Previous page: Downtown Blacksburg, looking southeast at the intersection of College Avenue and North Main Street. Photographed from thesis building site. Above: new downtown public piazza.
Architecture for Urbanity

by

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Abstract

Designing architecture that reinforces urbanity starts with an intuitive understanding. Urban places are complex, containing many simple systems which combine to make a chaotic whole. This complexity is full of events, incidence and energy. In creating an architecture for urbanity, complexity is used to release the potential of a place to be urban.

The purpose of the building proposed by this thesis is to reinforce the ideas of urbanity in historic downtown Blacksburg. It supports the expansion of the downtown urban density along Main Street and at the same time provides an important urban node, manifesting the meeting of the Town of Blacksburg and the Virginia Polytechnic Institute and State University. It is an architecture that supports urbanity.
The urban condition is usually defined by statistical extremes, notably high density. Urbanity can also be defined with its associated experiences, which are not dependent on statistics or density. Even within a city these can have non-urban experiences, such as solitude. In this sense, there are urban experiences in an environment which is not essentially urban. Material, scale, complexity and many other ideas can be removed from density with their urban essence intact.

Approaching urbanity as an idea allows it to be separated from the physical characteristics of the city. However, some of the essential urban experiences rely on density or physical situation to ensure a significantly high probability of occurring. In this fashion, it can be seen that a city is not necessarily a proponent of urbanity. To a certain degree, the responsibility is unavoidable. There are situations where urban ideas have been successfully embraced, the Italian hill town serving as paradigmatic example. They connect density and experience into urbanity.
The Town of Blacksburg as a growing urban place will soon come to a critical point in its development. The current direction of decentralized sub-urban development is weakening historic downtown Blacksburg as a place both locally and regionally. The growth of the University and subsequently the town, has led to an increase in commercial and residential construction, a point from which the results could be sub-urban sprawl or urban density. The default is sub-urban sprawl.
The New Downtowns

Blacksburg has expanded from its historic downtown predominately along Main Street. Although the community has grown, the size of the downtown has not. The urban density of the downtown is no longer enough to command the focus of Blacksburg. New areas of growth and density are challenging the historic downtown for the role of regional focus. Despite its historic significance, the old downtown weakens in its role in everyday life.

Downtown Blacksburg fulfills the roles of civic, commercial, and social centers. It is a place to do errands, hang out, buy stamps or meet friends for coffee. What makes a downtown attractive is density, or the closeness of all these places to each other. Here we can shift our focus from the physical density of construction to the density of places and functions. Urban places have all their functions available within a critical scale.

Critical scale is the size relationship an urban place has to its context. An urban place must be large enough to establish a clear identity and fulfill functional roles, but not become so large as to be broken into smaller distinguishable pieces. Critical scale does not allow the whole of Blacksburg to be considered downtown, since the distance between ‘functions’ causes it to breakdown into smaller fragments. These fragments have their own ‘new downtowns’ generated by the continued horizontal expansion of residential construction.

These ‘new downtowns’ result from new residential construction residing further away from the historic downtown. These places are outside of the historic downtowns’ critical scale. In fact, they effectively short circuit the historic downtown since they have a more contemporary relationship with the automobile infrastructure. The seed of the ‘new downtowns’ is commerce catalyzed by increased residential construction. However, it is not just shopping malls replacing urbanity, but effective mixes of food, service, and entertainment industry.

The new downtowns have the functional density of the historic downtown, but physically are not as dense. They tend to be large chunks of building surrounded by large open areas, usually parking. This design is based on the automobile and its space requirements, rather than pedestrian distances. Several blocks of historic downtown will fit within the parking lot of a relatively small shopping center. Within Blacksburg the prominent example of this typology is University City Boulevard. It sits between Blacksburg and several large residential developments, providing them with a supermarket, cinema, banks, restaurants and more. Thus making it unnecessary to involve the historic downtown in a daily routine. Also important is the integration of civic activity, Blacksburg’s main U.S. Post Office is located here.

This observation of a new downtown along University City Boulevard is substantiated not only by existing mall space filling with tenants, but also by the increase in new construction along this strip. Interestingly enough, the new buildings also contain residential units above the commercial spaces. Another interesting note is that the large anchor stores have not returned to the malls, just lots of smaller businesses. Despite its apparent growth, University City Boulevard is still secondary to the Historic Downtown since the latter is still the seat of local government.

There are two more examples of this...
phemonena occurring; one on North Main Street and the other on South Main Street. A cluster of stores has arisen at the intersection of Patrick Henry Drive on North Main with Food Lion acting as a genesis and with growth spurred by the extensive residential development beyond. The new downtown on South Main Street is the old Gables/Kmart shopping center. Again, the largest stores are supermarkets with the others being smaller service and entertainment related industries. Larger department stores have conglomerated further away from town along the highway.

These two 'new downtowns' along with University City Boulevard, share the common characteristic of being built to the scale of the automobile. Large roads and parking lots, as well as faster travel speeds all work against the pedestrian experience and limit the achievable physical density.

Along North Main Street, from Historic Downtown to Prices Fork Road, is in developmental limbo. Somehow the Historic Street structure and lack of automobile access have left this area unfocused and resulted in no significant density. This section is now being primed for development by the addition of new projects sensitive to Blacksburg's urban condition. The King Building at the intersection of Prices Fork Road and North Main Street acts as both a gateway into town and a boundary with which to push Blacksburg back upon itself and increase its density. The result of this thesis project provides a mediating urban node between the existing downtown, the University and future expansion of urban density towards the King Building.

No man made place can develop "naturally". We are always in control of our built environment. But it seems lately that people are willing to allow economics, chance and consumerism to determine their environment. Many of the New Downtowns exist for non-reasons. In 1994 University City Boulevard area was losing customers and merchants to the new mega-superstores in Christiansburg. The mall lost both of its anchor stores, leaving it virtually empty. Now, in 1997 the University City Boulevard area is booming. Existing space was filled and new construction built for the continuing demand. The turn around was a result of large tracts of residential development nearby. University City Boulevard sits between the residences and Virginia Tech. This is not a return to former glory, but rather a reincarnation. There are no longer large anchor stores, but smaller service oriented businesses. There are coffee shops, restaurants, video stores and pharmacies. This revitalization is an interesting case study, but has negatively impacted the historic downtown by drawing businesses away and weakening Blacksburg’s presence on a regional scale.

This thesis project looks to reinforce the urbanity in historic downtown Blacksburg through an architecture that supports urban ideas. This support is not sought on a characteristic level, but on the experiential and interactive level of the everyday user. The design not only responds to the site and program, but also to the Town and University. This thesis applies urbanity as an idea rather than as a characteristic.
Town and University

Blacksburg was established in 1798 as an agricultural community. The original town grid is still clearly seen in the contemporary town plan. The grid is rotated approximately 45 degrees off north. This rotation maximizes a building’s solar exposure. Main Street passes through the grid off center, extending northwest and southeast.

In 1872 the Virginia Polytechnic Institute and State University was founded, and slowly became the town focus as agriculture declined. The Drill Field, the large oval belonging to the University, is the symbolic and functional center of the campus. It is connected to Main Street by the Alumni Mall, a wide processional entry to the campus. At the intersection of the Drill Field and the Alumni Mall is the War Memorial, commemorating war veterans. The other end of the Mall, Virginia Tech’s ceremonial connection to the town, currently has no significant demarcation. Blacksburg’s urban structure and lack of physical connection to its very important next door neighbor catalyzed this architecture for urbanity.
In effort to remedy the effects of the new downtowns, Blacksburg needs to be recentered through increased of both buildings and public functions. Salzburg (map top left) is a strong parallel and good precedent in its urban design. Austrian architect Fisher von Erlach similarly remastered Salzburg's mid-evil city center which he sought to center and strengthen through the placement of public buildings. The three buildings are not only prominent on the city skyline, but also as urban places. The Ursulinen Church acts as a gate to the city from the North. Holy Trinity Church is across the river which it faces across the Market Square. The University Church sits tightly within the medieval city plan affronting a square that holds the daily “Green Market” (produce). In addition to societal uses, each building has an important relationship to roads/movement around it and within the city. The scale similarity between Salzburg and Blacksburg, can be clearly seen. As can the opposites of urban density.

Like the Salzburg Fisher Von Erlach faced, Blacksburg needs a stronger urban identity. There are three buildings triangulated much like the churches Fisher Von Erlach placed. The King Building and the New Engineering Building are existing significant urban markers. The third is the building proposed by this thesis.
Similar to the Ursulinen Church, the King Building in Blacksburg acts as a gateway into town. It sits prominently at the intersection of North Main Street and Prices Fork Road. To the north the density of buildings reduces to become truly suburban consisting of mostly residences. The King building reflects its job as a gateway. Its corner entry is open towards the “outside” of town. Its public function and scale separate it from nearby housing.

a) Approaching the King Building from Prices Fork Road.

b) Travelling south on North Main Street with the King Building on the left.
The New Engineering Building sits at the corner of Perry Street and Stanger Street. Its curved form clarifies an urban edge and directs entry into the campus. Its strength can be seen by comparing it to the opposite end of the same urban edge. The corner of Perry Street and West Campus Drive is a void with a backdrop of trees. This belies the campus density which lies beyond.

Empty corner at the intersection of Perry Street and West Campus Drive.

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b) A view of Virginia Tech campus looking east, showing the density along Perry Street. The New Engineering Building sits at the far left of the photograph.
The third building, to be sited on Main Street between the Alumni Mall and College Avenue, currently does not exist. It would act as a manifestation of the connections between town and university. Its role is to initiate expansion of the historic downtown density north along Main Street. The building will hold a student center, art gallery, visitor information center, commercial spaces and residences. This node of activity establishes an urban place downtown as a seed for a future urban scale while still remaining sensitive to the existing context.

Looking at the wing along North Main Street of the building proposed by this thesis.
The urban idea of 'edge' requires a certain amount of density. In the case of Blacksburg, there are edges being defined within which it is desired that the density of building increase. The northern edge of Blacksburg’s urban center is defined by the intersection of Prices Fork Road and North Main Street. This is the location of the King Building. The southern edge has often been considered Blacksburg Middle School. While the school does have a monumentality to its scale, its large setback and the residential scale across the street prevent it from being that edge. Currently the downtown edge ends at the historic grid, the intersection of Clay Street and South Main Street. Town Hall sits on one corner, facing a gas station. A building replacing the gas station could in a contextually responsive manner work with the existing City Hall to define the urban edge both vertically and horizontally.

a) Entering Blacksburg from the south on Main Street with Blacksburg Middle School on the right.

b) The intersection of Clay Street and South Main Street, with Blacksburg City Hall on the left and the proposed future site, opposite.
Programmatic Origins

The initial desire was to create a place where the public could go in downtown Blacksburg without having to be in a restaurant or store. A place where young and old, students and families, town and university—could meet and intermingle. For the University, it is the equivalent of putting a student center downtown. A place to see and be seen, get a coffee, or read a book.
The site chosen is a green space at the corner of College Avenue and Main Street. The property belongs to the University, but is bordered on two sides by the town. The site slopes irregularly from its high side along the Alumni Mall, dropping approximately 20 feet to College Avenue. Each edge of the site not only has a different geography, but also a different relationship to Blacksburg. These factors are the basis for the different design responses for each edge.

The intersection of Main Street and the Alumni Mall is an important corner, acting as a marker for the unity of Town and University. The architectural geometry centers on this corner, reinforcing its geographic importance. The thesis project does not address the intersection in a vernacular fashion, due to the intersections scale being more suited to automobiles than pedestrians. The unifying geometry consists of two overlaid, square grids. One grid is parallel to the Alumni Mall, relating to the University, and the other parallel to Main Street, relating to the town. The site sits on a boundary between town and university; it is a place where the residents and the students meet, geographically and socially. This same relationship is present in the geometry of the architecture. Two grids existing in the same space simultaneously; together framing one building. The circle is diagrammatic, its curved path being more important than its center. This becomes more apparent in the final curve design, which has two different centers and two different radii.
The diagram for the building had to contain ideas about path, procession, and the nature of the outdoor space. The final resolution has the carved interior line which reaches all the way to College Ave. (fig. 4), but the town wing does not extend the whole length of the block (fig. 5). The placement on the site responds to the contexts presented on each side of the site. The building cuts into the slope allowing for the building to have an additional level inside the plaza, while the outer facades can maintain a different scale appropriate for the roads they front. Ultimately this helps reduce the apparent mass of the building and places the interior plaza at the elevation of College Avenue, helping to link it to the existing urban condition.

Designing architecture that reinforces ideas of urbanity brings to mind complex places with a density of activity. This along with the complex conditions of the site, lead to a complex program. The Main Street wing belongs to the town. Commercial spaces face Main Street with residences above, and facing into the plaza is the student center. The Alumni Mall wing belongs to the university. The majority of this wing is occupied by an art gallery with the exception of the outer corner unit, which serves as a visitor/general public information center. The plaza is demarcated by a curved wall and exists as a large public space for meeting, socializing and people watching. A stage for the theatre of the public.

College Ave. runs along the bottom, Main St. along the right side, and Alumni Mall along the top.

Theatre of the public, the Spanish Steps in Rome, Italy.
Blacksburg Corner

The mass of the building is pushed to the edge of the site to leave a large portion as a grassy hill. This hill is an important place of repose within the downtown and also hosts many community activities. These functions are also influenced by the curved retaining wall which defines the plaza. The curve leaves a large green space and defines the place helping to bring formality to the amphitheater function of the hillside. The curve also acts as a path of ascension from the intersection downtown, to the Alumni Mall, and on into the campus. This path mimics a footpath that existed historically, prior to campus renovation.

Blacksburg has a precedent of a column and entry combination existing on corner buildings. These corners exist best within the closeness of the grid, and have a strong formal relationship when facing each other. This proposed site has two corners, but neither have been treated in this fashion. The corner of College Avenue and Main Street is not built, but rather, landscaped to serve as a pedestrian plaza. The other corner, at the intersection of Alumni Mall and Main Street, has no other corners with which to relate. The width of the road and amount of traffic both work against the corner participating as part of a bigger place. The scale of Main Street can be brought back into line with the scale of the town by narrowing traffic lanes and adding on street parking. This will slow down traffic and place a barrier between the moving automobiles and sidewalk, making a place for pedestrians.
A building section shows the interaction of spaces. A feeling for the nature of a space can be developed from the section, and views can be taken into consideration. The stacking and interlocking spaces of this project make complex interactions. Elevation changes initiated by the sloping site, make for a dynamic section that changes vertically as well as horizontally. The section through the public plaza shows the complex relationships it has to other spaces, not only in the building wings themselves, but also to its retaining wall edge.

Sectional interactions continue up in scale. This can be seen in how the building relates to the plaza and again with the whole building interacting with the town. The plaza affords an elevated viewing position, which in turn can be viewed from above by observers on the roof of the student center. On scale with the town, the rise of the building terminating with an observation tower interacts with the other buildings locally and with the topology regionally.
Cutting thru downtown Blacksburg, this section reveals vertical and horizontal relationships between buildings to each other, and the ground. City Hall is second from the left. The horizontal line is added for reference only.
The grid establishes a contextually sized plan ‘unit’. By connecting many of these ‘units’ together, a large space can be created on the interior, while the exterior maintains the scale of Blacksburg.
Downtown Blacksburg has somewhat of a consistent horizontal spacing, while the elevation of the buildings vary more widely. The scale of the intersecting grids was determined by this horizontal measure as a contextual response. This allows a larger building to be placed on the site without looking grossly institutional in size, and thereby belonging to the scale of the University and weakening its relationship to the Town.
Images, clockwise from upper left: Detailed interior elevation of residential units; Sketch of doors into the student center from the piazza show the detail of development of how the inside and outside relate to each other at piazza level; Early sectional drawing showing scale and sectional relationships; Opposite page, clockwise from upper right: Developmental sketches of the stairs terminating the student center mezzanine; Developed Main Street elevation with applied materials and details; Entry details for the residential units.
The uses a building will see over its lifetime usually include functions and situations an Architect could never imagine occurring. Now we often are asked to design and build on speculation without any specific knowledge of whom might inhabit our design. The aspect of scale can help establish a design foothold in this situation. The scale of space starts to limit the possible uses and determine how people relate to the place. Characteristics like intimate, public, quite, etc. start to have more bearing on the architecture than the possible placement of possible furniture.

By making large spaces out of smaller units, a measure of space is provided. The divisions or interruptions create smaller spaces and the possibility of intimate places. A richer interaction of space, scale and place results from a composite space than from a singular volume. The masses become dynamic in their interrelationships through the stepping of the intuitively static forms.
Preliminary tower design sketch viewing the site from the corner of Wilson Street and North Main Street.
The role of the tower in this project is not straightforward. This is a result of the corner condition of Main Street and the Alumni Mall. The corner is a marker on a regional scale, but locally it is being played down as a place. Entrances to the proposed building “short circuit” the corner, almost eliminating it from pedestrian experience. The tower has a similar situation. From afar it is recognizable, but it integrates into the building, so from within its impact is perceptible, but not obvious. The tower then becomes a focus again when experienced as a vertical path.

The tower is the resultant from colliding geometries of the two wings of the project. Both geometries exist within this third element, uniting and simultaneously juxtaposing, binding like string compressing a spring. The energy held within reaching toward the sky, but solidly bound to the earth.

The tower developed slowly because of a lack of definition. The design work took a turn towards a typological study, to understand how to produce a tower for this project. The Chicago Tribune Tower Competition provided a broader typological study for a given condition. The original competition entries as well as the Late Entries compiled in 1980, through their differences and likenesses, allowed me the following insight into the condition of tower.

As a tower rises and meets the sky its form changes. A tower may meet the sky in many ways, however it can be said there are three ways in which a tower meets the sky. First is the stepping back of mass, an ordered system of subtracting mass from the original geometric whole (fig.1). Second is the revealing of tectonic, or the display of structural hierarchy in which tower structural hierarchical levels step lower to the ground, with the primary hierarchy reaching highest into the sky (fig.2,4). Third is the manneristic use of form, perhaps using proportional rules from a different building type, to determine how the building ends (fig.3).

Equally important is how the tower meets the earth. When experiencing a tower the base holds less mystery. Either you
see it or you do not. Much of how the tower affects its surroundings depends on whether we see the base or if it ends “within” the building. When a tower ends “within” the building it marks the place, even from a distance. But up close, the experience of place is determined by the building that the tower is “within” (fig.5), rather than the tower itself. Contrast that to a tower which visibly meets the ground (fig.6). It both marks and makes the place.


3. Chicago Tribune Tower Competition Entry, by Alois Augenhfeld, 1922.


5. Paimio Tuberculosis Sanatorium, Finland, by Alvar Aalto, 1932.

Looking at the storefronts Blacksburg has to offer as precedence and context, it is not hard to come to the conclusion that a storefront serves more purposes than mere entry. It is a place of transition, taking a person from outside to inside or vice versa. Each is a physical manifestation of the dialectic between inside and outside.
A particularly nice manifestation of this dialectic is the old Travelers Building on North Main Street (photo right). Not only does the transition between inside and outside happen horizontally, it also includes stairs, which involves transition in the vertical plane as well. The facade of the building is the definitive line between inside and outside with transitions occurring on both sides of this boundary. Outside the first differentiation occurs at the sidewalk. A portion of the sidewalk in front of the building is raised, clearly defining a place belonging to the outside of the building, and emphasized by the awning. The stairs starting up to the doors begin the procession from outside to inside. They definitely belong to the building, so that no one uses them unless they are committed to entering. Atop the stairs is a space within the line of the building's facade, although not enclosed. This space belongs to the interior. It is from this space the threshold proper is crossed and the interior or contained within the building is entered. It is this rich experience and complex arrangement that not only makes this nice inside-outside transition, but also serves the functions of commerce so well, that makes this storefront worth imitating.

The Main Street wing of this thesis project has commercial spaces on the ground floor facing Main Street. The street fronts to these spaces pose a design issue of how
to handle the repeated nature of the structure without creating monotony. In this project, the storefront is a mutable part of the building, viewed with expectations of future changes. The resolution lies within understanding the limitations of the design issues. Mainly that any attempt to design a contextual storefront with a sense of time will be obvious, and regarded as unfavorable. The same is true for identical storefronts. This resolution establishes a typology, then breaks it into a kit of parts and finally establishes rules as to how those parts interact. The idea is to allow for flexibility for future owners, but keep the realm of acceptable resolutions within certain limitations. This design embraces the concept that within any set of limitations, the possibilities are endless. The next step is to ask what those rules be and how shall they be determined.

The basic elements of the facades are the columns which support the front wall, and the balconies from the residential space above. These architectural elements will always be present and provide a consistency. The second element is a plane, continuous in plan and angled to be parallel with the facade facing into the plaza. The plane is defined to be a frame structure, not a solid barrier. It can be indoors, outdoors, or the divider between them, but shall be more open than closed. The entry door is always in this plane. The next element is the most flexible, that being the display window. The window display can reach out towards the street, recess into the store, be elevated above the sidewalk, or not be present at all. The foundation or base to the display window is the last element. The base provides structural support for the display window and a level display platform. It may also include details to establish place, such as seating or other physical interactions. These rudimentary pieces start to define the kit of parts. Practically, it takes more defining of these parts to become a sensible guide. The planned community of SeaSide, Florida is an example of a similar idea. SeaSide shows how a set of governing rules, can be differently interpreted and produce widely varying built results.
Storefronts as transitions between inside and outside operate on many scales. A focal point for the transition is the glass pane plane and how it sits within the storefront. The trim, frame, or mullion that holds the glass also affects how it is perceived. The frame is a small transition in itself, with edges, curves and lips providing depth and transition from the most outer edge to the glass, and visually on thru to the interior. Glass on an outer edge can be affronting, resulting in a cold facade. Moving the glass inward and providing a transition with moulding creates an inviting facade with softer edges. This picture is also a storefront in Blacksburg. The slight angle is somewhat inviting, but can not compensate enough for the harsh monoplane which creates it.

The design of a storefront can support many functions, including those never intended. The raised flower beds on either side of this entry serve as impromptu seating (on left side leaving the frame). Their small size keeps people from lingering but offers the casual converser something to lean on. The bench in the foreground provides a more comfortable option in front of this social storefront.
art gallery

theater
Defense Presentation Model

This page, clockwise from the upper right: the corner of College Avenue and North Main Street; looking down Alumni Mall; aerial view of tower; aerial view into public plaza and amphitheater. Opposite page, clockwise from the upper right; looking down College Avenue; aerial view of public plaza; art gallery wing along Alumni Mall; aerial view northbound on North Main Street; aerial view down College Avenue.
Context

Seeing an object in context gives a better understanding of its design than a two-dimensional representation. Although the model lacks materiality, it brings a more complete understanding about site, mass, and scale. Opposite page, clockwise from the top right: looking south down North Main Street, the intersection with Faculty Street in the foreground; a view of the site looking north along South Main Street; the intersection of College Avenue and North Main Street; a view of the University wing from the lawn in front of Schultz Hall. This page: looking west, the intersection of College Avenue and North Main Street.
The urban is a place of places. A conglomerate built over time. Places can have many complex relationships with each other. Most often it only next to or existing with, not an interacting relationship. The urban itself is a place, but also simultaneously a non-place. How can a place with so many identities (places) be known by only one? This continual shifting dialectic between place and placelessness becomes part of context. The density and physical size of a city are strong contextually, but place not. Perhaps place is not, but the diversity of place weakens a response. Which is why a small town could be said to have a stronger context than a big city. Although, this relationship does not continue to hold true as the town gets even smaller. Soon the context becomes weak again as its identifying elements become sparser giving over to nature, which has its own brand of contextuality.
Bibliography


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page 26 Blacksburg Corner, Virginia by John Chambers

page 26 Dunnay, Donna. Town Architecture.

page 42 Chicago Tribune Tower Competition Volume 1. (fig.1,2&3)

page 43 Richards, J.M. An Introduction to Modern Architecture (fig.4,5&6)

Special thanks to the Europe Group, all my classmates, friends and family.

This book is dedicated to the memory of Charles B. Russin.
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