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Issue:

The discipline of fiber arts has been in existence since the beginning of civilization to produce both functional equipment as well as aesthetically driven art pieces. The craft, at times highly specialized, often produces elements at the scale of the human body, due to the personal level by which fiber artifacts are produced. The making of artifacts and implementation of fiber art strategies have simultaneous cultural, environmental, formal, and gender-related relationships and implications. The design, construction and experience of buildings and inhabitable space at all scales can benefit from these relationships.

Contention:

It is the contention of this thesis to merge the complex web of relationships, benefits and implications of fiber arts into the discourse and practice of architecture. This symbiotic combination is intended to emphasize the importance of a heightened tactile sensibility in experiencing space. This contention intends to encourage a hybrid design language to bridge varying scales of space and form. The study of fiber arts theories and methods of production in conjunction with architectural and urban design strategies will provide a framework in which to design an architectural manifestation of these ideas.

Proposal:

The proposal for this project is a fiber arts fabrication and exhibition center situated in the Docklands of Dublin, Ireland. The program will provide specialized resources for fiber artists to both experiment with materials and produce fiber artifacts. It will also provide formal exhibition spaces for these pieces and those produced elsewhere. In addition, this specialized, semi-private program will negotiate the project’s relationship to the public and urban realm by providing an outdoor sculpture park with the ability to adapt to various public needs, including market and event space. By integrating a specialized program type within a predominantly residential neighborhood (in the process of being redeveloped), a unique community type can be established and maintained within the urban realm.
Fiber arts arguably bridge the gap between the tactile and the tectonic: the act of making and the act of making space. In other words, it is through the process of constructing and experiencing woven, knotted, or stitched surfaces that we understand the process of enclosing space between these surfaces. Revolutionary Bauhaus weaver Anni Albers states, “if we think of clothing as a secondary skin we might enlarge on this thought and realize that the enclosure of walls in a way is a third covering, that our habitation is another ‘habit’” (Albers, 49). Something we understand easily with our hands and eyes we also understand with our bodies. Fabric, whether knotted, woven or stitched, is often experienced at the personal scale, at close proximity to the body for the purposes of clothing, covering, or otherwise. Thus, when implemented as a material, pattern, and/or structure that is familiar to the body, woven or knotted surfaces often represent a familiarity to us through both tactile experience and visual recognition. In a strictly utilitarian space, “what is missing through the lack of fabrics is presumably something that is warm to the touch, quite possibly color, the soft play of folds, the luster of fuzz or fibers in contrast to flat, hard, and cool surfaces” (Albers, 49). By implementing the strategies of fiber arts making and manipulation at varying scales, we can more easily comprehend the changing scales of space that go beyond our immediate person; most notably those of the architectural space that surrounds us as well as the urban environment which envelops this architectural space.
The Discourse of Contemporary Fiber Arts

The definition of contemporary fiber arts is broad and amorphous in scope. Primarily, it is concerned with the creation of object or surface implementing one or all of three essential techniques: knotting, weaving, and stitching. The materials that are manipulated via these techniques are not prescribed and open to interpretation. However, what is most important is the material itself and the exploitation of the abilities and inabilities of that given material: essentially, “to demonstrate an engagement between head, hand, and material” (Moyer, 8). For if the qualities of that particular material are not brought into light, then the piece itself cannot be considered a piece of “fiber art.” Twylene Moyer, author of Fiber: The Importance of Being writes the following:

Fiber art that merits the name...returns us to the primacy of our senses, and circumvents the mediation of thinking through language. Its form and content emerge from intuitive, bodily, tactile experience, a prolonged dialogue between the maker and the materials, a duet of exploration and risk-taking. We don’t look at this kind of work and immediately formulate a script for it; our response is emotional, in the senses, and in the gut. These feelings, sensations, and impressions then coalesce in the mind as we strive to find words to communicate them, to mirror their impact. Such works are not easily categorized or pigeonholed; they are created through a deep dialogue with materials, not by self-consciously striving to make work ‘about something.’...[The] work and its meanings arise from serious experimental play and immersion in materials, form, and process. (Moyer,10)

Essentially, fiber art as a discourse is unique in that it manifests as a material determinate form. The finished form of a fiber artifact is as much determined by the material as it is by the artist. A continuous thread, either woven into an assembly of hundreds of other threads or knitted into one uniform surface on its own, is limited by its length, its strength, and any and all properties that belong to it.

These limitations are emphasized by another quality belonging to the fiber arts discourse, namely the importance of interlocking, and not merely fusing materials together. Fiber art is what it is because it can exploit all the qualities belonging to a particular material without having to permanently join materials together. There is a skill involved in calculating how to create an assembly of materials without gluing or welding autonomous pieces together. It is this that leads to the perishability of fabrics, as highlighted by Anni Albers, as yet another important quality of the discourse (Albers, 49).

One particular characteristic that is present within each of the three techniques (knotting, weaving and stitching) is the importance of the component. For the purposes of this project, a component can be defined as either an autonomous element which is repeatedly implemented to create a fiber artifact. Present in all fiber arts fabrications, one or many components become integrated together, both with those of its kind and with those of others. For example, a knitted fabric, created through a series of hundreds of knots made consecutively one after the other, can be further manipulated by a number of individual stitches attaching pieces of the knit fabric together. This combination of techniques leads to an integrated system of interlocking components (knots...
and stitches) that articulate this as a work of fiber art. Components may take the form of many different elements in the fabrication of fiber artifacts, manifesting as a knot, a fiber, a string, or any repeating unit of any type of material that can be woven or integrated into an assembly.

In addition to these important characteristics, fiber arts’ qualities make it uniquely pertinent to their implementation in open space. Fiber artifacts have the ability to manifest as tensile, temporal, and flexible structures. These types of structures are essentially made for play with the elements, using water, light, and air to amplify the success of these pieces. Whether they are intended to be interactive at the human scale is relative.

Work by Anni Albers
The Spatiality of Fiber Arts

“...[T]o cover, to hold, to dress, to enclose.”
Gottfried Semper, *The Four Elements of Architecture*

These are the responsibilities which fabric is obligated to fulfill in all aspects of human life. Although it may appear that the last, enclosure, is the sole responsibility with which we as architects are concerned, the opposite is actually true. In fact, all four are extremely integral to the act of making space at all scales and in any situation. In architecture, not all of these functions are performed using fabric as a primary means. However, using various methods and materials, these responsibilities are carried out through architectural form, essentially transferring Semper’s definition of the role of fabric, to also describing the role of architecture.

If Semper was the first to realize the potentialities and overall importance of fabric and fiber arts in the making of space in his text *The Four Elements of Architecture*, Anni Albers was integral in articulating and fabricating these principles in the twentieth century. Rather unknown in the general sense, Anni Albers, wife of famous color theorist Josef Albers, was a revolutionary in her time, essentially pushing both theory and practice of fiber arts where it had not been taken before. Throughout her career, she wrote a number of enlightening essays discussing fibers, art, architecture, design, and the relation and overlaps between these discourses. She argued that building design and construction are far removed from the realm of personal understanding at the human scale; that architecture, urban design, and spatial qualities in general can be understood by the greater population, but unfortunately are not. Though, she states, by implementing a craft such as textiles into the act of making space, a craft much more easily understood by a larger number of people due to the personal scale at which it is produced - this gap between the scale of the human and the scale of the space surrounding them can be bridged. Although it may not be completely understood by all people, as far as technique and construction are concerned, fabric making is a material work completed at the personal scale, forcing a relationship between the work and the viewer. She highlights the aspects of fiber arts that articulate the practice’s intriguing role within the discourse of making space: the repetition of elements and motifs within a woven piece can be manipulated in all ranges of scales. She also stresses the architectural intrigue of a unique characteristic of any woven piece, the creation of two different sides of a surface at one given time.

Albers concludes her essay *The Pliable Plane: Textiles in Architecture* with this: “The essentially structural principles that relate the work of building and weaving could form the basis of a new understanding between the architect and the inventive weaver. New uses of fabrics and new fabrics could result from a collaboration; and textiles, so often no more than an afterthought in planning, might take a place again as a contributing thought.”

Throughout this project, the writings of Anni Albers will provide a lens through which to view weaving and fiber work as not only a means of making art but as a means of understanding it as a legitimate discourse in the realms of both design and human existence.
Work by Anni Albers
Fiber Arts & the Personal Scale

The Art of Labor

There is a distinctively strong relationship between fiber arts, material, and the process of making. Arguably more so than most other art forms, fiber arts is the art of labor and manifests as the evidence of that labor through its byproducts. There is nothing more indicative of the labor of making than seeing a knitted fabric not as a surface but as a series of individual knots forming a larger assembly. These individual knots can be visually evaluated as the evidence of the laborious process as well as quantitatively evaluated by the number of stitches completed within the whole.

Material

The priority given to material in fiber arts is essential in understanding what defines this art form. Anni Albers defines material as unformed, unshaped matter. Throughout a series of states of change, material is translated into product. For example, raw wool is processed through a spinning wheel to create thread, which is then used for crochet, knitting, stitching or weaving. It is used for two primary purposes, to make “useful things and beautiful things, equipment and works of art” (Albers, 7). Albers claims that our relationship with these states of change has been severed, that we as humans have been separated from material in its original state as civilization has progressed. “We must come down to earth from the clouds where we live in vagueness, and experience the most real thing there is: material” (Albers, 6). To reconnect with the world around us, with reality itself, we must reconnect with material, and the process by which it translates matter to product.

The exploitation of the qualities of a material is inherent in all fiber artifacts. The manipulation of a material is governed only by the limitations and abilities of that material, not by any outside authority. Although there are guidelines and rules that belong to any craft, they can be interpreted and removed as seen fit. They are challenged by the artist/maker, and thus reciprocally challenge us back. However, no matter how the work and the maker are tested, both are firmly checked by the laws of the material in the end.

Quantifying Labor

Time to produce knit assembly

16 stitches = 4"
22 rows = 4"
17.6 min
Making

Making is the process by which material becomes product. It is a transformative procedure: the translation of raw material for use, for appropriate interaction with the human. Claire Pajaczkowska states the following in her text *On Stuff and Nonsense: The Complexity of Cloth*:

> Weaving is an activity that is both supernatural/divine and mundane. It transforms the natural materiality of animal, vegetable, or mineral into the cultural clothing of humans. It is, in Levi-Strauss’ terms, a symbolization of the fact of culture itself. Weaving, like cooking, transforming the “raw” material of nature into the “cooked” language of culture. In weaving, the raw material of animal hair or vegetable fiber is transformed into a medium for human relationship. The loom can be seen as a frame, portal, or aperture which opens through the two-dimensional world of surface into the third dimension of space. (Pajaczkowska, 233)

In addition to the physical and sociological qualities to the process of making, there is also a conceptual benefit in a psychological and emotional sense. According to a number of theorists of epistemology, or the theory of knowledge, “thinking arises through making” (Pajaczkowska, 243). Through making, states Anni Albers, we as people are able to grow, to become self-dependent, and to increase our self-confidence. She states that “[c]reating is the most intense excitement one can come to know.” Through “free experimentation,” we as humans can instigate the “fulfillment of an inner urge to give form and give permanence to ideas” (Albers, 7). Thus, making leads to thinking, which leads to ideas that inspire making. Although appearing to contradict one another, these writings are both factual and inextricably linked to each other and are inherent to the process of making as critical to our mental and physical development. Whilst not entirely giving credit where it is due, Freud has stated the role of “thinking as the practicing of action” (Scanlan, 50). What is certain is the importance of action in our development as humans. Contrary to all of these theories, a common statement in epistemology is the exact opposite of this - that thought arises from idleness - what we can now determine is a common misconception.
Fiber Arts & the Urban Scale

The contemporary urban environment has become an amalgamation of concentrated people and processes acting around, near, within, on top of, and adjacent to each other. Various urban elements or components articulate a framework for the basis of the urban environment as we perceive it. These components can manifest as city monuments or major thoroughfares, essentially forming the set pieces of the cities we live in and move through. It is through the relationships between these elements that another network or set of networks are defined, those of the various processes and sequences which occur within a given city. These networks of process and sequence (where specific types of movement and activity occur) lead to socialization and highlight hidden and underappreciated systems of patterns and urban “textures” within the city. These patterns and textures are how we negotiate through the urban landscape as an urban participant. We understand them because they are at the scale of the participant: how we get to work, where we had coffee last week, the bench where we tied our shoes yesterday.

At times, the scale of the city is out of the urban participant’s realm of understanding. As exemplified in abandoned, less developed urban areas, the patterns and textures that help us negotiate the city are less articulate and more difficult to interact with. We are unfamiliar with them and are thus less prone to going outside of our collective comfort zone. Redevelopment strategies within cities often rely on the implementation of architectural and programmatic elements to attract and engage the urban participant. However, this engagement is often conversely dependent on the participant’s overall understanding and comprehension of the surrounding urban landscape; the ability to maneuver through and manage the urban context is essential. The mere implementation of an architectural project is not always enough to “redevelop” an urban environment.

Thus the urban environment, or specifically for the purposes of this project, that which is less “developed” in the traditional sense, needs to be mediated by interventions implemented at a scale closer to that of the human body, whether through actual smaller-scale elements or through patterns and textures familiar and understandable by our bodies. These interventions can manifest as physical, functional set pieces in the landscape, designed for our interaction as urban participants, ranging from park benches and telephone booths to small scale shop kiosks. In addition, public fiber art pieces can help to reframe this mediation between the scale of the city and that of the participant.

At an urban scale, methods of material insight and production will remap a person’s experience and understanding of the surrounding cityscape, heightening the tactile sensibility of a place less often “touched” than other, more familiar places in the city. The importance of creating a local environment from the “bottom-up” is integral in translating an idle urban environment into a functional and active one.

The Dublin Docklands serve as an example of this type of less developed urban area, the participants in and future residents of which would benefit from the heightened tactile sensibility that will be brought about through implementation such as these.
Contemporary fiber arts installations are of particular relevance to this project because of their ability to react to and interact with the surrounding environment and processes taking place within that environment. In contrast to more traditional examples of fiber arts pieces created in two-dimensions, such as woven rugs, tapestries or table covers, contemporary installation pieces are meant to interact with space in a three-dimensional aspect. At bare minimum, these contemporary pieces are designed to manipulate existing spaces, either indoors or out, to reframe our overall perception of a space into one that would not have occurred otherwise. In addition to this quality of literal space shaping and reframing, what now will be referred to as “architectural installations” are also often designed to interact proactively with environmental qualities such as light and air.

Wind, water, light and space: these are the earthly elements that artists who work out of doors depend on in making their works of art. To move into a space and possess it is their immediate goal. If the work of art is successful, ...the artist transforms the viewers’ relationship with the environment...

Environmental works in cloth are temporary, but their existence is permanent in memory and through documentation. They go beyond Conceptual art because they have a powerful physical presence during their brief moments of being. It matters not whether they are in an urban setting, within a natural landscape, or tied to the sea. It only matters that the cloth be brought in contact with the essential elements. While many of these works are site specific, those that depend on transitory elements such as the wind are movable works of art capable of being installed in other places. (Constantine, 146)

Many architectural fiber installations are free from the limits of gravity, due to their tendency to be light, ethereal assemblies. The purpose of an individual piece is able to mediate between embracing certain limits of gravity and discounting others. For the most part, these types of architectural installations require an anchor of some sort, either integrated as part of the piece itself or implemented as a simple tow for the purpose of security. They confront earth, water, wind, light and space and play with them; the particular way in which the pieces interact with these elements depends on the nature of the material itself as well as how that material is manipulated.
Carol Hummel
Palm Wrap

Janet Echelman
Richmond Oval
A Fibrous Heterotopia

Grahame Shane, author of *Recombinant Urbanism*, argues that the city is no longer a master plan with the name of a single designer on a label. It is a complex system of networks that conversely interact to create the urban landscapes we are familiar with. Shane’s text becomes an articulated definition of three urban elements (the armature, the enclave, and the heterotopia), and how these elements define the composed networks that make up our cities of today. Shane argues that the heterotopia articulates the epitomized urban element in a post-industrial city, in which both city and element deal with multiple activities simultaneously as well as addressing equally the principles of “statis and flow”\(^1\), negotiating the inherent gap between the linear element of movement within the armature versus the self-centering device present within the enclave. The heterotopia, as originally defined by Michel Foucault in his essay *Of Other Spaces*, is a unique urban component type, embodying certain specific defining principles. Although a multitude of types of heterotopias exist, most of which are irrelevant to this discussion, the following principles can define what this project has termed a “fibrous heterotopia”, taking advantage of these qualities and applying it to this project, essentially aiding in implementing an extremely specific and specialized program into the grand-scale public realm.

As defined by Michel Foucault, the heterotopia:

- is unlike ordinary cultural spaces, and no one is the same from city to city.
- juxtaposes several incompatible sites within one space simultaneously.
- embodies slices of time, both accumulating and flowing.
- embodies a system of simultaneous opening and closing.
- holds a role with respect to all other space within the city.
- is connected in some way with all sites, groups, or distinctions in the city.

Obviously, the concept of a heterotopia is much more complex than the statements mentioned above. In addition, the concept that every heterotopia is different from the next is not hard to believe, as the roles and characteristics of heterotopias change over time and place, depending highly on its urban surroundings.\(^2\) However, these specific qualities can be used as a point of departure for defining the programmatic goals of this particular project in an urban realm. Essentially, the heterotopic qualities of interest to this project are related to the concept of contradiction. What makes a heterotopia successful in articulating its goals in an urban setting is its ability to contrast both with its surroundings in the urban landscape, as well as with the elements within its simultaneously defined and undefined walls. The programmatic needs as specified for this project qualify the above characteristics in a number of ways:

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\(^1\) Term used by the author. Shane, David Grahame. *Recombinant Urbanism*. West Sussex, England: John Wiley & Sons Ltd.

\(^2\) Foucault, Michel. “Of Other Spaces,” *Diacritics* 16 (Spring 1986), 22-27
-The incompatible combination of work with a raw material and the experience of the final product made from that material.

- The simultaneous documentation of the accumulation of the past (exhibition and gallery space) with the temporal flowing of time in the present (market and festival infrastructure as implemented into the park scheme)

- The openness of a public park juxtaposed with the specialized and “closed” nature of fiber arts production facility and equipment use.

Thus, the specialized nature of the fiber arts fabrication center juxtaposed against the public realm as represented by the sculpture park is inherently contradictory, essentially defining it as a derivative of a heterotopia. The role of this project with respect to the city as a whole is to merge the discourses and practices of fiber arts and architecture within an urban setting, allowing the urban participant to experience a heightened tactile sensibility of a place otherwise deficient in deeply embedded existing urban textures and processes, present in and characteristic of the city center. This particular heterotopic derivative is connected to the rest of the city in its exemplification of texture, material, and process as necessary for a means of understanding the environment, and our common ability to understand these principles as urban participants and human beings. Essentially, this project intends to derive a type of “fibrous heterotopia”, disassembling the properties that one could identify with a heterotopia and reassembling them into a mode for urban intervention in this particular project with its particular goals in mind.
Fiber Arts & Gender

Gender is unavoidable as a topic of relevance and intrigue within the discourse of fiber arts, deeply embedded within the art form from its origins. Often the practice of making fiber artifacts is referred to as “women’s work,” either in a stereotypical light drawing an umbrella over all of the textile arts and crafts, or as a critical re-examination of the term in a feminist light.

Throughout the development of civilization, men were charged with the responsibility of hunting and gathering for their dependents while women were usually charged with the production of textiles for practical use in the home. Essentially, the female role of producing textile was not only for home making in the cliché sense, but also for the literal making of the home. The first nomadic structures for living were often tents requiring both the processing of hides and plant fiber into proper workable material, as well as stitching and knotting techniques for fastening and attaching the pieces of the shelter together. And this, according to Anni Albers, makes women the first structural designers. In addition, as described by Nancy Tanner, American physical anthropologist, original tool making and, by proxy, the introductory development of communication and language were due to mother and infant performing duties and playing games within the home (Pajączkowska, 241). The common misconception is that men are solely at the center of evolutionary progress. However, it could be argued that this “women’s work” and thus fiber arts in its most basic and traditional sense share, or even supersede this archaic view of the evolution of the human race.

In *The Direction of Cloth: The Horizontal Dimension*, Lois Martin describes the relationship between gender and the physical orientation and display of fiber artwork as inextricably linked. In a classical sense, what was “elevated” was related to man, while what was “debased” was related to women. Men were traditionally associated with air and fire, the elements most often associated with the heavens, while women were associated with the remaining two elements, earth and water, both firmly rooted to the terra firma. Further, the patterns on Peruvian garments of Andean natives also follow this tendency, with horizontal stripes present on women’s garments and vertical stripes present on those of men. It is this “horizontal dimension” which conceptually links Classical notions of the female with the essence of most traditional fiber artifacts that are meant to be displayed on a horizontal plane. “Face it: cloth just wants to lie down.” (Martin, 8)

Aristotle’s misconceptions about biology have also added to these conceptual notions about the female, fueling what many feminist fiber artists use as inspiration for their artwork. Essentially, Aristotle believed that the two elements that created humans, “matter” and “form,” came respectively from a person’s mother and father. Matter, coming from the mother, “was a universal substrate, which was not only passive, but had something of the mucky vileness of dirt” (Martin, 8). Contrarily, “form” was what Aristotle associated with the soul of a person, essentially appointing the father as the “artist” or “creator” of said person. It is the connotation of words such as “create” or “originate” that imply “the greatness of art depends on how forcefully the ‘great master’ artist has overcome matter’s resistance and imposed his form” (Martin, 9).

However, some contemporary feminist views can be interpreted to embrace the idea of matter, material, and the feminine persona through the outlet of fiber arts to create material determinate, beautiful things. The beauty of fiber arts pieces is embedded within the essence of the material itself, which is thus the “feminine” nature of the artwork.
The formal potentials of gender in design and fiber arts are extremely relevant. However, it is still unclear how gender may or may not play a role in the architectural design of this project.

**Masculine**
- limited
- oddness
- unity
- right
- rest
- straight
- light
- good
- square

**Feminine**
- unlimited
- even
- plurality
- left
- movement
- curved
- dark
- bad
- oblong

Positive vs. Negative space
Masculine vs. Feminine space
cited in *Ethics of Sexual Difference* by Luce Irigaray

Ten Pythagorian Contraries
cited in *Form and Gender* by David Summers
Fiber Arts: Historical & Cultural Background

The production and usage of fiber artifacts has been well established in all cultures since the beginning of human civilization. The procedures involved in producing these artifacts have had significant influence on economic, religious, and social processes of any number of cultural and historical backgrounds.

**Traditional Production of Fiber Artifacts:**

In a traditional sense, the discourse of fiber arts has an arsenal of specialized tools associated with specific processes involved in the making of artifacts, both for aesthetic and practical use. The most iconic and complex machines for the purpose of creating fiber artifacts are the floor loom and the spinning wheel. Both of these elements often come off as sculptural in themselves, with a truly iconic presence in the history of fiber arts.

**Fiber Arts & Social Processes:**

In the more general sense, various types of fiber art production and making have manifest as social events, most notably those of quilting bees, in which early American settler women would gather in the summertime to simultaneously work on quilts together. Different stitching and fabric materials were combined from any number of participants to create the finished product.

Also, the predominantly English spring tradition of the maypole could be considered an example of a social fiber artifact. Consisting of a large pole with ribbons falling down from the top, these ribbons were held by participants on the ground continuously weaving in and out of each other to form a web of sorts essentially tightly wrapping the pole from top to bottom.
Fiber Arts and Economic Processes:

Just as in other crafts or vocations, guilds organized for the processing of material and production of artifacts were designated for the practice of fiber arts. For example, the history of the development of the Irish Guild of Weavers, Spinners & Dyers has been active under one title or another since 1936 and still holds a presence to this day in the capital city of Dublin.

In addition, the prominence of wool and its importance in the development of the Irish economy cannot be contested. The proliferation of wool processing and products caused a great deal of economic growth to occur in this predominantly rural nation during its development. In fact, certain limits were often placed on the export of woven materials because of the great effect this particular division of industry had on the Irish economy.  

http://www.weavers.ie/
Infrastructural & Architectural, Creative & Practical Space

In order to implant such a highly specialized program type into an urban, public setting, this project has adopted certain qualities associated with Michel Foucault’s heterotopia, an essentially contradictory space which both confronts and interacts with the surrounding urban environment as well as its own internal elements. The program assembly is composed of four contrasting elements, permuted from two groupings of dichotomies: the architectural versus the infrastructural, and the creative versus the practical.

Infrastructural elements in the project will take the form of a designed set of stand-alone pieces, appearing structural or sculptural in form and purpose. In the practical sense, a network of these infrastructural pieces will provide a base structure for various temporary tenting strategies, intended for the purpose of programming various types of event space, including public festivals as well as a local farmer’s market. These tenting strategies can be assembled and disassembled depending on the requirements of an event at a given time. In the creative sense, certain pieces will act as physical anchors for architectural fiber art installations out in the public realm. This sculpture park is intended to bring an additional textured layer to this public space, reframing the urban participant’s perception of the space as the art pieces are installed, interact with the environment and its participants, and thus replaced by new installations as time progresses. This constant manipulation creates a vibrant and active urban experience, constantly changing as the installations and events change over time.

From an architectural standpoint, certain built elements are also necessary to create a vibrant and active urban experience. The monumentality of the city of Dublin is contrasted by its tightly knit small-scale urban fabric. In the Docklands, the establishment of these monumental elements is beginning. However, there is a need to bridge the scale jump between these large-scale projects and the small-scale urban street environment manipulated by the fiber arts installations and infrastructure. The design and implementation of a medium-scale architectural project, as exemplified in the Fabrication and Exhibition Center will serve as a counter balance between the large and small-scale urban elements as well as mediating the urban space between them.

The fabrication center is composed of private, specialized program elements, including dye-labs, weaving studios, and private studios. There is also an opportunity for live-work studios for a select number of residents to interact with this environment on a constant basis. Classrooms and public studios will provide semi-private access to the learning of these specialized processes of making in a hands-on sense. As a “practical” and more public counter balance to the creative nature of the fabrication center, a formal gallery space will be implemented into the building. This gallery will serve as an exhibition space for work produced in the fabrication center, as well as an accumulation and display of traditional work as well as traditional equipment required for making these artifacts.

In a heterotopic manor, the project will manifest as a simultaneously closed and open system, both literally (in the sense of a “closed” architectural space and an “open” public space) and programmatically (in the sense of the “closed” private and specialized quality of the fabrication center and the “open” public exposure to exhibition spaces). The priority of all of these architectural manipulations is that they can adapt and readapt, create and recreate new urban space and architectural experience as time progresses.
Goals of the program include:

+ To manifest in four urban elements, each with characteristics that identify its role in creating a heightened tactile sensibility in the underdeveloped urban condition of the Dublin Docklands.

+ These characteristics create dichotomies and contrasts between these elements.
  1. architectural vs. infrastructural
  2. creative vs. practical programs

+ The cross combination and/or permutation of these qualities manifest in the four urban elements of the complex.
  1. Fiber Arts Fabrication Center (A & C)
  2. Urban Square/Sculpture Park (I & C)
  3. Fiber Arts Exhibition Gallery (A & P)
  4. Festival/Market Space (I & P)

+ These elements will interact with each other in according hierarchical relationships.
  - Fabrication center and sculpture park together will articulate a creative environment
  - Museum and Market elements will react with and against each other due to their programmatic qualities, one serving as a documentor of the past, the other serving as a resource and urban instigator for the present.
Fiber Arts Fabrication & Exhibition Center

Program Requirements:
- Classrooms 8 @ 25’x25’ 5,000 sf
- Public Studios 3 @ 25’x25’ 1,875 sf
- Private Studios 10 @ 15’x15’ 2,250 sf
- Live-Work Studios 5 @ 25’x25’ 3,125 sf
- Dye Labs 2 @ 12’x15’ 360 sf
- Exhibition Space 10,000 sf
- Auditorium 10,000 sf
- Storage & Mechanical 10% of total sf 5,000 sf
- Offices 5 @ 10’x10’ 500 sf

Approximate Total Square Footage: 40,000 sq. ft.
Adjacencies
Urban Fiber Sculpture Park

Program Requirements:
- Open Public Space
  - Paved
  - Green
- Art Infrastructure
  - Anchoring Elements for Installations
- Event Infrastructure
  - Anchoring Elements for Transformative Tent Assemblies
- Street Furniture
  - Benches
  - Tables
  - Outdoor Lighting

Approximate Total Square Footage: 100-150,000 sq. ft.

Fiber Sculpture Sequence Diagram

Event Sequence Diagram
Anchor Types

+ Art Infrastructure
  - Can manifest as point, line, plane or mass
  - Ability to have cloth or string secured to it
  - Permanent to semi-permanent elements
  - For the securement of temporary assemblies

+ Event Infrastructure
  - Can manifest as a more regular network/system
  - Ability to adapt from small to large scale events
    i.e.: farmer’s market to street festival
  - Permanent to semi-permanent network of elements
  - For the securement and containment of tent assemblies

London’s Borough Market
Event Infrastructure will be able to accommodate program such as this while maintaining temporary role in the urban landscape
City: Dublin, Ireland

+ Political Capital of Ireland
+ Located in the center of the east coast of the island, open to the Irish Sea
+ Official Languages: English & Irish (Gaelic)
+ Originally founded as a Viking Settlement
+ Population is approximately 1,000,000 and is set to decrease for the first time since the famine
+ Contained within the M50, one of the few contemporary highways in the nation
+ Divided by the River Liffey into north-side and south-side; the south-side having a more affluent population than the north
+ Riddled with immense traffic issues and limited development towards the east in the past, due to the increased influence of the automobile
+ Great contrast of densities and textures present throughout the city

Serves as a perfect example of a post-industrial city, dealing simultaneously with stasis and flow, and the patterns and processes which create the textures that define the city from the urban participant’s perspective.
Dublin Climate

+ Maritime Temperate Climate

+ Mild winters and summers

+ More moderate temperatures than inland weather patterns

+ Experiences less rain than the west coast

+ Weather patterns are highly irregular, with equal opportunities for sun, wind, or rain at any time

+ Characterized by a multitude of rainfall throughout the year, with the height of rainfall occurring in the winter

Average Monthly Rainfall and Temperatures

Average Hours of Sunshine Per Day, divided by Month

http://www.wordtravels.com/Cities/Ireland/Dublin/Climate
Dublin: Urban Textures: Water & Green
The River Liffey serves as a linking device from east to west through the city center, connecting a number of different monumental and iconic urban nodes, including the Museum for Modern Art, St. James’ Gate (Guinness Brewery), O’Connell Street, Temple Bar, the Custom House, and the Trinity College campus.

These elemental pieces are what identify Dublin amidst the chaotic and dense urban fabric co-existing within the city.
Top Row: St. James’ Gate. River Liffey looking east, Phoenix Park, Grafton Street  
Middle Row: Interior of Guinness Storehouse, The Ould Dubliner - Temple Bar, O’Connell Street, Trinity College  
Bottom Row: The Temple Bar - Temple Bar, River Liffey looking west, Quay Street Facade, Ha’Penny Bridge
Dublin: Urban Sequences

South-Central Pedestrian Sequence

James Joyce’s *Ulysses* Sequence
Dublin Tour Bus Sequence

Composite Drawing of Popular Sequences
Dublin: Patterns of Movement

Public Transportation Systems

Cycle Path Systems
Dublin: Urban Textures & Artifacts
Dublin: Urban Densities: O’Connell Street

Wide traffic thoroughfare

Multiple crosswalks for pedestrian movement

Automobile-inhabited space

Iconic, monumental presence in the city

Largest traffic intersection at O’Connell & Liffey Quay Streets
Densification of pedestrian dominated urban space

Heightened sense of texture, compression, and social interaction

Streets vary in width, depth, length, and shape

Overhangs heighten compression at points in the procession through the urban environment
Dublin Docklands

Site Map of Urban Processes

Inner Docklands
View Looking East Towards the Docklands
The Dublin Docklands are currently under development by the Dublin Docklands Authority. A significant amount of literature has been published regarding the overall intentions of the grand scheme, as well as medium scale schemes intended to be implemented at the scale of individual communities within the Docklands. The Docklands represent the former industrial area of the city, currently lacking in residential or business related urban participants. The Docklands serve as a perfect example of an underdeveloped area in the post industrial city of Dublin, in need of a heightening of tactile sensibility in order for the area to be more comfortably populated and easily interacted with. A series of large-scale architectural projects are currently under construction as part of these redevelopment schemes. This project will serve as a median between the grand-scale of these monumental elements in the cityscape and the tightly “knit” urban fabric at the scale of the street participant.
Redevelopment Strategy: Composition of Elements

- new building projects
- new open public space
- new bridges
Dublin Docklands: Statistical Information

Population:
- Increased by 26.8% between 1996-2006

Docklands Demographics

City Demographics

Social Class & Education

Postgraduate & Doctorate Standing
Key Trends (1996-2006):

+ Docklands population grew five times faster than that of the City.
+ Proportion of workers classified as “professional” more than doubled, and is higher than City, County, and State levels
+ Unemployment dropped in the Docklands more than 50%.
+ The Docklands has the highest proportion of its population engaging in commerce when compared to other areas.
+ More than 50% of Docklands population walked or cycled and fewer drove than in the City, County, and State.
The Dublin Quays (riverside streets) were constructed under the Wide Streets Commission in 1757. In addition to creating means for the reshaping the medieval city, this commission helped instigate the development of the Docklands, and the coursing of river-side streets down to the Docklands, thus aiding in the growth of this region in its beginning stages of existance. The Custom House, serving as the architectural portal between the industrial region of the Docklands and the capital, marks this threshold literally from its position on the north bank of the Liffey.
Communities

North Lotts, located in the center of the area affected by the Docklands Master Plan

The site is effected by an extension of the Luas, the Light Rail public transport, as well as juxtaposed across the Liffey from Grand Canal Dock, the most successful example of the development scheme thus far in its realization.
Dublin Docklands: Analysis

Site, Water & Green Space

Existing Urban Barriers
Existing Pedestrian Systems

Existing and Proposed Pedestrian Systems
Dublin Docklands: Analysis

Existing Public Transportation Systems

Existing and Proposed Public Transportation Systems
Existing Cycle Path Systems

Bridges
North Lotts, North Docklands

North Lotts section of the Docklands
Currently under development

View of North Docklands from South of the Liffey
North Lotts Panorama from the South

Central Square Park, North Lotts, North Docklands

Site of interest under development
North Lotts, North Docklands

Site Comparison to SU Campus

Site within North Lotts Area
Transportation: *Luas* Extension

Building Character

- site
- public venue
- office
- residential
- industrial
Design Process: Introduction

The designing of parts and architectural strategies will be done simultaneously with architectural fiber arts installations and projects, from the small to the medium scale. Fiber artifacts will be physically constructed from a variety of materials, including both those traditionally used within the art discipline, namely yarn, string, or thread, and those considered non-traditional, which essentially need to have the properties of being able to attach and interlock with other materials in some way, shape, or form. The act of physical construction and manipulation of material will inevitably inform the overall architectural and urban design of the project. This material and constructive research and experimentation will strive toward creating details, architectural assemblies and urban strategies that will have the ability to be assembled, disassembled, reassembled, and/or built upon for the purposes of constant adaptation to an ever changing urban environment.

For the purposes of this project, techniques for manipulating interlocking materials will be investigated indepth, including specifically how to knot, stitch, and weave. More dominant and specialized methods of interlocking, namely knitting and crochet, will also be investigated in order to assess their viability in manipulating materials at the building scale.
If the nature of architecture is the grounded, the fixed, the permanent, then textiles are its very antithesis. If, however, we think of the process of building and the process of weaving and compare the work involved, we will find similarities despite the vast difference in scale. Both construct a whole from separate parts that retain their identity, a manner proceeding fundamentally different from that of working metal, for instance, or clay, where parts are absorbed into an entity. This basic difference, however, has grown less clearly defined as new methods are developing, affecting both building and weaving, and are adding increasingly to fusion as opposed to linkage. (Albers, 44)

In her essay entitled *The Pliable Plane: Textiles in Architecture*, Anni Albers describes the multitude of overlaps between the discourses of textiles and architecture. These overlaps include not only methods of shaping space, as discussed previously, but also an articulation of the architectural qualities of textiles implemented in this light. Most notably, these include acoustic and olfactory qualities of bringing a fabric piece into an architectural space, creating contrasts or not only material and tactile affect, but of other sensory experiences as well. Albers also discusses how fabrics and other fiber arts pieces can have insulating qualities, as well as performing more recent, modern roles in sound absorption and privacy (Albers, 47).
Fiber Arts: Strategies for Making

Fiber arts can essentially be defined as the interlocking of materials to create a surface or artifact. The processes which encompass fiber arts are broad and range from a wide variety of materials and finished products. Here, I have specified the qualities of fiber arts making and artifacts which I feel would be most relevant to an architectural design project.

Right: Plaid legwarmer; simultaneous production of two surfaces at once
Bottom: Basketry project; Interlocking of components
Implications of architectural fiber arts installations and how they can subtly alter one’s perception of a space

Left: Installation work in Slocum Hall

Bottom: Installation work in Su Com Art Building
Formal Implications: Weaving

+ planar
+ rigid in method of construction
+ both fine and coarse textures
+ varied materials can be used
+ orthogonal form
+ primary purpose: to create surface

- can either be fabricated on a loom or by hand, tools are not necessary
- unlimited in length in all directions
- section is limited in width
- grid of systematic horizontals and verticals
- paradoxically is soft, curved, and can drape

woven mat: consists crossing axes of elements

diagrammatic section through woven piece
Formal Implications: Stitching

- linear or point-driven
- flexible in method of construction
- fine texture
- stitching material restricted to thread-like elements
- varied materials can be used to stitch into
- free and varied forms are allowed can create “mosaics of thread”
- primary purposes: for construction or assemblage for decoration, either ornamental or illustrative

construction vs. decoration
Formal Implications: Crochet

**gauge:** a measure of the fineness of a knitted or crocheted fabric

**tension:** tightness/looseness of a knitted or crocheted fabric

- linear, radial, or planar
- flexible in method of construction
- varying textures of stitches
- varying textures, dependent upon gauge and tension of yarn and instruments used
- material restricted to continuous, string-like elements
- varied forms and patterns can be constructed
- primary purpose: to create line to create surface to create netting to create 3-dimensional forms

- one tool is required: knotting instrument (hook)
- unlimited in length in all directions
- linear, radial, & point linkage from knot to knot
- openings are made by manipulations of series of stitches (small to large-scale)
- two different, but similar sides produced at the same time
- base consists of autonomous chain of loops
- beginning and ending can occur at any point

single crochet stitch: loop pulled through two loops

chain

schematic of crochet system
Formal Implications: Knitting

- planar
- rigid in method of construction
- consistant textures of stitches
- varying textures dependent upon gauge and tension of yarn and instruments used
- material restricted to continuous, sting-like elements
- consistant, orthoganal arrangement of stitches
- primary purpose: to create surface

- two tools required: anchor and knotting instrument (two needles)
- limited by length of anchor (needle)
- linear linkage of yarn from row to row
- openings are made by manipulating individual stitches (small-scale)
- two distinctly different sides produced at the same time (purl & knit surfaces)
- base consists of row of looped knots on anchor (needle)
- casting-on & binding-off necessary to begin or end, respectively

breakdown of single knit stitch

purl surface diagram
Parc de la Villette, Paris, France

+ Bernard Tschumi
+ Completed in 1974

This project serves as an example of the role that architectural and infrastructural “art” pieces can play in an urban environment. What Tschumi has termed as “folies”, serve as architectural set-pieces within an urban park landscape, framing views of that landscape as well as implementing alternatives to sequence and procession through the park.

The opportunities for utilizing these types of architectural installations are numerous and incredibly relevant to the intentions of this project. The use of these iconic red set-pieces can be translated into opportunities for fiber arts-influenced structures as well as actual artifacts installed in the urban environment.
Grand Canal Square, Dublin Docklands

+ Daniel Liebskind
+ Presently Under Construction

Grand Canal Square is the first and largest open public space design initiative in the Dublin Docklands thus far in the history of the region’s recent development. The site is defined by two new office blocks, a five star hotel, and a new theater, also designed by Daniel Liebskind. The urban square is characterized by iconic red light sticks emerging from red “carpeted” paving, contrasting with lush grassscapes in the public square.

This project serves as an existing example of an urban public square, manifesting as a sculpture park simultaneously. Also, the project is implemented in a site extremely similar to and near the site for the fiber arts fabrication center and sculpture park.
Reconstruction of Souks, Beirut

+ Stan Allen, *Points + Lines*
+ Designed in 1994

This project, as designed by Stan Allen was intended to implement a new, modern construction into the historically rich city of Beirut. The project was intended to embody four essential ideas.

1: To preserve the existing fabric as much as possible
2: To recover the ground of the site with new surfaces
3: To construct new buildings to accommodate additional amenities
4: To implant a steel and glass roof to unite the fragmented area

“It anticipates the future incorporation of various styles and various functions within an overall framework. It allows phasing, incremental realization, and broad participation in the reconstruction process.” (Allen, 59)

This project is an example of the strengths of what Allen terms “Infrastructural Urbanism” in designing urban space.
Meeting House Square, Temple Bar, Dublin

+ O’Donnell & Tuomey
+ Completed 1996

Surrounded by three architectural projects by the firm, Meeting House Square has become a public amenity to the cultural heart of Dublin, Temple Bar. On summer nights, films are projected within the square, while on weekends throughout the year, farmer’s markets are held.

“Our design did not propose to contrast new with old, nor was it divided between historical conservation and contemporary design interventions. Rather, our intention was to make a case study of the co-dependent interaction of layers of time in the living present. Working slowly on this project, through the processes of research, survey, design, demolition, repair, re-use, building and re-building, set us on a course by which we still steer today - the belief that the task of architecture is continuity and renewal.”

This project exemplifies the act of urban regeneration via architectural design, attention to the past, and artistic expression.
Canary Wharf, London Docklands, England

+ Koetter & Kim Associates

+ Designed a number of different areas within East London, each having similar characteristics

The Royal Docks, or what is commonly referred to as Canary Wharf, is of particular interest here in comparison to the new developments occurring within the Dublin Docklands. Based on the concept of the “ordered node”, as described by Koetter & Kim in *place/time*, their design of the Royal Docks manifests as an example of a “vest pocket utopia”, or an “ordered spot as oasis” within the chaotic interstitial infill of the east of the city.¹

This project serves as an anti-precedent, of what not to do when creating a socially and architecturally regenerative urban environment. The designation of imposing, large open space inbetween massive scale office buildings creates a scale jump too big to be negotiated by the urban participant, causing all street life to be submerged below grade in an underground shopping mall.

¹ The text continues with further elaboration on the concept and implications of the Royal Docks project, including the use of public transport systems and the integration of natural elements.

Provides various essays regarding urbanization throughout the country in the 18th, 19th, and 20th centuries.

A main focus of the research, provides a theoretical basis for the project’s approach to urbanism and modernism. Looks at specific urban case studies, as well as from a unique perspective using literature from these various cities in order to more accurately depict his points.

Provides historical context for the city from its initial viking settlement from 150 AD.

Provides social structure of both the Republic of Ireland, Northern Ireland, and the general processes of Irish society.


Provides a unique architectural and visually driven analysis of urban systems throughout the world.

An architectural portrait of the city and how it developed through these specified dates and shaped the existing urban fabric.

Describes general social constructs of both the north and the south, as well as uniquely Irish topics which could effect any number of urban issues, including religion, constitutional issues, and various political topics.

To aid in shaping the architectural theory behind material research and construction using weaving as a formal driver as well as a process of making.


Provides a specific look at the concept of “new dubliners”, a first generation urbanized individual whose generations before them have grown up in predominantly rural environments. Essentially, the modernization of a people.


Literary portrait of Dublin.


Literary portrait of Dublin.


A more recent perspective of the city of Dublin, its history, and its inherently unique paradoxical nature.


Provides a guide and lens through which to view the urban systems of cities, with case studies concerning Los Angeles, Boston, and Jersey City.


The importance of the Guinness Brewery both locally to Dublin as well as the country as a whole.


The importance of Trinity College both locally to Dublin as well as the country as a whole.


Provides a detailed description of the various social roles the people of Ireland personify and represent.


Semper describes weaving as one of the four major methods of crafting a space, to provide a basis for working with weaving as a primary formal and material driver in the project.

A contemporary look at urban design and city theory as it pertains to cities all over the world. Provides a basis for an in depth investigation of urbanism and urban design strategies.

A study of the unique and more raucous side of the history of Dublin, describing the amount of crime and violence present in Dublin in the 1840s.
DRAWINGS:

in progress_04.28.2010
exhibition plan
section through courtyard & auditorium

section through live work studios & exhibition extension
|-------------|--------------|-------------|------------|---------------|--------------|------------|----------------|----------|

- **RAMP**
- **EXHIBITION**
- **AUDITORIUM**
- **CLASSROOM STUDIOS**
- **INDIVIDUAL STUDIOS**