large new addition to the building takes the form of a “virus” spreading through the building, these smaller projects could take a different shape, relating to the addition as well as the existing complex. The café, in particular, could present an opportunity for contrast, making it a “place” within the complex with its own identity. In this sense, timing creates yet another layer of complexity in this picture, changing the appropriate strategy based on the sequence in which alterations occur.

The second level of alteration is one of relocation and reconfiguration. In the case of DAAP, these changes would include the relocation of the 840 Gallery, the relocation of the bookstore, relocation or reconfiguration of the Aronoff suite, relocation or reconfiguration of the rapid lab, reconfiguration of the central office and possibly the relocation of the library, although this may require adding additional space which would move it into level three. This level raises a programmatic question that is not pertinent to level one alterations, because spaces are being physically moved within the space. For instance, if the library were to be moved where would you put it? Just as importantly, what would you put in its place? The library currently holds a very prominent position in the complex on the grand staircase, if you were to move it, it would most certainly have to reappear somewhere else along the important axis created by the stair, because this is the axis along which important shared spaces occur. Similarly, it would not make sense to fill the current library spaces with, for example, studio spaces, because studios are dedicated spaces, not shared ones.

The relocation of the DAAP bookstore to the area under the atrium is an excellent example of sensitivity to this issue. The bookstore, a shared space, was originally located a little too far away from the grand stair, and hence other similar spaces, to be visible and effective. The new location of the bookstore, on the grand stair axis, seems to fit the original strategy of the building better than the original location did! The same can be said of relocating the 840 Gallery to the block of space at the bottom of the grand stair. This move would make the Gallery move accessible to visitors to the Aronoff Center, who are very likely
to only experience the spaces along the grand stair. It is this kind of relocation, based on attempts to make spaces more effective or visible, that is likely to enhance the framework that is already provided by the Aronoff Center.

We, as day-in and day-out users of the building, have the experience to recognize the need for these changes, and therefore seem to be the most suited to make the decisions regarding these movements. Consequently, like the “fixes” level, it seems that most of these alterations could be made sort of in-house. This is especially true because although they will require adding doors or even knocking down walls, they will not, in all likelihood, affect the overall formal or spatial qualities of the space as long as they honor the clustering of shared spaces along the grand stair axis.

The final level is the true addition which entails creating additional space outside of the existing complex. In the case of the Aronoff Center, this level would include items like providing space for CERHAS, and adding approximately 85,000 square feet of studio space, office space and critique areas. The relocation of the library could also fall into this category. As previously described in the considerations for level two adaptations, the question of shared versus dedicated spaces is very important in level three additions as well. To me, it seems natural for the additional shared spaces such as critique areas, library and offices (if they are public administrative offices) to simply extend the axis already created by the grand stair. The strategy that seems immediately apparent is to extend this in a similar way as to what Eisenman has already done with the “tongue” stair that extends DAAP’s axis toward Crosley tower.

This is ultimately what I have proposed in my thesis project, which suggests the construction of a “residential college” immediately adjacent and likely connected to the DAAP complex. This residential college contains both shared and dedicated spaces, but all of the shared spaces, which include a café, dining hall, and theater, occur along an axis which I have extended out (eastward) from the grand stair axis. The dedicated spaces, such as private residential units and project rooms occur above this axis. It seems that a very similar approach could be used in adding any sort of spaces on to the complex as long as these spaces are of both types (shared and dedicated). While there are also opportunities to present this axis to the West, the topography to the west of the building and the relatively small area between the existing complex and the street make expanding to the West a more difficult proposition.

The other logical strategy for expanding the building was presented in the original
search for an architect for the 1990s expansion. This strategy is to take over the site currently occupied by Wilson Auditorium. This strategy, though, would place the addition in almost complete isolation from the existing complex. This, then, would make much more sense if, like in the case of the Calatrava addition to the Milwaukee Art Museum, the program for the addition was very different than the program of the existing complex. In the case of the Milwaukee Art Museum, the new portion contains spaces such as cafes, shops and conference rooms, while the existing building contains the actual gallery space. This programmatic difference, though, is not present in the addition needed for DAAP, since the spaces needed in the addition duplicate existing space types.

When considering a level three addition to the Aronoff Center, it seems like it may be helpful to also consider the principles that Eisenman used in the creation of the Aronoff Center, an addition in and of itself. There are three principles: to blur the opposition between the existing buildings and the addition, to accommodate the topography, to eliminate the homogeneous layering and the homogeneity of space. By choosing to adopt these principles for the addition, you could immediately set up a strategy of continuity, but if you were to choose to oppose these principles or discard them, a strategy of contrast may be employed. These two strategies will be discussed below as the second layer of complexity.

**Continuity or Contrast**

As indicated above, there are two basic strategies that can be utilized for an addition; one of continuity or one of contrast. Examples of these two strategies have already been given above, so this section will briefly address the each strategy as it specifically relates to the Aronoff Center.

As an addition, the Aronoff itself takes a position of contrast. The chevron shapes of the original three buildings, Wolfson, Alms and DAAP, are taken into account, but the snake forms of the addition overtake these original forms. It is clear, both from the interior and exterior, where the Aronoff center begins and the older buildings end. It is important to note that the original plans for the Aronoff center would have blurred this edge more, spreading the new forms into the old, much as the “virus” method that has been discussed in class would allow a new addition to meld into the Aronoff Center. The effect, though, as it is today, is one of an applied new form on older forms. The change in materiality between old and new emphasizes this effect.

The new addition could certainly occupy a position of contrast, even if it were to follow
the strategy outlined above for following located shared and dedicated spaces, This could be especially appropriate if the Wilson Auditorium site was chosen for the addition, but as I explained above, I do not feel that that would be the correct choice because of programmatic considerations.

If, however, the complex were to be expanded to the East, as I have done with my thesis project, a strategy of general continuity seems to be a more desirable choice, due the close proximity the addition would have to the existing complex as well as the programmatic continuity discussed above. This continuity would almost certainly include the extension of the grand stair axis and could also extend to issues of dealing with topography (continuing to step down the hill?), form (perhaps a curve?) and even materiality (perhaps not EIFS, what other material could achieve the ornamental qualities achieved by Eisenman with EIFS?) or fenestration. This is not to suggest that the Aronoff center aesthetic merely be extruded eastward (although this could, hypothetically be achieved) but rather its concepts and principles would be translated into a complimentary, but differentiated form. The idea of continuity of contrast also has a direct relationship to the layer described below. Should the addition itself be iconic or should it merely be a supporting building that doesn't threaten the iconic nature of the Aronoff Center.

Supporting or Iconic Addition

The Aronoff Center is not a supporting addition; it is an iconic statement that overtakes any statement heralded by the original three buildings. Should the addition to the Aronoff Center do the same? It would certainly seem unjust to try to overpower such a well-published and critically acclaimed work, so it seems clear that the new addition should not aim to overtake or reduce the iconic power of the Aronoff Center. Could the addition, though, be a separate, perhaps equally, iconic statement in and of itself? It certainly could, but once again, due to the programmatic similarities of the Aronoff center and the new addition, this does not appear to be the right approach. I do not, however, believe that the addition has to be a supporting addition to the extreme of the Kahler addition to the Milwaukee Art Museum which occurs almost entirely below the existing building and mimics the original in form and materials. I think a balance is called for. Such a balance can be found in the Renzo Piano proposal for the Whitney Museum in New York City. This addition occurs adjacent to a very iconic form designed by Marcel Breuer. The addition in no way tries to mimic the sculptural granite form of the Breuer building, nor does it try to contrast it or create a competing form.
Instead, Piano adopted a rectilinear form, whose simple façade and massing compliment the original without competing with it. It is this sort of strategy that seems to make the most sense for the DAAP addition. The addition, like the Whitney addition, could certainly be done by a “signature” architect, but it should be handled with sensitivity to the importance of the Aronoff Center.

**A Course of Action**

The pace at which the University of Cincinnati is typically moves seems to call for a systematic approach to the additions and adaptations needed for the Aronoff Center. The recent moratorium on the construction of new building projects reinforces this need. This approach would seem to indicate a manner by which level one adjustments could be completed, then level two adaptations could be undertaken one of two at a time. This would allow DAAP to more adequately meet its needs until a level three addition could be designed and carried out. I have discussed many, but certainly not all, of the complexities that this new addition will need to address in the writing above. While I have proposed an addition plan that sequences additions by levels and then finally results in an addition that carries on many of the principles established by Eisenman, this is certainly not the only acceptable means by which an addition could occur. The most interesting part of this course for me has been the discovery of multiple, entirely contradictory proposals for additions to the same building, such as the sequence of proposals for the Whitney Museum. Each proposal received some praise and each received some criticism, but each utilized entirely different strategies. So what is the correct way to add on to the Aronoff Center? That decision seems to lie with the architect chosen for the project, which brings us full circle to the fourth layer of complexity, which is, perhaps, the only layer within our direct control. Sure, the University can veto an architect’s proposal, but the University itself will certainly never design the addition on its own; that will be up to the selected architect. So, with this in mind, it is my suggestion that next quarter, as design ideas for the addition are beginning to be formed, our case studies should be examined further. By further evaluation, the strategies routinely employed by architects or firms who often tackle additions can be examined and a list of architects who may create an addition that is in line with the class-developed design strategies can be created. This would allow us, as a group of Aronoff center users, to perhaps take a little control over the fourth layer as well as the first three.