# Industrialized society, material culture and first year modular design strategies

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## Abstract

Impact of education in design, and its effect on social responsibility

My selection of the Industrial Revolution as the topic of investigation for this project hopes to examine the beginnings of manufacturing and the creation of multiples or spare parts. The project guidelines have students look at the rise of factory towns and the social conditions that exist in these working towns. Awareness of historical developments is critical for students to begin to understand how we have arrived at our contemporary condition. It is my strong belief that knowledge of the past will help them to understand how their decision today can have far-reaching influence and effect visually, socially and economically.

## Keywords

Social responsibility, impact of education in design and its effect on social responsibility

A strong foundation should breed curiosity and a desire to generate stronger solutions. How? By having students work on projects that develop, engage and trust to a process of idea development, material translation and idea refinement which consists of research, making, thinking, reacting, research, making, thinking, reacting…

In writing this paper I had to reflect on why I have given this project to students in the past. Several reasons came to mind quickly. I want students to view their studio practice as a way to translate the world around them. Through research and active engagement with the past students begin to formulate ways in which their work can and will influence the world around them. Industrialized society, particularly our material culture, in the 20th Century has been based on the notion of multiples and the use of the spare part. The idea of a custom fit shoe is foreign to all of us, as is a one of a kind automobile or a handcrafted wristwatch. These types of assumptions are an inevitable part of a students design process, the decisions they make are predicated on the idea that any tool they use, any solution they create will be manipulating an element that is replaceable. My selection of the Industrial Revolution as the topic of investigation for this project hopes to examine the beginnings of manufacturing and the creation of multiples or spare parts. The project guidelines have students look at the rise of the factory towns and the new social conditions that exist in these working towns and cities. It is also a way for students to understand and examine the rise of the middle class, socially, economically and in terms of material culture. The middle class demand for goods has a profound influence on architecture, interior design, art, textiles and fashion as well as leisure. Awareness of these historical developments is critical for students to begin to understand how we have arrived at our contemporary condition. It is my strong belief that knowledge of the past will help them to understand how their decision today can and will have far-reaching influence and effect visually, socially and economically. This understanding and awareness of their actions will influence and inform their decision making as artists and designers of the 21st Century.

The specific project outcomes I will be showing today are from several groups of students whose projects stem from the investigation of an invention from the Industrial Revolution. Each team was to research what the Industrial Revolution was and present it to the class. The groups would then identify an invention that they will use as source material for the duration of the project. The selection could be made one the following ways: it may have been based on the aesthetic quality of the form of the invention, it may have been selected because of its function or it may have been selected because of its social impact. Analysis of the relationship of the parts to the whole begins by using drawing, cropping and collage to examine the whole and then its parts in more detail. Just as the Industrial Revolution brought about the use of the manufactured product and the spare part, this project will formally explore the potential of using the spare part or 'module' and cropping as a way to explore space, form and composition. This project was formulated as a guided experimental workshop and was designed as the capstone project for their Foundations Year experience. Guidelines were given to follow, but the outcomes varied greatly depending on each groups' investigation. The project lasted for five weeks. The initial investigation and research for each group was to find as much information and as many images of their selected invention as possible. Why was it created? How did it/ does it affect change in peoples lives? Who was the inventor? What was the inventor's life like, who he/she/they

were? Where they come from? Why they invented it? How they invented it? What inventions and changes did it lead to? Each team was to discover, through a one-week period of initial research, as much information as possible about their selected invention, the inventor and the context in which it was made.

The second week, studio work began with each member of the group creating drawings in their sketchbook. Through this process they will select two drawings, which will serve as the initial studies of their invention. They were to study the object both close up, in detail and also examine the overall form and surface. Each student had to crop an element from their drawings to create a basic unit. These basic unit forms were the beginning of each student's individual exploration into their initial collaged compositions that explore the possibilities of the initial crop or unit and how it can create a variety of super unit structures. The initial collage exploration was influenced by visual aesthetic and the function of the groups chosen invention. They were asked to explore and incorporate drawing, photocopy, digital collage and other materials and mediums. I asked them to explore the visual possibilities of their selected object by abstracting and analyzing the form(s). They were to consider the colors, shadows, size, scale, material, interior and exterior form and space, movement and function. The collage could incorporate 3 dimensional elements.

The next step in the project was to translate their information from two-dimensional space to three-dimensional form. To begin this process we went back to cropping and the creation of the unit and super unit structures. To create a unit form they had to crop again, this time using their latest collages as the source material for their new cropped units. Each member of the team had to design and build a three dimensional model which was based on the modular unit s/he had cropped. The three-dimensional model still had to have the spirit of their original invention, which they selected at the beginning of the project. The focus of this first three-dimensional work was to be on space, scale, and connection alignments. I gave them a limited selection of three materials, which, they had to work with, wood, a transparent material, and one material of their own choice.

The last two phases of the project were designed and built collaboratively. Each group had to create one 2'x2' collage and one 2"x2"x2" model. The collage had to be based off of 2 modular units, one cropped from each member's individual three-dimensional model. At these junctures the project stressed translation from shape to form and now back again to shape. The different groups chose to alter or transform the cropped unit or super unit forms through the investigation of a wider range of possible materials. Thin, flexible, rigid, transparent, opaque, soft, heavy, fabric, wood, metal, etc… For the last iteration of the project students had to crop from their 2' collage and select 1 modular unit to work with for the last stage of the project. Recombine and merge the two crops into one new module. They had to design and build a three dimensional model which is based on the latest modular unit their group had created. The final model still had to have the spirit of their original invention through all of the changes and developments.

I am primarily interested in developing a student's ability to visualize an idea through the act of making. Singularly important is the notion of thinking through the act of making. In art, design, architecture or any creative problem solving discipline thinking alone is not enough. I instill the idea of a need to manifest our ideas into physical reality be that as an object, on paper, as sound, digitally, static image or a time based sequence of events. The creative act is a process of making, thinking, re-acting, making, thinking, re-working… I want my students intelligently responding to a problem throughout the process of creating a visual solution. I set projects that create a framework for the application of these skills allowing them to bring content into their work. Posing questions and setting studio problems that require research and individual investigation. Asking questions that require students to develop an idea through a process of mediated change. This change in the work may include investigations through drawings, paintings, photos, models, library research, writing etc…

It is my hope that this presentation, has clearly demonstrated the evolution and development of this capstone project. At the turn of the 21st century I feel it is important to look at John Dewey's axiom, "learn by doing" which was a corollary to his belief that knowledge, to have real meaning must be a way of dealing specifically with authentic stimuli and situations. "Thinking", said Dewey, "begins not with premises, but with difficulties… in what may fairly enough be called a forked road situation, a situation which is ambiguous, which presents a dilemma, which proposes alternatives". In this studio project I set up a problem that launched students into an investigation of the topic from multiple viewpoints. In all my studio courses I want my students to judge success not only by visual outcomes but also, by the ability of their work to structure thought and to raise new questions.