Undergraduate Industrial and Product Design Pedagogy and the History Curriculum: How We Teach History to Practitioners in Training

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ABSTRACT

This research provides an overview of the use of history in industrial and product design education in order to address the best practices for teaching history to a design student. History courses are perceived to be a chore in the designer's undergraduate trajectory. My thesis provides historical context, and assesses the methods, content, and curricular structures that define the history curriculum to understand how we can better teach history to students. This is important in order to produce more critically informed design professionals upon graduation. This thesis aims to give a historical context of design education curricula, debates within design history surrounding content, and contemporary practices in curricula design and classroom pedagogies to assess best practices in successfully integrating critical studies into a designer's education.

LIST OF ILLUSTRATIONS

INTRODUCTION

The undergraduate education of a product or industrial designer in the United States is contentious and constantly evolving. While every approach sets out to develop a curriculum that teaches students how to solve problems, make forms, conduct research, understand different materials, identify historical context, and think critically, the curricula, pedagogy, and content that is delivered to the student varies from institution to institution.[1] Since the beginning of industrial and product design education in the late 19th century, art and design history have been considered essential to the practitioner. Some approaches to teaching history have included presenting a canon of "great works" (providing a deep knowledge base for their field of study), exposing the complexities in the social and political contexts in which design is produced, and offer a chronological understanding of design evolution so as to evoke a critical point of view in the design student.[2] Despite the importance of history to the design student, the courses are perceived as a chore, often prompting the students' response, "What is the value in it?"[3]

Are the methods we employ in teaching design history – including curricular structure and pedagogical techniques used inside the classroom – creating a barrier between the course objectives and the students' ability to take anything away from these classes? How do these delivery mechanisms affect the design practitioner's ability to learn history in a way that contributes to the development of their critical thinking, which content establishes the right connective tissue with practice based coursework? Does the way we teach history enable heuristic skills that can be transferred to critical making? Is the sequencing of such courses in curricula effective in promoting knowledge transference to other areas of students' education, or is coursework siloed? In a survey recently completed by The National Association of Colleges and

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[1] "NASAD Competencies Summary: Degree: The BFA in Industrial Design." National Association of Schools of Art & Design. November 2016. Accessed November 2017. https://nasad.arts-accredit.org/wp-content/uploads/sites/3/2015/11/BFA-IndustrialDesign.pdf.

[2] Wayne A. Williams and Janice Rieger, "A Design History of Design: Complexity, Criticality, And Cultural Competence," *RACAR : Revue D'art Canadienne* 40, no. 2 (2015): 17.

[3] Sarah A. Lichtman, "Reconsidering the History of Design Survey," Journal of Design History 22, no. 4 (2009): 342.

Employers, titled "Career Readiness Competencies for College Graduates," it was found that employers not only ranked "Critical Thinking/Problem Solving" as the number one skill for career readiness, far above technical skills, but reported employers only found 55% of recent graduates possessing "proficient" critical thinking skills.[4] While critical thinking skills are promoted in areas of curricula other than history, such as core studios, reconsidering how to more effectively teach the critical study of history could address this deficit.

This thesis will address the pedagogy of art and design history for the industrial and product design student. Analyzing a combination of historical investigation, contemporary participant observer, first person interviews, and research into the existing literature on the topic, I will assess various pedagogical approaches as they relate to larger narratives surrounding the best practices in learning and teaching, centering my assessment on using ideas posited in learner-centered theories such as problem-based learning and constructivist pedagogy, which state that "knowledge is anchored and indexed by relevant contexts. Knowledge construction is stimulated by a question or need or desire to know."[5] I will be working at three levels; first in the selection of content in history courses, second in the specific pedagogies or methods deployed inside the classroom, and third in the design of curricula that mediates practice based and liberal arts components of an education. Chapter 1 will provide historical context to all three levels while chapters 2 and 3 will discuss them in contemporary practices.

Chapter 1 elucidates some of the historical forces at work that have shaped design education today through a historiography of design education's relationship with historical coursework. With this historiography, my research will focus on two determining forces that have

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[4] "Job Outlook 2018," National Association of Colleges and Employers, Nov 2017, pp. 33, available from NACE, accessed Dec 10, 2017; For historical context see Gritzer, Glenn, and Mark Salmon. "INTERDISCIPLINARY USE OF THE LIBERAL ARTS IN PROFESSIONAL ART PROGRAMS." *The Journal of General Education* 41 (1992): 204.

[5] Rose M. Marra, David Jonassen, and Betsey Palmer, "Why Problem-Based Learning Works: Theoretical Foundations," *Journal on excellence in College Teaching* 25, no. 3 (2014): 223-226; Louis Alfieri et al., "Supplemental Material for Does Discovery-Based Instruction Enhance Learning?" *Journal of Educational Psychology* 100, no. 1 (2011).

shaped the way in which we teach history to students of design in the U.S. First, I address industry's influence on early design education (between the mid-19th century to late 20th century), which was motivated by a desire to develop a skilled labor pool. Second, I address the elimination of history coursework due to the prevailing 20th-century notion of history as "copyism" within modernism, promoted by the influential founder of the Staatliche Bauhaus (1919-1933), Walter Gropius. Both factors contributed greatly to both the overall philosophy of design education, and influenced why, how, and what design students should, or should not, be exposed to history courses in their education.

Chapter 2 will consider how the emergence of design history as a separate discipline in the 1970s has affected content-related issues in design history classrooms. I assess three facets of design history content: design as a verb, the omission of technology and economic histories, and debates surrounding labeling "good" design. As design historians have wrestled with these topics in their own field, these issues are of importance to the content a design student is introduced to and to what end.

Chapter 3 will assess and analyze various pedagogical methods used in contemporary history courses, as well as the supporting curricular structures. Through case studies and first person interviews, I will assess the approaches to teaching and learning inside the history classroom, and the way institutions sequence history coursework with other liberal arts studies and skill-based instruction. The first-person interviews consists of design history professors from a variety of backgrounds (including art history, design history, and design practice) who all teach at different institutions and thus, within different curricula. Ideas and methods explored in these case studies offer insights and reflections on design history pedagogy. How does a practitioner's approach to the teaching of history differ from a design historian's? How do they differ from the teaching approaches taken by art historians or pedagogues? How do schools program their historical and critical studies sequencing in curricula, and how does it speak to other technical aspects of their training? How do these approaches alter a student's experience of learning

history? If the goal is to expand the practitioner's critical considerations of design in a broader context, socially, economically, and culturally, to train a more critical designer, how can all these variables be assessed to derive the most effective way to achieve these goals?

Chapter 1: Content, Pedagogy, and Curriculum in Historical Case Studies: Influential Frameworks of Design Education

Introduction

Following the Industrial Revolution, the production of material culture was separated into different areas: design, production, and craft.[6] The intellectual conception of a design was no longer exclusively tied to the ability to make. Accordingly, elements of education shifted to the "conception and planning" to prepare graduates for the professional competencies required by a newly industrialized world, prompting inclusion of liberal arts studies. In this chapter, I address, first, industrialists' shaping of early design education and second, the prevailing modernist notion of history as "copyism" promoted by the influential founder of the Bauhaus, Walter Gropius. This historiography will also demonstrate that the liberal arts components of a designer's education were either suppressed or intentionally eliminated, due to the involvement of industrialists (who favored vocational training) as well as the U.S. import of a Modernist viewpoint (which eliminated "traditional" history coursework along with any other opportunities to teach it in a new way) thus stunting the methodological development of how history is taught to designers in the years from 1850 to the late 20th century.

I will analyze the pedagogical approaches to history content in three schools, the École des Beaux-Arts in France (founded 1671), Henry Cole and Government Schools of Design in Great Britain (1837-1890), and The Staatliche Bauhaus in Germany (1919-1933), which set a precedent for the place of history in a designer's education. Then, I will analyze how those forces played out in early schools in the U.S., when a formalized approach to design education was created, from the integration of "manual labor" and "arts education" in Chicago (1890-1930), and how these ideas evolved as modernist pedagogy was imported with designers flocking to the U.S.

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[6] Richard Buchanan, "Design and the New Rhetoric: Productive Arts in the Philosophy of Culture," *Philosophy and Rhetoric* 34, no. 3 (2001): 187.

in World War II exile (1920-1970) with schools such as University of Chicago, School of Art Institute Chicago, Illinois Institute of Technology, and Harvard University.

In this historiography of design education, I will look at the major shifts and intellectual considerations regarding the pedagogical approaches to integrating history courses in design education curriculum, the pedagogical tactics used in the classroom, and content deemed essential for the design student. As schools throughout the 20th century militated against a vocational training of design, this research aims to illuminate how history courses (and the liberal arts broadly) have been considered both essential to that change, and conversely, have suffered under superficial marriages that made the merger between critical studies and practical training a point of contention in curriculum, a merger that schools still grapple with.[7]

Historical Starting Points: New Modes of Education

Prior to design education's formation, a highly developed system of guilds laid the groundwork for a designer's education in the early days of the Industrial Revolution. Starting in medieval times, reaching a zenith in the 16th and 17th centuries, and lingering well into the 20th century, guilds were both institutions of training as well as social groups, formed around apprenticeships in a skill or craft.[8] The guilds functioned as a primary organization of life for many working people and were the main system for the production of goods, operating for the ruling class and relying on patronage.[9] Preceding formal design education, guilds served as the primary producers of objects in a society, and its educational structure was to "provide transferable skills through apprenticeship."[10] This had significant influence on design education

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[7] L.S. Banu states, "the education of designers has yet to be disentangled from classifications of craft." See L. S. Banu, "Defining the Design Deficit in Bangladesh," *Journal of Design History* 22, no. 4 (2009): 310.
[8] Elliott A. Krause, *Death of the Guilds: Professions, States, and the Advance of Capitalism, 1930 to the Present* (New Haven: Yale University Press, 1999), 2-4.
[9] S.R. Epstein, "Craft Guilds, Apprenticeship, and Technological Change in Pre-industrial Europe," *The Journal of Economic History* 58, no. 3 (September 1998): 684.
[10] Ibid.; Jacques R. Giard, "Design Education in Crisis: The Transition from Skills to Knowledge," *Design Issues* 7, no. 1 (Fall 1990): 23.

curricula, promoting the acquisition of a specific vocation (such as woodworking, metalworking, or drafting); elements that are still a main focus in design education today.

When considering the goals and objectives of the guilds (of which liberal arts were not present), history to the guild member would be (what we now call) "a replication of styles". Guild members' use of history would have been to first copy 'popular' styles of the past to produce an economically successful commodity, and secondly, would be used to teach the craft or technical know-how in which the guild education aimed to impart.[11] In this way, through the replication of decoration and forms, history was being copied formally, but not studied socially, contextually, or critically, the way it aims to be taught today.

But as the mass manufacturing needs of the Industrial Revolution continued to drive Western society's development, it created a new concept of a designer that was alienated from the making process. As early as 1769, new mechanisms, like the spinning jenny, began to replace other traditional means of material production, such as the weaving of textiles in the home on a domestic loom.[12] Completely reorganizing society, including inventing the idea of factory and separating the skills of making from the ability to conceive of a design, the Industrial Revolution required new aptitudes for the production of goods, for the traditional means of education no longer serviced this production of goods. As the 19th century turned into the 20th, mass manufacturing and industrialism became the primary production of goods over the guilds, cementing the necessity for education to consider how to educate a designer past a single, vocational competency. Mass manufacturing, and the complexities surrounding it, did not exist in the guild model and could not be addressed in the guild's model of teaching and learning. Throughout the early 20th century, with the rise of industrialism and the gradual demise of the guilds, new formal modes of education had emerged out of the precedent that guilds had

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[11] Krause, *Death of the Guilds,* 7-12.
[12]Robert C. Allen, "The Industrial Revolution in Miniature: The Spinning Jenny in Britain, France, and India." *The Journal of Economic History* 69, no. 4 (2009): 901-09.

established, but addressed new needs for the "conception and planning" of products in mass manufacturing.

1.1 Historical Frameworks of Design Education in Europe

Henry Cole and The South Kensington Museum (1835 – 1890)

In the middle of the 19th century, Great Britain had emerged as a leading power of industrializing nations. Between the development of mechanized manufacturing and the rapid expansion of their colonial power, the empire had both the means to make new forms of objects, as well as ready access to raw materials. Great Britain was one of the first nation states to consider how the role of arts in mass manufacturing could benefit their economy in the design of commodities, prompting debates amongst governments and schools to address how to merge the "arts and manufacturing", prompting a new idea of a designer, which would come to be identified as an industrial designer in the latter half of the 19th century. Central to these debates were various sessions at the British parliament in the 1830s, discussing "key questions regarding the relationship between art, commerce and art education" and Henry Cole, a prominent British economist, education activist, and an organizer of the first World's Fair.[13]

In 1835, Britain lost its place as a purveyor of taste and design. To address this, a parliamentary Select Committee was formed in 1835 to address art and design education's "contribution to the country's economic success." [14] Explicit in their meeting notes were concerns for improving commodity export for England with the aim to improve Britain's gross domestic product. This was important because even though their manufacturing facilities were of the best in the world, "Britain's manufacturing industry had hitherto failed to recognize the importance of

[13] Paul A. C. Sproll. "Matters of Taste and Matters of Commerce: British Government Intervention in Art Education in 1835". *Studies in Art Education* 35.2 (1994) 108.
[14] Mervyn Romans, *Art and Design Education: Histories of Art and Design Education: Collected Essays* (Bristol: Intellect, 2005), 42; Sproll, "Matters of Taste and Matters of Commerce,"105.

employing designers." [15] It was then the duty of the Select Committee to produce a solution to the problem of art and design education, or as Arindam Dutta phrases it, where beauty became bureaucratic.[16]

After almost a year of debate, the Committee issued a report. It called for the allocation of 1,600 pounds to establish a Normal School of Design, which was a "comprehensive program to be instituted in England, recognizing that Art Education was vital to both aesthetic and economic well-being."[17] Thus was established the Government Schools of Design in 1837, with satellite schools across the nation that were determined by local manufacturing specialization. However, their focus was an economic advantage, as stated in the opening paragraphs of the call for education reform: "Yet, to us a peculiarly manufacturing nation, the connection between art and manufacturers is most important, and for this merely economical reason (were there no higher motive) it equally imports us to encourage art in its loftier attributes."[18] The "loftier attributes" of arts were seen as being at the service of the "highest motive" of economic gain, or as the Select committee defined it, "national economic health." The new systems called for new museums and galleries in manufacturing towns, near these new schools of design, so that "products could be improved if designers could study exemplars of decorative art."[19] History courses, therefore, were understood in terms of what was fashionable and what was considered good taste, in order to devise what can be successfully sold.

In the late 1840s, a prominent economist and politician, Henry Cole, was coming into power in British government. Cole perpetuated this idea, if not exacerbated it. He openly criticized the solutions set forth by the Select Committee because after ten years following the Government Schools of Design's inception, Great Britain had not reached the goal of increasing

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[15] British Sessional Papers, *Arts and Manufactures select Committee Report, Vol 5* (London,1853), iii; Sproll, "Matters of Taste and Matters of Commerce,"107.
[16] Arindam Dutta, *The Bureaucracy of Beauty: Design in the Age of Reproducibility* (New York: Routledge, 2007), 6.
[17] Sproll, "Matters of Taste and Matters of Commerce,"110.
[18] British Sessional Papers, *Arts and Manufactures select Committee Report, Vol 5* (London,1853), iii.
[19] Ibid., 109.

their international trade.[20] His solution was the Great Exhibition, in tandem with education reform, to improve the state of design in Great Britain. This in turn would lead to the formation of the South Kensington School and Museum, which offered courses in drawing and designing for manufacturing, which was Cole's sole concern.[21]

Henry Cole aimed at producing an inclusive design survey, a "vast comprehensiveness" as the beginning of what would become the Victoria and Albert collection.[22] He wanted to expose the British public to the productions of the world, to open a world of possibilities for manufacturers and designers. Cole devised The Great Exhibition of 1851 so as to educate and develop the taste of the designers and the general public, who in turn would demand better designed commodities. He saw this task for taste making as something outside and separate from the mechanical capabilities to produce it, stating that, "It is evident that Taste must be the paramount agent in all competitions involving ornamental design...the chances are still very greatly in the favor of Taste over mere mechanical facility."[23]

Following the Great Exhibition, Cole tasked Owen Jones, a prominent British designer, to record a collection of designs, patterns, and ornament found across the Great Exhibition which resulted in Jones's famous text, *The Grammar of Ornament.* Jones agreed with Cole that the production of goods in mass manufacturing was rampant with bad design, stating that the whole of Britain lacked an "entire absence of any common principal in the application of art to manufacturers."[24] Henry Cole saw taste, or the training of the artistic eye, to be the solution to both Owen Jones's concerns of unchecked mechanical reproduction and to the state of economic well-being for his country.

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[20] Gordon Sutton, *Artisan or Artist?: A History of the Teaching of Art and Crafts in English Schools* (Oxford: Pergamon Press, 1967), 57.
[21] Charles Harvey and Jon Press, "John Ruskin and the Ethical Foundations of Morris & Company, 1861-96," *Journal of Business Ethics* 14, no. 3 (Winter 1995): 183.
[22] Jeffery Auerbach, *The Great Exhibition of 1851, A Nation of Display* (New Haven: Yale University Press, 1999), 91.
[23] Henry Cole, *On the International Results of the Exhibition of 1851* (London: D. Rouge,1852), 539.
[24] Owen Jones, *The Grammar of Ornament: illustrated by examples from various styles of ornament* (London: Day and Son, 1856).

Following the exhibition, Cole was named Secretary to the Government Schools of Design and was awarded with 5,000 pounds to purchase items from the exhibition that "might serve as 'models of design and taste'".[25] These collections were used to educate the students of the Normal Schools of Design, and therefore presented a version of history into what was deemed "good taste" in the organizer's eyes.[26] History was taught in order to develop the designer's ability to make relevant and beautiful products, but with the hopes that these educational efforts would result in more economic gains. This became an influential approach to design education, to teach design as a means to create more national revenue, where a metric of "good" became its potential market success, and is still prominent.[27] In 2009, the non-profit group *Design without Borders (DwB)* assessed the city of Bangladesh and deemed that "the study and enhancement of the state of design in Bangladesh was an essential component on its own for socio-economic development", specifically citing a lack of "export-oriented industrial design."[28] Design historian L.S. Banu cites that this report by the DwB does little to reveal a state of design that is centered on Indian traditions, because their citing of a lack of "export oriented design" exposes "a normative definition of design."[29] This normative definition has its roots in the educational establishments that Henry Cole and the Select Committee of 1835 worked to develop and strengthen as industrialists continued their relationship with design education throughout the 20th century. However, when developing new curricula for the new designers of the Industrial Revolution, Henry Cole and The Select Committee had overlooked an existing precedent of how to consider the role of history to the design student, one that provided a rich and multifaceted approach to the study of history, found at the École des Beaux-Arts in France.

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[25] Sutton, *Artisan or Artist,* 58.
[26] Susanna Avery-Quash, "Making Britain healthy, wealthy and wise: Henry Cole and the Society of Arts," *Royal Society for the Encouragement of Arts, Manufactures and Commerce* 146, no. 5487 (1998): 128-129.
[27] Arthur J. Pulos, *U.S Design Ethic: A History of Industrial Design* (Cambridge: MIT Press, 1986), 110-122.
[28] Banu, "Defining the Design Deficit in Bangladesh," 309-311.
[29] Ibid., 311.

École des Beaux- Arts (1671-1900)

Founded in 1671, the Architecture School of the École des Beaux-Arts was the first national government sponsored design school in France. It gave shape to a formal approach to architectural education that existed beyond the guild system or apprentice training models and by the early 19th century, the École had eclipsed the guild system with more students enrolled in its halls than apprentices in French guilds.[30] While the school was focused on architectural training, it serves as an early precedent for structures that address critical studies in professional education. The Beaux-Arts model of education emphasized history courses in conjunction with their ateliers, favoring lessons of classicism which established the "academy" approach to design, particularly taking root in U.S. schools in the late 19th century.[31] While the Beaux-Arts was known for its rigorous emphasis of history, and was criticized for its use of history as "formal copyism," that is not the only way that the École used and valued history in a designer's education. They approached the teaching and learning of history both as an example of formal aspirations as well as a theoretical grounding, a means for debate and critical scrutiny.

Before being admitted, those interested in applying to the École des Beaux-Arts would have to be familiar with Western architectural history as entrance competitions were comprised of 12-hour design charrettes, where students were required to prove classical comprehension in plan, section, and elevation.[32] Once a pupil was admitted, they would enroll in ateliers, the subjects of which were centered around knowledge of historical precedents, requiring students to know, use, and artfully rearrange historical references. In fact, critiques of final projects were often rationalized by historical precedents and defended with the students' choices of historical styles. As Beaux-Arts graduate, Paul Cret, explains,

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[30] Paul P. Cret, "The École des Beaux-Arts and Architectural Education," *The Journal of the American Society of Architectural Historians* 1, no. 2 (1941): 3-6.
[31] Jill Pearlman, "Joseph Hudnut's Other Modernism at the "Harvard Bauhaus," *Journal of the Society of Architectural Historians* 56, no. 4 (December 1997): 452.
[32] Jean Paul Carlhian, "The École Des Beaux-Arts: Modes and Manners," *Journal of Architectural Education* 33, no. 2 (November 1979): 8.

> While superficial appraisal of its merits might condemn it as…an inducement towards copy, its basic value rested upon the fact that…it developed in the student not only a familiarity with, but an attitude towards history. Historical elements, far from being merely illustrations in a book, or a slide on a screen, became his own to use, manipulate and distort. Should he or she one day decide to discard them deliberately, it would be *en connaissance de cause* and not through sheer ignorance[33]

History saturated every aspect of the school including the ateliers, theory courses, and even the student's travels were directed towards countries containing the works of the deceased masters. The value the École saw in the teaching of history rested on debates that assessed the merits of historical case studies, asking questions like: "Was Ange-Jacques Gabriel indeed right in his selection of a colossal order for the central pavilion? Was it correct to run such Corinthian majestic shafts right down to the ground? Wouldn't a pedestal be more appropriate?"[34]

What is seen at the École des Beaux Arts is a use of history in relation to debating the merits of it, and assessing what good practice is through a critical and grounded conversation. Found in the final presentations of the students, history was used as a means of the students' rationale and conversely the critiques of the visiting critics; history as a pedagogical tool served a higher purpose than mere formal copyism. The École des Beaux-Arts linked history to practice; the production of studio work relied on history course content, comprehension, as well as replication. While this model is famous for inciting what is understood as history "copyism", Beaux-Arts' method of using history courses as a means for debate offers an interesting pedagogical tactic that laid dormant in popular approaches to teaching and knowing history in design education for nearly a century.

However, the examination of these courses was oral and was accompanied by a portfolio of drawings of historical subjects, sometimes copied forms and other times artistically interpreted renderings, bringing the notion of history closer to "copying formal attributes." Henry Cole's use of history was used in a way so as to "copy formal attributes," but did not incite the critical reflection the way that other aspects of the École curricula aimed to. Both used history as a means

[33] Ibid., 8.
[34] Ibid., 14-18.

of aesthetic aspirations, forms to be copied and aesthetically understood, but any aspects of how the École des Beaux-Arts used history for "knowing", as seen in their critical debates surrounding the design choices made by historical figures as they related to the context of architectural precedents, Cole's education favored history purely in terms of replicating for making. History course content was meant to be understood solely for the better marketing and sales of manufactured goods, not for contemplation, reconsideration, and debate. École's approach to history was malleable, allowing the content of history to become "his own to use, manipulate and distort" whereas Cole's history was more solidified, offering no debates in the discussions of "good taste," imparting on students a canon determined to service economical ends.

It is the notion of "formal copying" that came under scrutiny in the 20th century and was eliminated in the schools of the modernist. Throughout the 20th century, while design educators deliberately moved away from the historical styles (which were exalted by the École) as to encourage a contemporary expression, they also moved away from forms of "knowing" history in design education that had pedagogical aspirations to instill critical and informed decision-making in the atelier rather than inducing copies of the past.

The Bauhaus (1919-1933)

One such school that was born out of modernist ideals was the influential Bauhaus. Between 1900 and 1920, the Industrial Revolution had continued its march and thus, new means for making were offered by mass manufacturing and in turn, new design movements that responded to new conditions. William Morris in the Arts and Crafts movement (1890-1910) aimed to bring the "joy of work" back to the making and designing of goods, warning against the "inhumanity" of the factory and losing the beauty and spirit of hand making. Conversely, movements like Art Nouveau (1890-1910) and the Deutscher Werkbund (1907) welcomed these changes and developed a new ornament out of the machine, gradually breaking from stylistic expressions of the past. In the 1920s, Modernism continued this march, and took it a step further

to eliminate all ornament, celebrating the precision of machine surfaces unlike any movement prior. Furthermore, Modernism was a response to rampant nationalism (found in national styles and ornament) that had led to the destructive World War I. Therefore, the march to modernism culminated in a complete and utter dismissal of historical styles and thus impacted how history courses were valued in education. The use and the perceived value of history courses in a designer's education had gradually declined in the first several decades of the 20th century and it is made evident in the structure of the Bauhaus, founded by Walter Gropius in 1919.

The Bauhaus remains as a major influence on not only design trends and taste, but as a model for the prevailing design education.[35] In 1919, Walter Gropius and Johannes Itten put forth what was considered a radical educational model, but now it serves as the model for many European and U.S. design schools (fig. 1).[36]

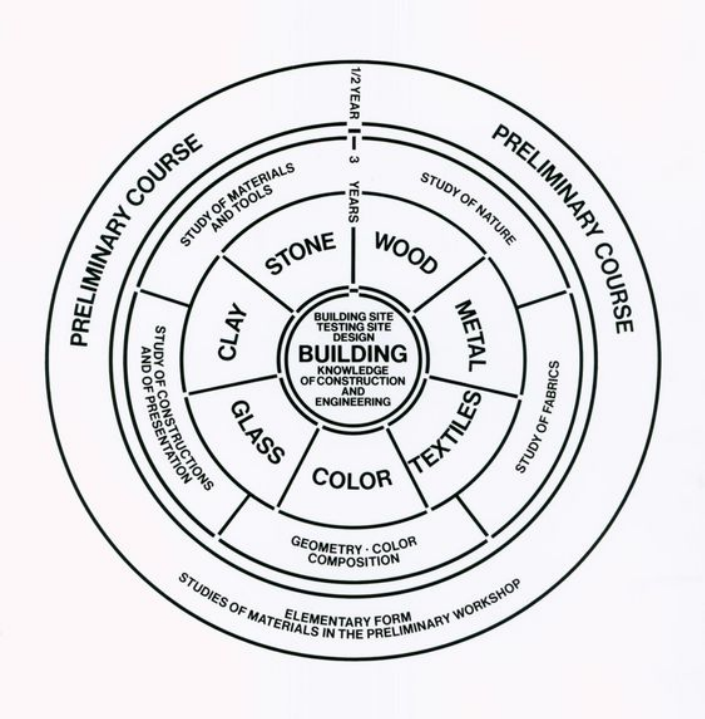

Figure 1. Walter Gropius, Bauhaus Curriculum Wheel, 1923. Bauhaus Archive

[35] Hin Bredendieck, "The Legacy of the Bauhaus," *Art Journal* 22, no. 1 (September 1962): 15.
[36] Fern Lerner, "Foundations for Design Education: Continuing the Bauhaus Vokurs Vision," *Studies in Art Education* 46, no. 3 (April 2005): 211-213.

The Bauhaus had no outlined courses for theory or history, but theoretical ideals were frequently introduced in studio class, as Gropius encouraged exploration "to find their answers from their own research and observation" and to "introduce a method of approach which allows one to tackle a problem according to its peculiar conditions."[37] Central to this method was the first year basic workshops, the *Vokurs,* which were developed by Johannes Itten, the initial director of first year coursework. He adopted an approach to education developed by Friedrich Frobel, a prominent German pedagogue in the early 19th century, which posited "play" as critical to effective learning. Itten used "play" to impart theoretical ideas through design discoveries with open ended activities such as clay modeling emotions and iterative material manipulation.[38] Following Itten's retirement from the first-year director positon, Gropius appointed László Moholy-Nagy, a Hungarian architect who later would become an influential educator in Chicago, Illinois.[39]

As an advocate for the ideals of "play" and self-discovery, Gropius outright rejected the idea of teaching history at the Bauhaus. He did not believe that history courses would best serve design education that aimed to incite a "new expression," stating:

> The student emerges from school filled with historical knowledge, but he has rarely been engaged in trying his own ingenuity in art and in attempting to give form to his own conceptions. By the time he has grown up, he has developed fixed ideas of what art and 'architecture are, and he has ceased to think of them as something to be freely approached and shaped by himself. How can we expect our students to become bold and fearless in thought and action if we encase them in sentimental shrines?[40]

From his point of view, history courses would not encourage "giving form and substance to our own culture." He was even skeptical of teaching theory, reflecting on the decision to not hire Theo van Doesburg in 1922, a contemporary designer and theorist; he said that van Doesburg was "too rigidly theoretical" and would have "wrought havoc in the Bauhaus through his fanatic

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[37] Walter Gropius, "The Bauhaus: Craft or Industry," *Journal of Architectural Education* 18, no. 2 (1963): 32; Lerner, "Foundations for Design Education," 213.
[38] Gropius, "The Bauhaus: Craft or Industry," 32.
[39] Lerner, "Foundations for Design Education," 216.
[40] Walter Gropius, "Tradition and the Center," *Harvard Alumni Bulletin* 53, no. 2 (Oct 14, 1950): 68-71.

attitude which ran counter to my own broader approach."[41] But the model for the Bauhaus wasn't without criticism, even from Gropius, who later reflected on the lack of theory in his school, stating "A corresponding knowledge of theory – which existed in a more rigorous era – must again be established as a basis for practice in visual arts."[42]

A student of the Weimar Bauhaus, Hin Bredendieck, later reflected on his time at the Bauhaus, and says that the emphasis on "play" was necessary for the radical re-thinking of studio practice, but "play" could not constitute as the complete training for design, because "To 'design' means to control the involved factors and deliberately develop the form", and the uncontrolled and non-analytical idea of 'play' could only be a jumping off point, as he explains:

> [in design] There is always some agency operation...which will determine the outcome, form wise or other. But such an agency does not necessarily represent the designer as manipulator of the materials...But it is precisely the aim of design education to impart to the student the means of *achieving authority* and command in order to gain *ascendancy over the accidental*...Therefore, the extent to which a student succeeds in his design depends largely on the attainment of knowledge and understanding.[43]

Bredendieck called for an interjection into play and application, a step he identified as "analysis". He makes clear the divisions between education and professional practice, claiming that the educational aspects of design must concern themselves with the process, and consciously deploy "a deliberate concern with the intellectual aspects of design because…too little of man's intellectual power is used for cultural development."[44]

The use of liberal arts at the Bauhaus was therefore seen as more "integral" to design investigations, but overall was unimportant due to the lack of curricular presence that it should have had, as later critiqued by Walter Gropius himself. Hin Bredendieck's reflections on the curriculum offer insight into how "play", while revolutionary to the field of design education, does not encourage "authority over the accidental." Any criticality that was invoked by the studio directors offer interesting pedagogical experiments that emphasize the making and knowing to be

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[41] Ibid., 32.
[42] Gropius, Gropius and Bayer, *Bauhaus 1919-1928*, 28.
[43] Ibid., 16-17.
[44] Ibid., 20-21.

woven together (and perhaps is the most meaningful way to integrate the two). However, design professionals approaching the teaching of theory and history are much different than that of a social scientist and historian, who have a more vast range of knowledge of their given field of specific study.

The utter rejection of history or theory courses sets a long precedent that schools are still grappling with today; particularly as liberal arts courses still have little to no relationship in their studio work in most design schools. Gropius made it clear that history courses had no place in his curriculum, not even a reconsidered notion of history and how it could be taught. While criticizing the "academy" for promoting "borrowed artistic expression," he unknowingly rejected history as a critical study, not at all to be copied, but to be understood as an evolution that contextualizes modern day practice. Sternly rooted in his ideas that history could only hinder the student, both for artistic expression and out of fear to rise to these "shrines" of history, Gropius carried with him these ideas when he began working at Harvard University, rooting this sentiment in U.S. design education.

1.2 Historical Frameworks for Design Education in the United States

From the late 19th century to the early 20th century, the United States looked to Europe as a model for its general education systems, including higher education for professional design programs. In the 1870s, many high schools instituted the South Kensington training model to prepare graduates for design schools, in order to design for industry. In the 1890s, a fleet of prominent U.S. designers trained at the École des Beaux-Arts and came back to reshape cities in the United States and teach in design schools. Later, in the 1930s and 40s, many former Bauhaus instructors (Walter Gropius, Joseph Albers, László Moholy-Nagy) fled to the United States in the wake of World War II and became educators at universities. What resulted were a mixture of these pedagogical models, implemented in various levels of education (k-12, vocational training,

as well as universities) and their use of history courses being played out in experiments around U.S. design schools.

The growth of the U.S. industry developed simultaneously to the beginnings of their design education. Like the Parliamentary Select Committee in Britain, business leaders advocated for mass instruction of the arts to enhance their competitiveness in global markets.[45] Furthermore, in a capitalistic society, the activity of art had been reduced to an "idle" activity. On the other hand, heeding to lessons learned in England, strict vocational production was interpreted as lacking a "spirit of beauty".[46] Between the years of 1890 and 1925, fine arts instruction was merged with industrial vocational training so that commercial product design would improve in the hopes of improving U.S. export.

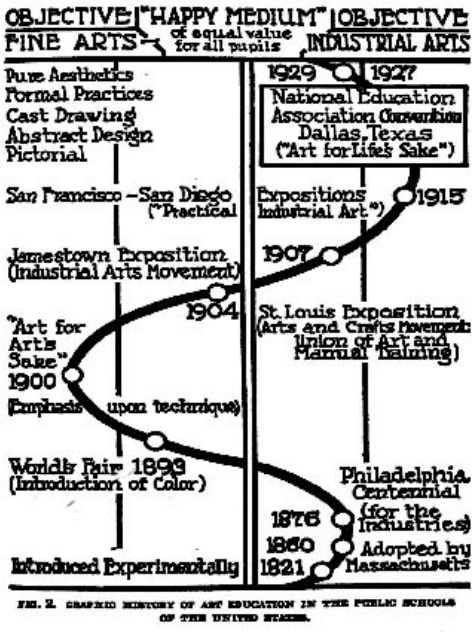

Figure 2. William G. Whitford, Illustration of arts and practical training education merger in the early 20th century, in "An Introduction to Art Education"

[45] Barbara Jaffee, "Before the New Bauhaus: From Industrial Drawing to Art and Design Education in Chicago," *Design Issues* 21, no. 1 (Winter 2005): 41.
[46] Citing a conversation with Dr. Haney, the superintendent of manual training and drawing in New York City Schools in 1902. See interview in L. D. Summers, "The Correlation of Drawing and Manual Training," *The Elementary School Teacher* 4, no. 2 (October 1903): 109.

This reveals a direct influence from the reform of design education in England under Henry Cole's supervision. In fact, in 1870 there was a law passed called "The Free Instruction Drawing Act" in Massachusetts, a law that mandated the teaching of "practical art", or geometric renditions of natural elements, be taught in elementary through secondary schools, favoring the South Kensington style. The state of Massachusetts even hired a graduate of the South Kensington, Walter Smith, to develop and teach the curriculum.[47] This trend would set in motion what was to become decades of the industrial arts and art education being merged to address these economic aspirations through professional training.

Two leading art and design school pedagogues emerged in the U.S. at the turn of the century that were influential to a generation of art and design educators; Arthur Wesley Dow at Pratt Institute, and Denman Waldo Ross at Harvard University. Dow, who also worked as the director of the Art and Industrial Art department at the Teachers College at Columbia University, operated and promoted what he labeled *synthetic pedagogy* in his book, *Composition,* which emphasized originality and personal exploration rather than the copying of forms from history or nature, not unlike the Walter Gropius's forthcoming manifestos.[48] Ross published his own pedagogical theory in 1907, titled *A Theory of Pure Design*. More widely disseminated than Dow's book, it was influential among art and design educators. Ross was internationally known for lectures on theory of design, which emphasized studying the past and applying these "scientific observations" to present art, and sought to "develop a rational, scientific theory" for design and art production and explicitly states that "There should be no direct imitation, no copying."[49]

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[47] Also of note, geometric rendering, or "practical" art was the productive form of "picture making" which was viewed as a female, leisure activity. Similar to this also existed in Maine and New York. See Robert J. Saunders, "Art, Industrial Art, and the 200 Years War," *Art Education* 29, no. 1 (January 1976): 5.
[48] Jaffee, "Before the New Bauhaus," 45.
[49] Denman Waldo Ross, *A Theory of Pure Design: Harmony, Balance, Rhythm* (Boston: Houghton, Mifflin, 1947), 190.

Furthermore, it is during this time that progressive education became popular, emboldened in part by the merging of vocational education with arts education. John Dewey observed this in his time at University of Chicago, producing pedagogical theories stating that the action of "doing" offered more learning experiences than "telling," a theory inspired by observing home economics classes in Chicago high schools, itself another import from Europe.[50] Dewey emphasized that action based, problem-solving and collaborative oriented learning is the most effective way to educate. "Learning by doing" became the rallying cry for progressive educators, after years of dissatisfaction with rigid academic approaches that favored lecture halls and textbooks.[51] What Dewey came to embrace was an action-oriented, real world problem-solving education because he believed it was the most powerful means to invoke intelligence in humanity.[52] Dewey's ideas resonated with art and design educators, including Joseph Hudnut who shaped Harvard's curriculum along with Walter Gropius. Hudnut, as we will see later, was a strong advocate of teaching history, especially in experimental forms.

Art education and industrial art education became integrated at the turn of the 20th century in order to meet these changing societal needs. In this way, the United States responded to the societal implications created by the Industrial Revolution by merging art education with instruction in manufacturing.[53] It was a hard reconciliation, one that ended up in the separation of the two because fine arts was to be seen as "unique and creative" designs made by craftsmen and the industrial arts stressed mass production, patterns, and mold castings necessary for manufacturing; the leisure and luxury activity of fine arts was becoming incompatible with the vocational and middle class activity of industrial arts.[54] This rupture caused design programs to either adapt to a more artistic approach while remaining as a separate program in art schools, or

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[50] Shop classes were imported from sloyd education that was popular in Sweden. See Summers, "The Correlation of Drawing and Manual Training," 113-114.
[51] Saunders, "Art, Industrial Art, and the 200 Years War," 7-8.
[52] Lee Benson, Ira Harkavy, and John Puckett, "Dewey at the University of Chicago, 1894-1904," in *Dewey's Dream* (Philadelphia, PA: Temple University Press, 2007), 25.
[53] Saunders, "Art, Industrial Art, and the 200 Years War," 8.
[54] Ibid., 9.

re-located to other areas of the university to create a Bachelor of Science degree, focusing on the more industrial competencies than aesthetic studies found in the Bachelor of Fine Arts degrees. This can still be seen today, as product and industrial design programs are still offered as a BFA or as a BS (see Appendix 1 & 3).

When exiled German designers and teachers started to make their way to the United States during and post WWII, industrial and product design education became its own field of study outside of fine arts. Between the European influences and a distinctly United States perspective on pedagogy, what emerged was a separate, yet related, identity of art and design higher education from its European precedents. The way that history was taught, or not, either leaned on history for re-production, was reconsidered in light of Dewey's theories on learning by doing, or continued to be ignored due to the large amount of influence that European modernist had on U.S. design education during the middle of the 20th century.

Art Institute of Chicago

Beginning in the latter half of the 19th century, Chicago was a premier city in the United States, both economically and culturally. In addition to a dominant printing press industry, which produced one of the first fleets of what we now consider of professional graphic designers, the city was also a design tastemaker with Beaux Arts influenced architects like Daniel Burnham and sculptors like Leonardo Taft. Chicago's printing industry was essential to their beginnings as a center of design education in the U.S. in that it started before the advent of photo mechanical reproduction, which meant it required skilled renderers and relied on education systems that address both artistic skills and mechanical knowledge of mass production. Out of these conditions, two major cultural institutions developed art and design schooling systems, the Art Institute of Chicago and the University of Chicago. However, both had different overarching curricular focuses; the Art Institute being a fine arts school while the University of Chicago was a

liberal arts school.[55] The programs to be developed were integrated art and design curricula which had interesting results for the ways in which they taught, or did not teach, history courses.

What would become the School of Art Institute of Chicago (SIAC) in 1882 was originally founded in 1866 as The Chicago Academy of Design and offered three courses in the South Kensington style drawing for manufacturers; *Outline Drawing and Shading the Flat*, *Drawing from the Antiques,* and *Drawing and Painting from Life*.[56] The school was borne out of, and evolved along with, economic interests, holding the belief that an arts education was vital to a thriving economy. Additionally, the school developed a museum to house a new collection.[57] This aspect directly replicates Henry Cole's motivations in starting the collection at South Kensington, to increase national export through a curriculum that was mainly driven by the studying of accepted and tasteful forms. Following the U.S. embarrassment in the 1889 World's Fair in Paris, U.S. art schools (and the public schooling system at large) began to integrate "drawing instruction" and "manual training", to embrace the "industrial value" of art and a nationwide movement happened to incorporate traditional art training and industrial techniques.[58]

In the beginning, Art Institute students learned a curriculum focused on drawing. However, during the 1890s, after the appointment of W.M.R. French as the director, the curriculum began to address a broader scope. French explained: "The different aspects of art education group themselves under the three heads of practice, theory and history, of which the first is the most important in an art school, but the others ought not to be neglected." Drawing was the most important, with four rigorous sections required for graduation. Of the four, the first three were "different grades of antique studies," which were often taught using the Art Institute's

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[55] Jaffee, "Before the New Bauhaus," 42.
[56] School of the Art Institute of Chicago (SAIC), "History and Quick Facts: Timeline," SAIC - School of the Art Institute of Chicago, accessed May 31, 2017. For references to how drawing dominated curriculum, see W. M. R. French, "The School of the Art Institute of Chicago," *Brush and Pencil* 1, no. 2 (November 1897).
[57] Sylvia Rhor, "Every Walk of Life and Every Degree of Education: Museum Instruction at The Art Institute of Chicago, 1879-1955," *Art Institute of Chicago Museum Studies* 29, no. 1 (2003): 22
[58] Summers, "The Correlation of Drawing and Manual Training,"109; Jaffee, "Before the New Bauhaus," 43.

museum collection.[59] This resulted in many students being led through the galleries with artist-lecturers who would teach history in formal and stylistic aspects, teaching them "what to look for", which discriminated by relying on well-established canons of taste, an inherited method from the École des Beaux-Arts.[60] This idea perpetuates history as a lesson in taste to replicate, rather than a critical study in which to derive a context for practice.

One such artist/lecturer was Leonardo Taft, instructor and curator of sculpture who was an École des Beaux-Arts graduate and was known for his entertaining persona. He was even asked to tour the United States, delivering accessible presentation on histories of art, in which he sculpted "clay in real time to illustrate his points and avoided technical jargon in favor of a witty, conversational speaking style."[61] This fusion of real-time practice and history lessons speaks to what French had stated about the school's objectives, combining the three heads of "practice, theory and history." It would have been interesting to see the ways in which Taft synthesized or conveyed history as a practitioner, to practitioners in training, as he was in the process of art making. In the *Brush and Pencil,* French makes mention of history courses (after all, it was "not to be forgotten"), stating, "On the historical side of the subject, provision is made by lecturers, illustrated both by the stereopticon and by the collection in the galleries."[62]

This small excerpt shows that history was taught to directly inform or inspire traditional methods of making, not too far from a craft or guild system, as it illustrated established canons of taste. Much like Henry Cole's approaches, history was understood as a mimicking tool to either render acceptable and popular forms or was taught in the service of training the hand to draw. However, Taft's approach to teaching history offers interesting pedagogical insights into how to explain history content to practitioners through the mechanisms of their craft and the process of

[59] French, "The School of the Art Institute of Chicago," 34-37.
[60] Rhor, "Every Walk of Life and Every Degree of Education," 34.
[61] Ibid., 25.
[62] French, "The School of the Art Institute of Chicago," 40.

making, synthesizing lessons of history through the channels of knowledge that designers are most familiar with.

These methods, and emphasis on figure drawing, drew public criticism from Georgia O'Keefe and the Metropolitan Museum of Art in New York City, who rejected their submission to the Armory show in 1913. This prompted the school to appoint a new director in 1917, the progressive educator George William Eggers.[63] Immediately, he reformed the curriculum, instituting an approach that was more concerned with critical studies, including the founding of one of the first, formalized art history surveys in the U.S., taught by University of Chicago graduate, Helen Gardner who embodied ideals that were taught to her by University of Chicago's progressive educator, Walter Sargent.

University of Chicago

Founded in 1892, The University of Chicago's first president, William Rainey Harper, focused "on the relationship between industrialism and democracy in the urban setting." This gave rise to a number of sociological studies on art and aesthetics from the onset; however, no courses in art or art history.[64] In late 1890, Harper appointed Walter Sargent to the position of art instructor, who also promoted a democratic approach to design that operated under the notion of "scientific observation" through history, and critical and nature based studies. Furthermore, he advocated that central to a student's capability to learn was asking them questions, rather than telling them answers (or lecturing), outright rejecting what he called "the vocational approach of South Kensington."[65] Sargent introduced a course, *Composition* that ended up being cross-offered in the art history department.

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[63] Jaffee, "Before the New Bauhaus," 46-48.
[64] Ibid., 50.
[65] This was influenced by peer Henry Turner Bailey, a fellow graduate of the Massachusetts College of Art who wrote a report in 1896 titled *Sixty First Annual Report of the Board of Education of the State of Massachusetts,* and both were students of Deman W Ross. See Jaffee, "Before the New Bauhaus,"47-55.

Around the turn of the century, Sargent was appointed director of the department and immediately began to work reforming the curriculum. He integrated the art disciplines and emphasized the connection between art of the past and the present. Two of his four main objectives included "An opportunity to develop an intelligent enjoyment of the *world's artistic inheritance"* and *"*To reach a wider sphere by training teachers in history, theory and practice of the arts who will be able to present art in such a way that it will enter the daily lives of students,"[66] and what resulted from his curricular overhaul was an integration of theory and history into practice, not only in the curriculum, but through the training of faculty. Professors were specifically trained to be able to speak intelligently to all three aspects, bringing a deliberate interdisciplinary approach to teaching which aimed at helping students think across courses and skills. The success of this approach can be seen in a record number of students registered for history electives in the third year of the new curriculum in 1927.[67] However, following Sargent's untimely death, any progress he had made in the way of pedagogical integration of history and practice ended with his replacement, Robert Maynard Hutchins, who returned to a more traditional approach.

Sargent's legacy carried on over at Art Institute of Chicago, with the appointment of Helen Gardner who applied his ideals to her history course titled *Art Through the Ages.* She went on to write one of the most infamous art history textbooks, under the same name, and it was the first textbook of its kind that was written in English, both in scope and size.[68] She was deeply influenced by Sargent's relentless call for the democratic knowing of design ideals, and emphasis was placed – both in the text and in her classroom – on design analysis and problem-solving.[69] In that year's SAIC course catalog, the course was described as, "an intensive study of certain

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[66] "Chicago Tribune Archive - issue from April 17, 1927," Chicago Tribune April 17, 1927 | Chicago Tribune Archive, April 17, 1927, accessed July 17, 2017, http://archives.chicagotribune.com/1927/04/17/.
[67] Jaffee, "Before the New Bauhaus," 53.
[68] Themina Kader, "The Bible of Art History: Gardner's 'Art Through the Ages'," *Studies in Art Education* 41, no. 2 (Winter 2000): 167.
[69] Ibid., 169.

phases of art so presented as to be of particular value to [the] student as their training becomes more specialized."[70] It is also of note that she made this textbook after she had been teaching, and wrote it "understanding the needs of both students and teachers… and would serve as a method of study and teaching." Furthermore, in the second edition she included a 9-page illustration to summarize visual elements of art expression, connecting the historical material back to the practice of art and design making, something she was always keenly aware of.

Gardner's survey was centered on design ideals and included craft objects and machine-made artifacts in the survey; mass manufactured items next to one-of-a-kind art works. She also worked tirelessly through the first three editions to make the text more globally focused. However, little of this integrated approach remains in the editions today. After her death in 1946, and after raising tensions in the Cold War, the publishers of the fourth edition erased many of these integrated and global narratives, returning to "traditional hierarchies", eliminating many of the mass-produced objects and reinforcing European and U.S. single artists and their great works of art.[71] Following this rupture, schools were soon to follow in separating their fine arts and industrial design degrees from one another but, in some cases, the industrial design programs remained in art schools and thus were required to take art history classes (with the initial design principals and histories removed), which can still be seen in curricula today (see Appendix 2). In other cases, the influx of European modernists (fleeing Nazi Germany in WWII) in the U.S. created the opportunity for design programs to be conceived separately from their relationship to art programs, as was the case in László Moholy-Nagy's Institute of Design in Chicago in 1937.

Institute of Design, Chicago and Illinois Institute of Technology

After László Moholy-Nagy began his exile in the United States, he settled in Chicago and founded the New Bauhaus: American School of Design. While the Bauhaus in Germany should be noted for its development of what can be understood as "design thinking" through

[70] Jaffee, "Before the New Bauhaus," 55.
[71] Ibid., 50.

investigations of play and material inquiry, it wasn't until the Bauhaus moved to the U.S. that design theory really took a footing and was integral to the curriculum in a deliberate and pedagogical manner – adding a series of analytical courses, including physical sciences and social sciences.[72]

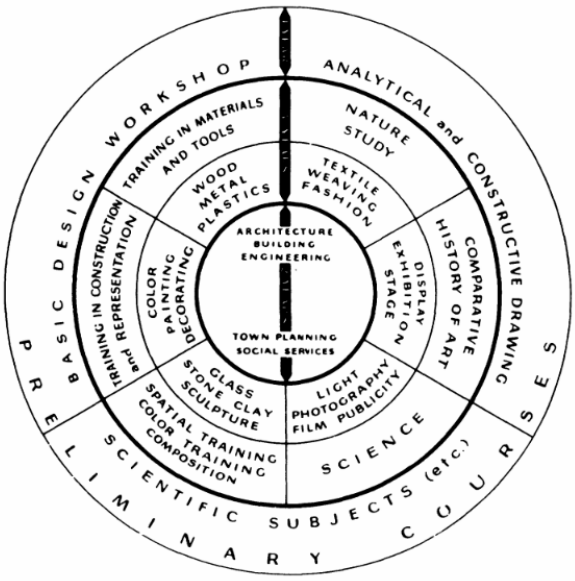

Figure 3. Moholy Nagy, Curriculum Wheel, 1937. Bauhaus Archive.

Hired to lead this part of the new curriculum was Charles Morris, a graduate of philosophy from University of Chicago, who wrote about the importance of critical studies in art and design education, citing that "it must be recognized that objects have value properties among their total set of properties, and that aesthetic media can embody...the value or value structure in question."[73] This complemented Moholy-Nagy's theories regarding "organic functionalism,"

[72]Back in Germany, Hannes Meyer had brought in experts from other fields of academia to give special lectures, but it was only after Moholy-Nagy moved to Chicago that design theory became a requirement, taught by philosophers and scientists, see Gunnar Swanson, "Graphic Design Education as a Liberal Art: Design and Knowledge in the University and the Real World," *Design Issues* 10, no. 1 (1994): 54; Alain Findeli and Charlotte Benton, "Design Education and Industry: The Laborious Beginnings of the Institute of Design in Chicago in 1944," *Journal of Design History* 4, no. 2 (1991): 98-99.

[73] Charles W. Morris, "Science, Art and Technology," *The Kenyon Review* 1, no. 4 (Autumn 1939): 415.

where the functionalist aspect "means here not a pure mechanical service. It includes also the psychological, social and economic conditions of a given period."[74]

At this point, history courses were added in a deliberate manner to the Bauhaus curriculum wheel, titled "Comparative History of Art" (with "Nature Study" being taught at the same time).[75] In his personal manifesto, *The New Vision & Abstract of an Artist,* Moholy-Nagy describes his approach to the idea of history in relation to art and design education. He explains that historicizing of art movements, like science, "strives to establish a better control of our environment through more related research and representation." He goes on to refer to the main tenet of his education manifesto; that a designer must be designing for his times, citing that Cubist artists were experimenting with "their way of looking at the world...and in their intuitive understanding of the problems of their time."[76]

We can begin to see what Moholy-Nagy values in the teaching of history and therefore would not be what Gropius condemned, teaching a history of styles intending to lead students to be "gripped by tradition." Rather, Moholy-Nagy situates the information in a way that was a precedent for students to understand how past movements tackled and interpreted their contemporary problems. This suggests that the "*design process*" was also an important element to his telling of history, or design as a verb rather than a finished noun, an aspect that has been critiqued as missing from design history canons today (and will be discussed in more detail in Chapter 2).[77]

Furthermore, Moholy-Nagy's writings allude to his influence from Dewey, suggesting that he would perhaps approach history teaching in a way that would be much different than a

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[74] László Moholy-Nagy and Daphne M. Hoffmann, *The New Vision and Abstract of an Artist,* 4th ed. (New York: Wittenborn, Schultz, 1947), 29.
[75] Alain Findeli, "Moholy-Nagy's Design Pedagogy in Chicago (1937-46)," *Design Issues* 7, no. 1 (Autumn 1990): 7.
[76] Moholy-Nagy and Hoffmann, *The New Vision*, 32.
[77] László Moholy-Nagy, *Vision in Motion* (Chicago, IL: Theobald, 1969), *23.*

"traditional" lecture and writing focused course. In a later manifesto titled *Vision in Motion,* Moholy-Nagy explains his qualms with education, particularly a lecture style, stating,

> The speedy dispensation of education…provided the masses with a quick training but threw overboard its purpose, namely that 'not knowledge but the power to acquire knowledge is the goal of education' was circumvented. The masses received training by verbalization, emphasizing the process of receiving rather than producing.[78]

His educational ideals were rooted in the ideas of contemporaries such as John Dewey's learning-by-doing method, as well as his origins as a Bauhaus advocate for "play" in courses like Design Fundamentals. However, he steps beyond the constraints that Gropius put on theory and history, to explain that a designer needs these too:

> The knowledge of historical continuity is one of man's most valuable stepping stones in his evolutionary progress. The purposeful accumulation of experiences can protect him from the repetition of mistakes, so that his creative power can gradually be saved for socially productive tasks. This productivity should be the alpha and omega of education, the translating of all the elements of learning into a creative sociobiological living.[79]

However, Moholy-Nagy's approach to education would become a problem for the board of directors. Comprised of mostly industrialists who were angered by the pedagogical focus (unsure if the school was a breeding ground for teachers or designers), shut it down in 1938. To save the school, Walter Paepcke, a prominent industrialist and design patron, formed a new board of directors for the school, all of whom were industrialists. This re-structuring marks the third and final phase, and the *Institute of Design* was inaugurated on March 28, 1944.[80] However, the same fate was to come as the new board of directors called for curriculum reform in 1946, criticizing what they perceived to be "the priority [that] was given to the professional aspect of the teaching at the expense of artistic training." The board of directors wanted to see the curriculum shift back to more industry focus, considering post war manufacturing, of which Moholy-Nagy was aware and even responded, "Our curriculum doesn't fit into the competitive mood of an approaching

[78] Moholy-Nagy, *Vision in Motion*, 17-18.
[79] Moholy-Nagy, *Vision in Motion*, 23-24.
[80] Findeli and Benton, "Design Education and Industry," 100-103

post war boom, because we refuse to promise a two-semester training for a bread winning job."[81] This also impacted the history course, for Moholy-Nagy's approach had shifted away from a history of styles and towards a history of process and context – which did not agree with the industrialists' need for designers to reproduce economically successful styles, favoring a canon that was based in luxury or market success rather than critical insights and considerations.

We can see once again that corporate involvement, whose interests centered on the training of an aesthetic eye for mass production, controlled the pedagogical efforts to integrate critical studies and design education. While the board of directors weren't inherently against history, they were against Moholy-Nagy not focusing on "design instruction", or, vocational training and perhaps they would have preferred a style of history taught in a similar way in the early days of the Art Institute of Chicago, where history courses focused on introducing students to past masters for the purposes of formal copying. In this way, vocational interests held a grip, yet again, in design education, especially when it came to critical studies because those were the first courses to be targeted by the board for erasure. In an analysis of the merger between Paepcke and Moholy-Nagy, theorist and author Alain Findeli concludes with "the educational project and the industrial project belong to different and irreconcilable time spans and values."[82] This has created a situation that is still irreconcilable today.

Harvard and The Shadow of History

While Harvard's architectural department does not directly speak to industrial or product design education, the repercussions of its pedagogical battles between Joseph Hudnut, founder of Harvard's Graduate School of Design (GSD) in 1936, and Walter Gropius offer insights into disparate opinions on the value of history courses in a designer's education. Hudnut was trained in a Beaux-Arts style, but embraced modernist ideals regarding the social function of architecture. Hudnut was an advocate for teaching history, stating that it rooted design education "in the larger

[81] Moholy-Nagy, *Moholy-Nagy: Experiment in Totality*, 216.
[82] Findeli and Benton, "Design Education and Industry," 111.

humanistic traditions of architecture and civic design."[83] Prior to Harvard, he had a successful architectural practice and taught architectural history and studio courses at the University of Virginia, MIT, and Columbia. Hudnut frequently altered the history offerings, making contemporary architecture a prominent feature of curricula because he believed that in order to make the history lessons valuable they needed to be understood as part of a continuity, citing the teaching of history "afforded the students an essential 'experience of architecture' not as an assemblage of elements but as a unified and inseparable whole."[84] However, he was very explicit about how history courses were to function in the GSD, and immediately worked to eliminate (what he called) a Beaux-Arts "copyism" by getting rid of competitions, formal rendering requirements, and even went as far as banishing books in the library.[85] Hudnut was explicit in his concern for history courses being used to develop a critical designer, exploring methods that combined "the mind and the hand", or liberal arts and studio practice.

Soon after he started his position, Hudnut's first appointment to a tenure position was Walter. Hudnut admired Walter Gropius for his focus on the advancement of architectural pedagogy. While this started as mutual admiration, Gropius became adamant about importing his Bauhaus ideals, including the belief that the teaching of history led to "fixed ideas of what art and architecture are," and worked to eliminate all forms of history in the Harvard curriculum.[86] Conversely, Hudnut worked tirelessly to prove to Gropius he was after something different in his history teachings, and not encouraging "fixed ideas of what art and architecture are." He frequently spoke at professional conferences, stating that his history courses are not for copying, but to "court [students] into aesthetic experiences, startle them into observation and new

[83] Pearlman, "Joseph Hudnut's Other Modernism," 452.
[84] Ibid., 456-457.
[85] Ibid., 459-60.
[86] Walter Gropius, "Tradition and the Center," *Harvard Alumni Bulletin* 53, no. 2 (Oct 14, 1950): 68-71; Pearlman, "Joseph Hudnut's Other Modernism," 470.

impressions."[87] In this way, Hudnut's view on history classes works for the same ends that Gropius's courses in "play" did, where the "chief function is to liberate the individual by breaking down conventional patterns of thought," but through different avenues and with different knowledge.[88] Furthermore, Hudnut's approach to history also involved aspects of history that spoke to the histories of the making of the design, not just the finished product, for showing the process allowed "the student to follow in a sharper focus the step-by-step formulation of works of architecture; projecting himself into the thought and feeling of the designer; knowing more intimately his ideals, his difficulties, his mode of attack; understanding more deeply the values that an architect prizes."[89]

As both a practitioner and a historian, Hudnut saw the value in presenting history not only as a result of societies, cultures, and politics, but also as the result of the very real personalities and circumstance developing these buildings and sought to teach design history as a verb, rather than history as a relic or a noun. Design process, a central concern for design education today and the chief objective for studio coursework, was the method by which Hudnut, and Moholy-Nagy, sought to pedagogically impart lessons of history through design students. However, when it was all said and done, Walter Gropius's wishes won and the curriculum was changed to eliminate most history courses and replace them with his course, *Design Basics*. History as a subject of critical study was abolished, yet again, consolidating a position that would plague design education into the 21st century.

Conclusions

In the years following the Industrial Revolution, design education started to address not only the skill-based instruction that preceded it, but also attempted to make curricula speak to

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[87] Joseph Hudnut, "On Teaching the History of Architecture," *Journal of Architectural Education (1947-1974)* 12, no. 2 (Summer 1957): 6.
[88] Gropius, Gropius and Bayer, *Bauhaus 1919-1928*, 28.
[89] Hudnut, "On Teaching the History of Architecture," 7.

more abstract forms of knowledge, prompting the conjunction of "making" and "knowing" in students' coursework.[90] While there was some experimentation, in most cases this marriage between practical training and liberal arts, history courses in particular, were made tenuously, eliminated altogether, and in some cases where experimentation did happen, it was not sustained due to the industrialists early shaping of design education as well as Walter Gropius's de-valuing of history coursework. In the face of all of these forces, however, there were some pedagogical approaches that are worth noting.

While, most certainly, the requirement for formal copying should be (and has been) eliminated from studio coursework, the Beaux-Arts approach to teaching history as debate offers pedagogical insights that are still relevant to that larger context of how history courses are taught. In an essay by Leonard Calder, chair of the department of history at Augustana College, titled "Towards a Signature Pedagogy," Calder discusses the methods of a history course, provocating the students to debate and compare various historical accounts to then engage in the "methods and questions of a real historian", rather than basing the history course on lectures and coverage assessment. This method of debate also speaks to John Dewey's credo "learning by doing". Separated by over 150 years, Calder's course and the École des Beaux-Arts' approach have similar tactics; yet (relative to one another) remain at the fringes of history course formats. This empowers the student to take ownership over the history course content as well as develop a relationship with it; the act of assessing how well a design performs will incite a critical reflection on the performance of their own work. This form of a history course would address some of the problems Moholy-Nagy saw in education:

> To be well educated today one must have memorized the seemingly useful experiences of the past in order to be able to repeat them mechanically on the proper occasion...They are the prototypes of an education which advertises learning through quantitative verbal information, turning away from the practice of self-experience and self-expression.[91]

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[90] Giard, "Design Education in Crisis," 23.
[91] László Moholy-Nagy, *Vision in Motion* (Chicago, IL: Theobald, 1969), 22.

In fact, in his history courses, Moholy-Nagy aimed to elucidate past designers' "self-expression" in a presentation of the design process, as opposed to design as a noun or a relic, something that Joseph Hudnut advocated for, yet remains a problem in design history today (and will be assessed in the next chapter). Pedagogically linking his desire for designers to assess the needs for their contemporary times, he presented "their way of looking at the world...and in their intuitive understanding of the problems of their time."[92]

Moholy-Nagy's philosophy of promoting self-experience and self-expression was inherited from his time at The Bauhaus, whose founding member, Walter Gropius, expressed similar sentiments that "good education, aiming at preparing the individual for a creative attitude…must certainly lead him beyond mere fact information and book knowledge." The Bauhaus is revolutionary in its radical call for a new expression, rooted in "play" and individual exploration and should be applauded for this approach, for it allowed the training of designers to be assessed in a personal development of a student, rather than their ability to conform and perform to a specific cultural expression such as one would be assessed at the Beaux-Arts. This not only benefits individual students, but ideally allows for more diversity in an educational institution. However, in this approach, Gropius saw history courses as the main antithesis of his ideals, which inspired "fixed ideas of what art is and that they have ceased to think of it as to be freely approached and recreated by them." His adversary, Josef Hudnut, saw the history classroom the exact opposite way, as grounds for critically and creatively expanding what the student considered to be design.

The potential solution to these discrepancies lies in what curriculum designers and pedagogues have been revisiting, which is an interdisciplinary approach to education. This was realized at University of Chicago, under Walter Sargent who integrated the training "training teachers in history, theory and practice of the arts" which led to a large increase of students

[92] Moholy-Nagy and Hoffmann, *The New Vision*, 32.

enrolling in history course electives in the following years.[93] However, this pedagogical approach was stamped out by industrialists, who criticized "the priority [that] was given to the professional aspect of the teaching at the expense of artistic training."[94] We are still undoing these actions in design education today, as will be seen in chapters 2 and 3 where an integrated approach to teaching the liberal arts and studio coursework remains a popular objective. A merger between critical studies, including history coursework, and design making would address John Dewey's ideas of "learning by doing", Gropius's assertion that "knowledge can be learned by experience only," and would even speak to the enigmatic tactics of Leonardo Taft, who illustrated history lessons by replicating the making in tandem with the discourse of history – which proved a popular course at School of the Art Institute of Chicago.

While there are many notable and necessary experiments in design pedagogy today (which will be reviewed in the coming chapters), many contemporary universities replicate experiments in design education from long ago, illustrated in this short overview. However, due to a stunt of methodological development in design education's relationship to history coursework, spurred by both industrialists' control over design education formation and Walter's Gropius's popular pedagogy, design education is picking up the pieces and only recently has been experimenting again to meaningfully engage design students in history courses through content, pedagogy, and curricular structures.

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[93] "Chicago Tribune Archive - issue from April 17, 1927," Chicago Tribune April 17, 1927 | Chicago Tribune Archive, April 17, 1927, accessed July 17, 2017, http://archives.chicagotribune.com/1927/04/17/.
[94] Moholy-Nagy, *Moholy-Nagy: Experiment in Totality*, 216.

Chapter 2: Content in Design History: The Field of Design History's Impact on Design Education

Introduction

In the United States, design history emerged as a field in the 1970s and 80s. The professionalization of the design history field (which was borne out of inquiries from the field of decorative arts, art history, material culture, and anthropology) is evident in various graduate degree programs as well as professional organizations, printed periodicals, and new museums devoted to the field of design history.[95] In parallel establishment, undergraduate degrees in product design and industrial design product became more widespread, prompting a wider field of opinions around what design education should look like.[96] As curricula evolved between 1970 and 2000, history courses became mandated by art and design accreditation boards, prompting forms of history to become available to the design student.[97]

In these formative years of the 1970s/80s and through the last decade, design schools and design history have both grappled with what product design is, how to teach it, and what the boundaries of design activity are. Both sectors, design education and design history (or "design education pedagogues" and "design historians"), have negotiated these questions independently. Paradoxically, this is why design history courses are so important to the design student because "history establishes tradition, and therefore, a coherence to an activity," helping to inform the student's definition of design.[98] When considering the multitude of individuals that teach history, and therefore the multitude of narratives, histories, activities, and approaches to content within

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[95] Various authors have mapped how different fields of studies have influenced design history methodologies, see Victor Margolin, "Design History or Design Studies: Subject Matter and Methods," *Design Studies* 13, no. 2 (Spring 1992): 4; Pauline Garvey and Adam Drazin, "Design Dispersed: Design History, Design Practice and Anthropology," *Journal of Design History* 29, no. 1 (2016): 1-2; Williams and Rieger, "A Design History of Design," 15.
[96] Katherine McCoy, "Professional Design Education: An Opinion and a Proposal," *Design Issues* 7, no. 1 (Autumn 1990): 20; Giard, "Design Education in Crisis," 24-25.
[97] C. Dilnot, "Some Futures for Design History?" *Journal of Design History* 22, no. 4 (2009): 389.
[98] Clive Dilnot, "The State of Design History, Part I: Mapping the Field," *Design Issues* 1, no. 1 (Spring 1984): 8.

these courses, which ones are most effective in achieving the outcomes of history coursework in a designer's education? History courses remain as one of the most important courses for the design student because its objectives aim to elucidate "significant ideas, events, objects and practices and at the same time encourages students to think critically and analytically about that they see and read."[99]

As illustrated in my last chapter, the industrialists' control over design schools' formation has left them in a situation where manual skills continue to be the "underlying, if not the principal element of industrial design education today," resulting in significantly less consideration given to the content and methods in which we teach history courses (compared to evolutions within practice-based coursework, like studio) to the design student.[100] Additionally, the preferred content that was covered in history courses was driven by these industrialists, who favored canons derived from market success in order for professional designers to replicate those styles to improve sales.

Furthermore, the result of Walter Gropius's stamping out of history as meaningful coursework in design schools left history professors in a situation where they were unable to develop methods or content to teach students of product or industrial design, which in turn led to borrowed methods and content from the established fields of art history, as most design programs were in art schools and thus were taking art history courses. This resulted in a variety of issues, such as surveys that presented "industrial products to the level of artworks, or the view that they are like minor siblings of architecture" as well as relying on the "great-artist" mode of narrative and curricula that (to this day) favors art over design history.[101]

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[99] Lichtman, "Reconsidering the History of Design Survey," 341.
[100] Giard, "Design Education in Crisis," 24; Robin Vande Zande, "Teaching Design Education for Cultural, Pedagogical, and Economic Aims." *Studies in Art Education* 51, no. 3 (2010): 250.
[101] See curricula that favors Art History in Table1- most private schools still rely on art history courses. See discussion around design history's methods relationship to other fields of history: Raimonda Riccini, "Innovation as a Field of Historical Knowledge for Industrial Design," *Design Issues* 17, no. 4 (Autumn 2001): 26; Dilnot, "The State of Design History," 11-12; Margolin, "Design History or Design Studies," 4; Banu, "Defining the Design Deficit in Bangladesh," 310; Lichtman, "Reconsidering the History of Design

The work of design historians in the late 20th century aimed to address these issues, with important texts such as Clive Dilnot's "The State of Design History, Part I: Mapping the Field" and new journals such as *Design Issues, The Journal of Design History, Design Studies,* the *AIGA Journal, and Émigré* have demonstrated that design is a subject that can sustain critical discourse.[102] Throughout the 1980s, 90s and into this century, the design history field grappled with its relation to the various fields it emerged from, an enormous expansion in the practice of sociological and cultural studies as it related to designed objects, as well as contemplating its relationship to contemporary design practice. At the same time, history courses, and more liberal arts courses in general, became mandated in design programs, and have evolved as design educators move towards an ideal of pedagogy and "rethink the ways they teach [and thus help students] connect content with practical skills."[103]

However, the design history survey still receives quite a bit of criticism from the students who take it, whose professors in studio-based courses frequently cite that they don't know enough history. These conditions beg design historians to continue to evolve their methods in teaching design history, a topic explored in Lichtman's essay "Reconsidering the Design History Survey." Lichtman surveys many of the considerations and limitations in methods that are commonly deployed in history courses today, using her course at Parson School of Design as a case study. Her provocations and considerations will be used in this chapter as well as the next, exploring some of the larger questions she puts forth, such as "is the aim of history of design surveys to make students better historians or better designers? Does a better historian make a better designer?"[104]

While design history has grappled with these research methods and content related inquiries for the field on its own, this chapter analyzes design history content as it relates to

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Survey," 342-345; G. Lees-Maffei, "The Production-Consumption-Mediation Paradigm," Journal of Design History 22, no. 4 (2009): 356-59.

[102] Victor Margolin, "Teaching Design History." *Statements* 11 (1996): 1.

[103] Gritzer and Salmon, "INTERDISCIPLINARY USE OF THE LIBERAL ARTS," 200.

[104] Lichtman, "Reconsidering the History of Design Survey," 343.

specific issues in the design history field as well as larger learning outcomes of undergraduate design education today. I will be assessing content issues in relation to three main aspects. First, I will review the tendency to teach design history as a noun, a finished relic, and not as a verb, or as a design process. Secondly, the omission of other history fields in the prevalent canons – chief among them the histories of innovation, business/enterprise, and economics. Lastly, there will be a discussion on the merits of defining "good" design in the history classroom. As design historians and design educators continue to evolve, they must work out between each other's methods an approach to understand how the "history of design surveys might address more closely the needs and goals of future design practitioners,"[105] and furthermore, emphasize to students the importance of a "conceptualization of a past that made the desired future possible."[106]

2.1 Design Canon as a Verb

There are various reasons for the tendency of design historians to define and examine design as a noun – a finished product, object, or relic. Some postulate that this is because of the relationship to previous fields of history, resulting in "traditional categories of objects established by art history and decorative arts as powerful determinants of history narrative."[107] Others find this approach appropriate to consider societal and cultural concerns through a visual analysis.[108] However, as design historians explore research and areas of new methodology, *design as a verb, or design process,* may offer a unique approach, especially as it relates to teaching the design student. This avoids instances where the history course "limits design history to a study of production and reception," rather than the larger scope of design activity.[109] Furthermore, Moholy-Nagy and Hudnut advocated for approaching the teaching of history with narratives of

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[105] Lichtman, "Reconsidering the History of Design Survey," 342.
[106] Lichtman, "Reconsidering the History of Design Survey," 342; Tom Otto, "History In and For Design." *Journal of Design History* 29, no. 1 (2015): 68.
[107] Victor Margolin, "A Reply to Adrian Forty." *Design Issues* 11, no. 1 (1995): 19.
[108] Lichtman, "Reconsidering the History of Design Survey," 341.
[109] Banu, "Defining the Design Deficit in Bangladesh," 311.

the process, for it is effective "in placing problems of design at the center of the student's interests." [110]

The design process is one of the top learning outcomes that undergraduate programs seek to impart.[111] Many professors of studio courses (who hail from professional practice) will tell you that they aim to teach design as a process, and not a final product, an approach which has its roots in the industrial age, where "designing was as important as the execution."[112] This was further emphasized in a curricular meeting at Parsons, The New School that took place in May 2017, where the Dean of Design Strategies, Jane Pirone, expressed concern that students in studio coursework constantly focused on the production of a final product, with disregard to the process. "Process" she continued, "is design, if a final product comes out, consider it lucky, but design is never done. It can always be improved, rethought, or reconsidered; therefore, our focus has to be a process." [113] University of Arts London: Central Saint Martins goes a step further in the outline of "learning and teaching methods" listed in their BA product design program specifications, stating that "Using these teaching methods, you will learn that design is a community of practice; that it is a process not a thing; that it is about people now and in the future."[114]

The design history canon seems to be at odds with this prevailing philosophy of design education, teaching design history as a history of successful, completed designs. While both the fields of art and design history have since moved past a narrow treatment of design as aesthetic styling, to include lines of inquiry regarding the social, the quotidian, globalism, as well as feminist and Marxist readings of history, the design history field has mostly used these new lines of inquiry to investigate design as a noun, the finished products, as opposed to design as a verb.

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[110] Hudnut, "On Teaching the History of Architecture," 7.
[111] See Appendix 1: Learning Outcomes for Top Design Schools
[112] Giard, "Design Education in Crisis," 24.
[113] From notes - Curriculum review session Parsons School of Design, hosted by Assistant Dean of Curriculum Mariah Doren on DATE. See Jane Pirone's research - http://www.newschool.edu/parsons/faculty.aspx?id=4d54-6b35-4e44-4532
[114] *Programme Specification BA Product Design*. London: University of Arts London, 2017. December 10, 2017. http://www.arts.ac.uk/media/arts/colleges/csm/courses/programme-specification-2018-19/CSM-BA-Product-Design-Programme-Specification_201819-Entry.pdf

In 1984, Clive Dilnot argues that this birth of design history out of decorative arts/ art history resulted in formations of design histories that were primarily concerned not with the act of designing, but with the results of it, citing that knowledge of "designing" is missing in the established research in the design history field.[115] He goes on to state that presenting design as a finished product serves to further mystify the act of design, chalking up designs as a result of genius innate to a designer. Pedagogically, this doesn't serve an audience of students, whose objective is to learn *how* to be a successful designer.[116]

Fifteen years later, Ramona Riccini echoes this sentiment and cites criticism at the omission of the design process (and all the factors weighing in on it) in prevalent canons of design histories.[117] She reiterated this in another essay, stating that through process, we could not only establish a distinct methodological approach to considering design in the past, but would also equip the design student with practical case studies of design activity, linking history knowledge and studio training in the present.[118] Riccini went on to explain that this approach to the history canon could lead a student to improve "the contextualization of the design problem, avoiding paths already taken, returning to hypothesize that were abandoned because they were before their time, to come into contact with ideas, events, and solutions that can help to revise the very structure of the way the problem is posed."[119] This quote, in addition to advocating for historians to elucidate design process in classrooms, also calls for the inclusion of failures or ideas that were "abandoned", an aspect that is also left out of the design history as finished, perfect products. In "Reconsidering the Design History Survey", Lichtman identifies a key problem for educators, where the "history of design survey often seems an existential exercise

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[115] Dilnot, "The State of Design History," 4-10.
[116] Dilnot, "The State of Design History," 11.
Gives John Walker's analysis of the London Underground as a good example of how to situate the context of design in a wider field, a result of many forces rather than a result to be studied separately. Clive has gone on to lecture about this designed item quite a few times, which I will return to reflect on in Chapter 4.
[117] Raimonda Riccini, "History from Things: Notes on the History of Industrial Design," *Design Issues* 14, no. 3 (Autumn 1998): 43-64.
[118] Riccini, "Innovation as a Field of Historical Knowledge for Industrial Design," 27.
[119] Ibid., 30.

with little relation to creative projects."[120] In learning the history of design as a verb, including failures of professional designers in the design process, students would be able to contextualize the forces that shape design as a noun in a more direct way – relating it to their own studio practice. In a more recent essay, Dilnot echoes this sentiment, saying that design history for the student must offer "explanatory mechanisms of [a design's] coming to be, critically attuning configuration to the situations it addresses" which reveals "intelligences concerning things and situations that design can proffer."[121]

While there may be disagreements about the appropriateness of instrumentalizing the liberal arts in professional education, prominent learner-centered theories regarding knowledge acquisition would support this positioning. Constructivist pedagogy emphasizes that new knowledge must be built with relation to existing knowledge and experiences, where new knowledge is positioned near experiences that a student can identify with and build off of.[122] Joseph Hudnut, who advocated for this kind of design history teaching and learning at Harvard, explicitly states this revelation as it relates to design history. He states that if design history revealed more of the process and the individuals involved in the design process, "the student might be able to follow in a sharper focus the step-by-step formulation of works of architecture; projecting himself into the thought and feeling of the designer; knowing more intimately his ideals, his difficulties, his mode of attack; understanding more deeply the values that an architect prizes."[123] Through the challenge posed by the design process, balancing many factors and constraints in the design studio, the student would be able to empathize with how previous designers approached such a task. Furthermore, "shifting the focus from memorization of styles, objects and designers to the context in which design activity occurs" would incite a critical self-

[120] Lichtman, "Reconsidering the History of Design Survey," 342.
[121] Dilnot, "Some Futures for Design History," 381.
[122] Maryellen Weimer, *Learner-centered Teaching: Five Key Changes top practice* (San Francisco: Jossey-Bass, 2013), 10.
[123] Hudnut, "On Teaching the History of Architecture," 7.

reflection of design choices and incite meta-cognitive processes, as they are "conscious not only of what they are thinking but also how they are thinking."[124]

Furthermore, the design process would be in and of itself a historical account, as the practice of design has never been a static and tidy process. Jeffrey Meikle, author of *American Design Ethic* and an American Studies Scholar, states, "Although the past century may have witnessed an utter transformation in design practices, many design motives have remained remarkably constant."[125] Kumar Vyas extends this notion, arguing that since the man made environment has always involved some sort of process, unstructured or not, and that finished designs have evolved in part from an evolved design process, concluding that "the history of design cannot afford to exclude as an integral part the history of design process."[126] In this way, studying the forces that shape the design process could connect students to the relevance of history in modern day practice and how the professional design process has changed in relation to societal forces, for "design practice is inherently connected to the social and the cultural."[127] This includes what happens after the design is finished, the continuing processes of making meaning through mediation and consumption.[128] As an entry point, examining the process and assessing a designer's decision-making, for example how market research (contextualizing more complex ideas, like women's role in the design ethos as primary consumers) or material explorations (invoking histories of technology and aesthetics in material sciences, both craft and industry) affect and impact the iterations of a product.[129] To study the forces that shape the design process, with a visual analysis about *what* changed throughout the design process in response to *which* considerations would reveal the cyclical nature of meaning that McCracken and Grace Lees-

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[124] Williams and Rieger, "A Design History of Design," 20.
[125] Jeffrey L. Meikle, "Design History for What?: Reflections on an Elusive Goal," *Design Issues* 11, no. 1 (Spring 1995): 75.
[126] H. Kumar Vyas, "Design History: An Alternative Approach," *Design Issues* 22, no. 4 (Autumn 2006): 30-31.
[127] Williams and Rieger, "A Design History of Design," 17.
[128] Ibid., 19.
[129] Cheryl Buckley, "Made in Patriarchy: Toward a Feminist Analysis of Women and Design," *Design Issues* 3, no. 2 (Autumn 1986): 6-8.

Maffei address in various diagramming of how cultural meaning is instilled and re-invented in objects through processes such as production, mediation, and consumption.[130] Or consider how "people appropriate designs beyond what designers intended," which would expand a practitioner's view of who all is involved in the ultimate definition of a design.[131] In this way, they can understand that the designer is only one of many who "will affix meaning to design" and that their practice is more informed by better understanding how the other methods of meaning are established.[132]

However, this is not without its limitations. First of all, it is quite hard to develop a history of the design process, artifacts of process, whether it be a drawing, prototypes, or verbal/written communication regarding the development of the product, for design professionals often *selectively* distribute edited narratives of how a product was conceived, perhaps in an attempt to keep "trade secrets" safe or to maintain an image of innate genius. This limits both the historians' access to material to study as well as the ability to understand the design process.[133] There are signs that this is changing, though. The Cooper Hewitt Smithsonian Design Museum has its own department called "Drawings and Prints," which has a large collection of some realized and others speculative, as well as final drawings – technical and stylized which is becoming more accessible through digitization.[134] As more archives and museum's collections become digitized in the years to come, access and knowledge of such materials should be more widespread and more easily researched, analyzed, and hopefully incorporated into design history courses.

Another complication is that this approach would seemingly support the study of a "great artist" narrative. While Margolin has once noted the benefits of a "role" model approach (but at

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[130] Maffei, "The Production-Consumption-Mediation Paradigm," 360-363.
[131] Garvey and Drazin, "Design Dispersed," 2.
[132] Buckley, "Made in the Patriarchy," 12.
[133] For two relevant examples, see Vitra Design Museum, Marcel Breuer Archive
[134] "Curatorial Departments," Departments | Collection of Cooper Hewitt, Smithsonian Design Museum, accessed December 1, 2017, https://collection.cooperhewitt.org/departments/.

other times condemns the "great artist" narrative), a designer centric canon, as Lichtman has argued, "tends to limit the content, making the study of the anonymous of the amateur virtually impossible."[135] Furthermore, as Cheryl Buckley has pointed out in her critical text "Made in the Patriarchy," that historians should challenge "the centrality of individuals as agents of history and the focus [be] on professional structures and modes of activity" because prevalent methods of "selection, classification, and prioritization of types of design, categories of designers, distinct styles and movements…are inherently biased against women." But, as she continued, feminist writers and historians have worked to counteract "official" documentation, writing histories for domestic labor and non-professional activities, since they were excluded from professional activity for so long.[136] Those histories of process too, which are otherwise excluded in "professional" narratives of design history, would be of extreme value to the designer – seeing how design activity is navigated across genders and spheres of activity.

What I argue for is not a totality of the process-driven narrative, but rather that professors of design history assess avenues of engagement that potentially allow a pathway for students to initiate a deeper understanding with the material, allowing for a more critical understanding of the cultural forces, production, consumption, and critical concerns that a design history course aims to expose. Perhaps this omission of the design process could be attributed to the fact that this kind of approach to a history of artifacts would be considered experimental, at least in content terms, for it would not be predicated on "required works" and styles. As discussed in the previous chapter, history courses in design schools were unable to experiment with methods of delivering history due to Walter Gropius's distaste for history as a subject matter as well as the control that industrialists had in early design education formation. This left design schools with established approaches to the canon that were not developed for designers, including both the methods and content. Including "process" (the conceptualization of a design) in the design history canon as it

[135] Lichtman, "Reconsidering the History of Design Survey," 346.
[136] Buckley, "Made in the Patriarchy," 3-4.

is taught to design students would connect the course content to the larger program objectives regarding the design process, more effectively connect with students' existing knowledge about design activity, allowing a deeper dive into critical issues, leading to better prepared students for the professional field.

2.2 Omissions of History of Innovation, Business, and Economics

As a consequence of the omission of the design process, a central component to design decision-making is lost— the external factors that weigh in on the process and give the product its constraints. A critical tenet to product design is the multiple spheres of activity that a designer must be able to navigate – budget, client, user, materials, manufacturing, sourcing, price points, branding, logistics, engineering, in addition to aesthetics, color choice, and form.[137] These factors are ones that make the design a process; the form is the result of a balancing act and the success of a design is determined by the resolution of many factors.[138] Considering one of design's most championed credos, form follows function, "function" encompasses many concerns, including technology, business and economic realities, and prompts their inclusion in the design history canon, for they are chief concerns for any design professional.[139]

This omission is frequently critiqued in the field of design history. Dilnot writes in 1984 that even though more attention is being used to develop histories with topics such labor organization, technology, commerce, and popular taste, historians were not doing enough.[140] Again, in an essay written fifteen year later, Riccini reiterates that a history of economics and business in the content of design history is still mostly absent, despite offering "an ideal vantage

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[137] Riccini, "Innovation as a Field of Historical Knowledge," 24-31.
[138] Clive Dilnot has talked about this in terms of "the situation", the totality of forces weighing in on the designer that pushes through and responds to in his lectures on Harry Beck and the LUD & Charles Rennie Mackintosh's oeuvre.
[139] Raimonda Riccini, "History from Things: Notes on the History of Industrial Design," *Design Issues* 14, no. 3 (Autumn 1998): 43-64.
[140] Dilnot states that these topics do begin to integrate into design history, but reiterates that more collaboration is needed, Dilnot, Design History Mapping the Field, 11.

point from which to understand the history of products and the profession of the industrial designer."[141] She clarifies that while the field had moved towards an embrace of business and economics history, with scholarship on Behrens and Wedgewood as they relate to the industrial and business sector, they are the exception in history narratives, not the norm.[142] Using the famous work of the Olivetti typewriter (frequently celebrated in design history narratives), Riccini explains that the designers and the engineers developed the container and mechanisms simultaneously, quoting lead designer Mario Bellini who states "the non-separation of function and ornament has, in my view, led to very interesting results."[143] This example both illustrates how a design history would benefit from a history of the design process, but also illustrates the agency that the history of technology has on the field of design activity. In 2009, Margolin urged design historians to expand their involvement in other history fields and goes on to review *American Genesis: A Century of Invention and Technological Enthusiasm 1870-1970* by the technological historian Thomas Hughes. Margolin states that "there is nothing in Hughes's narrative that lies outside of the history of design" which serves to enlarge the sphere of activity that can and should be addressed in design history as it relates to students.[144]

From Dilnot's text in 1984, to Riccini's in 1998, and Margolin's in 2009 – design history has suffered from an adherence to isolation. In turn, this leaves the design history canon that is taught to students incomplete. If history establishes "coherence to an activity," omitting histories in economics, business, and innovation would result in a lack of a historical perspective of the profession that students are training to be in and eliminate important factors in the activity of design.

Technological histories and histories of innovation are especially important as designers are trained for practice in the digital age. In a 1986 essay, Victor Margolin wrote about the design

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[141] Riccini, History from Things", 44.
[142]Raimonda Riccini, "History from Things: Notes on the History of Industrial Design," *Design Issues* 14, no. 3 (Autumn 1998): 43-44
[143] Riccini, Notes on the History of Industrial Design, 46.
[144] Victor Margolin, "Design in History," *Design Issues 25,* no.2 (2009): 98.

innovation of the microprocessor "making possible more complex products with a widened range of functions, relating in a new flexible relation to the user."[145] While micro processing has entirely affected many areas of product design – smartphones, electric appliances, car dashboards, cash registers, and the vast products available as "smart objects" – its inclusion in design history narratives varies, and doesn't have as stable of a position as The Arts and Crafts movement or Postmodernism. This is made evident in the different focuses in two prominent design history textbooks: David Raizman's *History of Modern Design* and The Bard's *History of Design & Material Culture, 1400-2000* edited by Pat Kirkham and Susan Weber. Raizman's text devotes 30 of 408 pages to various tech-related topics, such as "Hi-Tech" and "Materials Technology and Softness," whereas *History of Design & Material Culture* devotes 2 of 700 pages of the textbook, titled "Into the Digital Age."[146] While the Bard's text self identifies as cutting off in 2000, already established was the important relationship between the design profession and consumer electronic companies. As early as 1982, design firms had reached a "critical mass" in Silicon Valley, as design services were in high demand for new electronics designs, including companies like Apple, IBM, and Hewlett Packard.[147] While the Bard text does have a more inclusive and global approach than many other design history surveys prior to it (including Raizman's text), this discrepancy between the two texts seems extreme for the understanding of what constitutes as important factors in design history, showing the necessity to validate these technological and innovation histories more firmly in the prevalent canon, especially as it relates to teaching the design student.

Again, the exclusion of these elements in the design history course may be attributed to the lack of experimentation in design history courses due to factors already discussed. However,

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[145] Victor Margolin. "Expanding the Boundaries of Design: The Product Environment and the New User." *Design Issues* 4, no. 1/2 (1988): 59-64.
[146] David Raizman, *History of Modern Design*, 2nd ed. (London: Laurence King, 2015), 377-408; Pat Kirkham and Susan Weber, *History of Design: Decorative Arts and Material Culture, 1400-2000* (New Haven, CT: Yale University Press, 2013), 649-651.
[147] Barry Katz, "From Design to Design Thinking," *Boom: A Journal of California* 2, no. 1 (Spring 2012): 73-74.

important to note here is the influence of industrialists and economists on the design canon. As far back as Henry Cole and the Normal Schools of Design, history served as a study to inspire formal copyism, exposing students of a canon of market successes in the hopes that the graduated students would be able to produce profitable designs. Therefore, a history of styles was the most appropriate study of history, and a history of business and economics might be seen as tangential or even irrelevant. In this way, early control of design curriculum by the industrialists would not have been interested in presenting a critical history, including these kinds of narratives, but preferred histories that would produce design professionals who could emulate a history of successful aesthetics, particularly that of luxury design.

2.3 Defining "Good Design", Advantages and Problems

Throughout the trajectory of design history and its writings, there is a prevalent theme in defining what design is "good." Starting with Nicholas Pevsner, the design canon as a "history of celebrations" isn't an uncommon way for the design student to be exposed to a history of their field, "from which they hope to find exemplars and learn the secrets of success."[148] This serves for the designer as a set of "role models" or case studies that are exemplary for their field; ideally not only training the designer to have a discerning aesthetic eye, but also have a concept of what has been considered "good" for the last 100 years or so to inform their own practice so it too can become "good" at designing.[149]

However, another prevalent theme in design history discourse, as well as many other fields of aesthetic histories, is *who* is defining "good"? Whose history are we teaching and what are the goals of that canon? What is implied about the objects that aren't included in the canon? What professions are we favoring in established narratives and who has had access to training in those fields? It has been argued, that since all value judgements of establishing a good design

[148] Maffei, "The Production-Consumption-Mediation Paradigm," 355.
[149] Margolin, "Teaching Design History."

canon is inevitably "a reflection of the individual" and their taste, is the exercise of even compiling a canon of good design, pedagogically appropriate? However, others have argued that the canon that establishes "good" relates to design practice in that "the practice of every form of design relies upon being able to make critical judgments about quality." and therefore, "quotidian is indeed of less interest than the exceptional."[150]

The most obvious issue in the established canon is the lack of representation within the established histories of "good design," with most of the canon being made up of white, western, men. As higher education and design schools attempt to become more diverse in their populations, so must their required history canons. Surveys that seek to elucidate "a canon of exemplary works" suggests that what isn't in that survey isn't considered good, or at least less valuable, than the presented march of "great designers" content. As mentioned earlier, Buckley's "Made in the Patriarchy," serves as a seminal text that directly addresses the lack of female representation in design history canons because of "selection, classification, and prioritization of types of design." Since writing this text in 1989, feminist analysis of design histories has become more common; however other marginalized groups are still fighting for a representation in histories that are required by design degrees.

Students of color (Black, Latino, and other non-white cultures) are disconnected from the material, as it features oppressive forces that they seek to overcome— that of a patriarchal, white society determining what is tasteful and on an even deeper level, determining "the codes or signs by which design is understood and constituted."[151] This, in turn, perpetuates and acts as the value system that their work in studio is judged – "against the dominant meta-history of Western design" – a value that the history course upholds.[152] Recently, the student group, Black Artists

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[150] Adrian Forty, "A Reply to Victor Margolin," *Design Issues* 11, no. 1 (Spring 1995): 16; Dilnot, Some Notes of The Futures of Design History, 381.
[151] Buckley, "Made in the Patriarchy," 11.
[152] Banu, "Defining the Design Deficit in Bangladesh," 317.

and Designers (BAAD), from Rhode Island School of Design put forth a manifesto in 2016, which addressed these issues:

> **VI. We Demand sweeping curriculum reform, departing from the westernized and outdated form of art and design education that are inclusive only to some.**
> - Liberal arts must increase the number of courses focusing on race, diversity, sexuality, gender and religion, and these courses must be taught by faculty who specialize in these areas.
> - The required first year HAVC survey [History of Art & Visual Culture] needs to be drastically altered in order to include equal representation of artists and works from cultures that are not predominantly European.[153]

Many required canons across design history curricula, as well available histories in course catalogs, highlight these issues that the students of BAAD illustrated. This has resulted in a call for more inclusive histories scholarship in the design history field, and in design education there "is an increased recognition of the imperative of teaching a survey that is more inclusive."[154]

That means assessing the definition of "good design" in order to be more inclusive and will need to address several factors. First, a craft based narrative must remain relevant, as many women and developing countries utilize craft based processes in both tradition and absence to industrial processes.[155] Focus on industrially produced objects is to focus on those who had access to first world technologies as well as individuals who were favored by industrialists to design for manufacturing. Secondly, it means deliberately assessing the presented works in the design history course, and actively incorporating new scholarship on underrepresented identities into design history canons. This is particularly important for the introductory design history course, as sometimes they serve as the only "formal exposure" to the field of design history, echoing what the students of BAAD requested above.[156] Efforts to correct such an underrepresented canon can

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[153] Black Artists and Designers (BAAD)'s manifesto to Rhode Island School of Design http://static1.squarespace.com/static/541e2ec8e4b042b085c464d9/t/577484ae414fb53c82816431/1467253934206/LIST+OF+DEMANDS.pdf See the result of these requests to the Social Equity Inclusion Action Plan, developed in response, here: Rhode Island School of Design; Somerson, Rosanne; and Payne, Rene Watkins, "Social Equity Inclusion Action Plan" (2017). Social Equity Inclusion (SEI) Action Plan. 1. h p://digitalcommons.risd.edu/president_sei_actionplan/1

[154] Hazel Clark & David Brody, "The Current State of Design History," 306; Lichtman, "Reconsidering the History of Design Survey," 347.

[155] Cheryl Buckley, "Made in the Patriarchy," 14.

[156] Lichtman, "Reconsidering the History of Design Survey," 341.

be found in the textbook, *History of Design & Material Culture (*mentioned earlier) which has been praised for its inclusivity – having more global representation of a design history in a single source than had previously been done before.[157]

Related to the development of a canon which features predominantly western, male histories, is the notion of the "history of celebrations," or history of economic successes related to design as sales.[158] This is not only due to the underlying goals of design education as it developed in the U.S. in the 20th century, to produce a skilled labor pool to increase the value of commodities, but also that design history's early scholarship was developed in part for auction houses, reflecting the continuous influence of capitalist interests resulting in a canon that favors a luxury narrative.[159] In fact, capitalistic structures rely on another dominant force, the patriarchy, and together have historically "had the ability of both to reshape and reformulate society in order to overcome potentially transforming processes."[160]

A large portion of design history scholarship has come from auction houses, leaving us with a canon that reflects expensive products and economic success in the design market, focusing on luxury items as opposed to the everyday items such as cell phones, radiators or pens, revealing "the structural relationship between historians and the designs they promote within capitalism."[161] This is reflective of the market, including industrialists and capitalists, swaying and controlling various elements of education which results in "education is not so much driven by the quest for knowledge as it is by the desire for economic success."[162] This has in turn led to a condition where both historians and practitioners are facing identity problems, where the designer

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[157] Carla Cesare. "History of Design: Decorative Arts and Material Culture, 1400–2000:." *Journal of Design History*, 2015.
[158] Dilnot, "The State of Design History," 11.
[159] Ibid., 4.
[160] Donald Trump is the exaltation these two processes benefitting one another. He is one of the most potent symbols of capitalism, who is well known for derogatory and sexist remarks as well as exhibited reluctance to denounce support from white supremacists, which give him symbolic power from the patriarchy. See Cheryl Buckley, "Made in the Patriarchy," 4.
[161] Buckley, "Made in the Patriarchy," 13.
[162] James T. Wang, "To Make or to Create? What Should Students of Design be Taught?" *Design Issues* 31, no. 3 (Summer 2015): 4.

is seen as someone who just makes things *pretty* in order to sell a commodity in higher volumes or for more money. Riccini notes that this perception seems to be steadfast in the formation of design histories, that established histories are reinforcing the notion that "industrial design is viewed as a 'cosmetic' function" and the view that "design as a styling of the appearance of products is a serious misconception of the actual work of the designer."[163]

However, while determining the content that falls under "good" is an ongoing debate, many design historians have argued against the exercise of defining good from bad design in the first place, particularly as it relates to contemporary practice and thus as it relates to training for contemporary practice. In an essay titled, *Design Education in Crisis,* Jacques Giard writes that, in a field as subjective as design, value judgments are "not talking as much about the object as about himself" and that "such evaluations are neither right or wrong, they do very little to help our understanding of industrial design."[164] In 1995, Victor Margolin echoes this sentiment, criticizing the Pevsner approach to design history, which Margolin defined as "an act of discrimination by which ordinary objects were separated from those which embodied an extraordinary quality," but this methodology of evaluating "aesthetic merit" had worked to limit the field, rather than open it up.[165]

In Adrian Forty's reply to Margolin that same year, Forty explicitly states that design history's connection and *purpose* lies in distinguishing good from bad, and that furthermore, that act of distinguishing is essential to designing itself, stating that "the practice of every form of design relies upon being able to make critical judgments about quality."[166] Forty goes on to criticize what he calls Margolin's "poststructuralist view" for considering that all judgements are as good or as bad as each other, stating that quality judgements "play a vital role. We do not have to accept Nikolaus Pevsner's, or Max Bill's or Emilio Ambasz's ideas of good design, but we

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[163] Buchanan, "Design & The New Rhetoric, 194
[164] Giard, "Design Education in Crisis," 26.
[165] Margolin, "Design History or Design Studies," 7.
[166] Forty, "Debate: A Reply to Victor Margolin," 16.

should not be dismissive of their attempts to make judgements. The so-called "destruction of value" may make for an intellectually elegant system, but it is entirely unhelpful to the world of design, where the need to make decisions about what makes one design better than another occurs all the time."[167]

The points that Forty raises are important in the context of a design history that is developed for students of design. If a primary concern of a designer is an "evaluation of an object", where the design process is driven to *better* the object, then understanding value judgements and sets of criteria are helpful to the design students, who are expected to develop their own value judgements as they grow in their studies. However, more definitions than those that favor luxury designs should be included in these value systems that derive the "good" design for a survey course. While Margolin retorted that he thinks "Forty overestimates the value of design history in contributing to this process," the pedagogical link cannot be ignored. The history classroom, while navigating and re-negotiating content that is delivered under the guise of good, should be delivering a meta-narrative of how, why, and who was defining "good" at any one given time, and if good meant economically successful, aesthetically beautiful, or extraordinarily innovative, etc. This helps designers in training positions themselves in their own work, to understand a history of evaluating the success of a design, in order to be more critical themselves – defining what good means to them.

Conclusion

There are many issues in the field of design history, including methods, content, and established historiographical techniques. Design education has similar issues, and the crossover between the two endeavors to play out in the content covered in design history courses. While there have been calls for design history to be conceived as broadly as possible, not only to aim at inclusivity but also to adapt to the ever-evolving definitions of design, that does not necessarily

[167] Forty, "A Reply to Victor Margolin," 16.

help when deciding what content of this broad information should be covered in the design history course.[168] While "design history is sufficiently flexible to accommodate a range of approaches and interests," can the design history classroom do the same?

To further complicate this, since the definition of design changes as rapidly as humans evolve their built environment, are history classrooms being reflexive enough to contemporary professional practice (even to match various studio topics) to cover relevant content outside of the typical canon, such as the "history of military hardware; street lamps, mailboxes, surveillance technology and interface design." [169] Or even topics in consumer electronics, sustainability, or smart objects. Is it the history course's job to impart such a historical positioning so as to understand why sustainable practices are so badly needed, highlighting some of the more harmful practices in product design?[170] As more designers are being prepared for professional work in an age where the definition of design expands to cover such a wide range of human activities, more than is able to be covered in a college course or even a sequence of courses, is the goal to develop more inclusive content in the history narrative, or establish methods in which a student can assess histories that are relevant to their own work?[171] How are assessment methods or assignments inside the classroom speaking to that question?

Those types of questions will be addressed in the following chapter, as the focus shifts to the activities inside the history classroom and the curricular structures that support them, and taking a step back from content related issues. However, the link between content and pedagogy often overlap, with the content's ability to engage or disengage the practitioner inside of the classroom, therefore enabling, or disabling, the student to achieve the course objectives and

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[168] Grace Lees-Maffei argues that "design history has the confidence to proceed without absolute definitions of design and design history to which we all must adhere. We should value precisely that work which seeks to extend our understanding of design activity." See Maffei, "The Production-Consumption-Mediation Paradigm," 359; Margolin, "Design History or Design Studies," 10-13;
[169] Margolin, "Design in History," 103; Otto, "History In and For Design," 58.
[170] Zande, "Teaching Design," 252.
[171] Williams and Rieger, "A Design History of Design," 16.

overall become a more critical designer. How can our curriculum, content, and pedagogy start to emphasize “how the construction of a relevant past is part and parcel of designing the future?”[172]

[172] Otto, "History In and For Design," 66.

Chapter 3: Pedagogy and Curricula Today: A Survey of Methods Used in the Deployment of Design History courses

Introduction

There are many different approaches to teaching design history, found in the variety of content covered in history coursework, such as the methods in which it is taught, the means of assessment, where in the school's curriculum progression it is placed, and to what end all of these decisions are made.[173] For this chapter, I will be assessing my primary source research: Interviews with current design history professors, focusing on various pedagogical tactics employed in the classrooms as well as analyzing a sampling of design school curricula, surveying how design history courses are positioned in twenty undergraduate U.S. programs. Issues surrounding the content of the history classroom will be less of a focus in this chapter, except for when it pertains to a deliberate pedagogical approach or as it relates to issues raised in Chapters 1 and 2.

To better understand both the pedagogy inside of these classrooms as well as the curricular approaches, I will be analyzing them through various educational theories regarding effective methods of teaching as well as considering heuristic modes of learning for the design student. This includes a literature review on various learner-centered teaching approaches that apply to learning more generally as well as learning theories related to designers specifically. Leaning on these analytical frameworks, I will then analyze contemporary practices at two levels; first will be at the level of activities and assessment deployed inside of classrooms and secondly, at the level of curricular structures in modern day design schools.

Analyzing of Primary Resources and Best Practice Definitions

The series of interviews employed a systematic approach, deploying an identical set of questions concerning pedagogy, content, and methods to the three case studies regarding their

[173] Grant P. Wiggins and Jay McTighe, *Understanding by Design* (Alexandria, VA: Association for Supervision and Curriculum Development, 2008), 14-19.

design history course: David Raizman, History of Modern Design (*Drexel University,* Art Historian), Matthew Bird, History of Industrial Design (*Rhode Island School of Design,* Industrial Designer), and David Brody, Objects as History (*Parsons School of Design,* American Studies Scholar). These case studies were chosen specifically because they come from three different backgrounds and therefore approach the history classroom differently, providing comparisons for some critical questions that occupy pedagogues such as "Where do teacher explanations come from? How do teachers decide what to teach, how to represent it, and how to question students' understanding of it?"[174] The set of questions is as follows:

1. *What aspects of your course do you think designers will use when they finish school (5-10 years out)*
    a. *Follow up: Would you prefer retention of history content or methods of analysis?*
2. *Do you favor a structure based on themes or on chronology?*
3. *How has your teaching of this course changed since you started teaching it?*
4. *What kind of activities or exercises do you find to be most effective in imparting the course objectives?*
5. *In your experience/opinion, when are students most engaged in your class?*
6. *How does your school situate history courses amongst its other liberal arts studies in the practitioner's training? Do you think this is effective?*[175]

Additionally, I will survey a set of current day curricula found in U.S. design schools, analyze field notes gathered from contemporary history classrooms, and survey the existing literature on experiments within the history classroom and writing on designing design curriculum. The survey consists of ten private schools' and ten public schools' approach to design curriculum structure, analyzing the positioning of history courses amongst other liberal arts and practical coursework.

As a framework to evaluate these practices, I will be comparing practices in design education with established methods of effective pedagogy, or teaching and learning more broadly, as it has resulted from the fields of cognitive science, particularly problem based learning, which

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[174]Lee S. Shulman, "Those Who Understand: Knowledge Growth in Teaching," *Educational Researcher* 15, no. 2 (1986): 8.

[175] These questions were developed under the guidance of Mariah Doren, the Assistant Dean for Curriculum and Learning at Parsons, School of Design.

"posits the centrality of problems in learning," and constructivist pedagogy, which stresses that "knowledge is anchored and indexed by relevant contexts. Knowledge construction is stimulated by a question or need or desire to know."[176] Both of these approaches and evaluations rest on larger ideas put forth by John Dewey, who emphasized "education based upon experience" as the best practice for positioning new knowledge for meaningful integration in students' minds.[177] From this ideal, he champions his philosophy of experience in education, examining "the necessary relation between the processes of actual experience and education" which also stresses the importance of the "participation of the learner in the formation of...his learning process." [178]

These general pedagogical theories and cognitive science approaches to teaching and learning have a relationship to understanding the design practitioner, specifically the notion of the reflective practitioner as it is examined in Donald Shön's Book, *Educating the Reflective Practitioner.* In this text, Shön discusses the dilemma of preparing design practitioners for the "indeterminate zones" of practice, problems where the solution lies outside the technical knowledge of the profession, and Shön says, "In such cases, competent practitioners must not only solve technical problems by selecting the means appropriate to clear and self-consistent ends; they must also reconcile, integrate, or choose among conflicting problems worth solving."[179] This is closely related to other frameworks of best practice, as expressed in recent literature on Problem Based Learning:

> PBL proponents posit the centrality of problems in learning. That is, learning is initiated by an authentic, ill-structured problem. Ill-structured problems are those that have multiple or unknown goals, solution methods, and criteria for solving them. In PBL-based classes, students encounter the problem before learning. This approach is countered

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[176] Rose M. Marra, David Jonassen, and Betsey Palmer, "Why Problem-Based Learning Works: Theoretical Foundations," *Journal on excellence in College Teaching* 25, no. 3 (2014): 223-226; Louis Alfieri et al., "Supplemental Material for Does Discovery-Based Instruction Enhance Learning?" *Journal of Educational Psychology* 100, no. 1 (2011).
[177] John Dewey, *Experience and Education* (New York: Free Press, 2015), 6-15.
[178] Ibid.
[179] Donald A. Shön, *Educating the Reflective Practitioner: Toward a New Design for Teaching and Learning for the Professions* (San Francisco: Jossey-Bass, 1991), 6.

> by centuries of formal education practice, wherein students are expected to "master" content before they ever encounter a problem and attempt to apply the content to it.[180]

As a framework, studio based practice in design education rests on exploring what one could call an "ill-structured" problem. Ideally, knowledge shared in other coursework that surrounds the studio courses would be integrated into those studios, where a student can *use* new knowledge to activate critical understandings and mobilize knowledge learned from other coursework. However, faculty who are unaware of the surrounding coursework aren't actively encouraging cross-curricular knowledge sharing. Secondly, as well as the means in which the knowledge is exposed to the students in their liberal arts studies causes a disconnect in how to use such knowledge, if a student thinks *how one uses history* is related to *memorization of facts*, they are unlikely to *use* history to assess larger critical issues in design making because such knowledge has not been mobilized in that way. Their education had not shown or exposed students to this link. Education is vital not only in establishing a designerly value system, but nurturing and evolving it through the teaching of both practical skills and liberal arts.

Solving a problem that is situated in these "indeterminate zones of practice", is what makes designerly knowledge so hard to understand and grasp. Shön goes on to explain, "These indeterminate zones of practice – uncertainty, uniqueness, and value conflict – escape the canons of technical rationale."[181] These statements are followed by a questioning of how only technical knowledge would leave the practitioner ill-equipped to handle the realities of practice in the real world. If students learn by "making" or "doing", in what ways are they "doing" history inside the history classroom? Are design schools enabling knowledge transfer through curriculum or is knowledge becoming siloed? Are the methods used inside of the classroom prohibiting heuristic learning, is the goal of a history course to teach a new way of learning, and if so, what are the best ways of tackling that? As Lichtman provocated, "As design historians, we need to reconsider our own assumptions and expectations of the history of design survey and find ways to resituate the

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[180] Marra, Jonassen, and Palmer, "Why Problem-Based Learning Works," 223.
[181] Shön, *Educating the Reflective Practitioner,* 6.

course as a central and meaningful experience in the development of young designers and design professionals."[182]

Approaches in Design History Classrooms: Pedagogy and Assessment

There was a variety of nuanced similarities and differences among all three professors as revealed in the questionnaire that was deployed. In terms of similarities, all three professors favor a course centered on chronology, and this choice seems to be independent of the fact that the students are designers but it rather speaks to more general methods of effectively communicating history course content to any audience. While all three agree that themes are important, and introduced thematic elements in different ways, they all employ a chronological approach to introduce thematic elements. Victor Margolin, an early advocate for a design studies approach, supports this notion as well, saying, "For the student, encountering design within history makes the point that design – any form of action for that matter – is dependent upon a set of circumstances that create possibilities. The relation between those circumstances and the possibilities for action that designers find in them is essential for students to understand."[183]

In Objects as History, David Brody breaks with this mold slightly, in that each week's history lessons are paired with contemporary issues or events. This act of positioning history content with new social concerns navigates the chronological approach in a way that also makes time circular. For example, weekly topics include "The First Tools vs. the Personal Computer" and "Classical Greece and Rome & Representing the Body Today", which features a required reading titled "Hottentot in the Age of Reality TV: Sexuality, Race, and Kim Kardashian's Visible Body."[184] He talked about how this approach was successful the first time he ran the course, remarking "they were gung-ho...they talked more when it was about a contemporary

[182] Lichtman, "Reconsidering the History of Design Survey," 348.
[183] Margolin, "Teaching Design History," 3.
[184] David Brody, "Objects as History: Prehistory to Industrialization," (syllabus, The New School, New York City, Fall 2016).

topic."[185] Rooting the initial exposure of a historical concept in tandem with contemporary issues, it positions new lessons near existing knowledge of current day issues or topics that students, in some way or another, are already familiar with. This approach is supported by theories in constructivist pedagogy as well as theories put forth by Dewey, who insists a classroom must allow that "students are to share in the formation of the purposes which activate them" for any effective learning to occur.[186] In his approach, Brody uses personal experiences with contemporary issues as a means of "activating" interest in a historical context.

Similarly, David Raizman uses provocations relating to current day issues in an activity he uses to open each class with – a series of questions for discussion, answered together or in group work. While some of the questions are more close ended, assessing if students had understood the material (or even read it), others are more open ended in nature. For example, questions such as "How did William Morris hope to bring about social change through design? How could design be an agent of social change?" or "How does Modernism relate to LIFESTYLE?"

While this may seem like a familiar tactic to most professors, deemphasizing lecture and emphasizing student engagement, the attention and specificity that these questions take on is more than just a way to review the readings, they also work to inform Raizman's understanding of class interest and tailoring it, "The way that I introduce the material that's in my PowerPoint, to make it user directed and not to predetermine the direction of the presentation and the use of class time." To avoid what he calls "receptive mode," these tactics of open ended questions to tailor the lecture was one that had positive success, as Raizman says he was "encouraged by it, the main difference is that I think that I engage the class more." He notes that these questions are under constant evolution, that they are "moving targets," made evident in the two different sets of questions he prepared for the different sections, responding to each class individually (Figure 4).

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[185] Brody, David. (Professor, Parsons School of Design), in discussion with the author. November 2016.
[186] John Dewey, *Experience and Education*, 30.

Post-WWII Modernism/Mass Culture Questions

1. (1 PM class) Name and Describe THREE THEMES of Post-World War II Design, and think of examples that illustrate each theme:

- Planned Obsolescence: more for the mass market
- The Atomic Age: awareness of atomic energy in peaceful context (technology and progress)
- The Atomic Age: awareness of atomic energy as a destructive force (The Cold War)
- Needs vs. Wants (progress vs. consumer manipulation)
- Consumerism – product change product renewal
- Government control; investment and subsidies rather than building or direct industrial production in the USA, but social housing elsewhere (welfare capitalism)
- Simple geometric (inherited from interwar modernism) – steel and glass office towers, and model homes (California Case Study Houses); Museum of Modern Art
- "Good Design Exhibitions" – MoMA – functional, practical, fitness to purpose)
- Surrealism – organic forms for furniture and furnishings that emerge in the 1950s - awareness of contemporary art (Surrealism, non-objective abstraction, "Biomorphism"
- Global markets – leads to a unified international modern design; national identities
- *Research*
- *The New Humanism*
- *Corporate Identity*

1. (3 PM class) Name and Describe THREE THEMES or characteristics of Post-World War II Design, and think of examples that illustrate each theme (concepts and context):

- Organic forms- use of modern industrial materials, molded forms
- Abstract art
- Biomorphic
- Focus on the domestic- home and home furnishings, define ideal home living, convenience
- Development of suburban areas
- Pop art- advertising
- Obsolescence- market change and speeding up the cycle of consumption, theory of throw away culture
- Relationship between need and want- progress versus change, change for the purpose of sales
- Domestic bliss- tupperware, connected with things you buy, consumption a theory of progress (materialism is a good thing)
- Branding with simple elegant designs/corporate identity- modernism in terms of unity, graphic communication, conformity, familiarity, positive response, association with progress, equal distribution of wealth
- Function oriented design/fitness to purpose- primary consideration
- Modern methods of construction- architecture versus housing, government programs (public housing urban areas and public housing)/ social housing/ functional and minimal

Figure 4. David Raizman, Slides for History of Modern Design Course, sets of questions are different for each course. 2016.

This reveals Raizman as identifying specific "pedagogical content knowledge", which is "An understanding of what makes the learning of specific topics easy or difficult; the conceptions and preconceptions that students of different ages and backgrounds brings with them to learning new topics."[187] These questions, a key pedagogical feature of his course, also aim at elucidating discovery within the students, a key tenet to learner centered practices, as Raizman reflects, "I

[187] Shulman, "Knowledge Growth in Teaching," 9.

think they are most engaged when they feel that they are discovering something on their own and thinking and coming up with their own responses and answers." [188]

Whereas Brody positions history lessons near contemporary issues, and Raizman uses tailored questions to engage each class, Bird positions history lessons in a nuanced way that is informed by his background in professional design practice as well as a professor in design studios. One way he does this is through the introduction of technological history, incorporating educational videos of manufacturing processes to explain how a history of styles was even possible. Furthermore, as a professor to some of the students in his history classes, he relates information directly back to the work the students are doing in their practice based studios. This benefits the overarching goals of the curriculum to achieve knowledge transference across courses, linking the making and the thinking in an interdisciplinary approach to teaching – an approach that was explored in Walter Sargent's University Chicago, which saw a record number of enrollments in design students in history courses. Bird, too, has experienced success with this approach, stating that it has resulted in more engagement from the students. He goes on to explain that some other design historians have described some of these approaches as "instrumentalizing" the liberal arts which Bird resents, stating that it is "very frustrating to me that all the rest of what I know that I bring to teaching is considered not valuable in academia when in fact it's what makes it available and *usable* by my students."[189] One of the ways he illustrates this "instrumentalizing" is how he relays the content to the design students, leaning on a narrative around the process:

> The more [students learn] about how other people solve problems, the better you could solve your own problems. Super instrumentalist, right? I think the more you know about how other people solve those same situations, the better you'll be able to predict it...One of the requirements of doing good design work is doing the research on how other people have solved the same problems.[190]

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[188] Raizman, David. (Professor, Drexel University), in discussion with the author. November 2016.
[189] Bird, Matthew. (Professor, Rhode Island School of Design), in discussion with the author. November 2016.
[190] Ibid.

Bird speaks to an issue addressed in Chapter 2, teaching design history as a verb, or design as a process. Not only does he believe that this should be part of the canon, but as a professional in the design field, he identifies this aspect of Design History to be one of the most important lessons from history for a student of design, for it makes the course "useable." Similarly, in design history classroom guest lectures, Clive Dilnot's presentation on the London Underground Map (which derives its main thrust from John Walker's writings on the subject) aims to *demystify the act of designing* through a narrative on the process.[191] In his lecture to the history students of Parsons School of Design in Fall 2016, Dilnot presented the map not as a final graphic to be exalted and replicated, rather it dissects the social conditions that influence the designer himself to find a solution, and thus mapping those actions along with societal forces. In this way, Dilnot, like Bird, aims to orient design history to designing, the verb, rather than design, the noun. Designing then becomes central to this telling of this history, and relates the act to a problem-solving process that almost everyone undertakes, emphasizing that design isn't just done by "great designers" but by everyone, showing just how "extraordinary and ordinary design is."

Another way Bird illustrates as what could be misunderstood as being "instrumental" is making students draw in class. He explains, "No amount of looking at a photograph of something will help you understand the construction. When you draw it, it activates your understanding in a way that no other kind of looking does."[192] The word choice here of activate is of note; it is the same verb that Raizman uses in reference to his open-ended questions at the beginning of each class. Warren Ashworth, a practicing architect and architectural history professor at New York School of Interior Design, introduces the unit on "westward American settlement" through a technical lesson that elucidates the simplicity of balloon framing, including a small demonstration of construction which he then parlays into what this domestic settlement meant *socially* for the United States and how those forms live on in the landscape today. This relates to Dewey's

[191] Dilnot, "The State of Design History," 23.
[192] Bird, Matthew. (Professor, Rhode Island School of Design), in discussion with the author. November 2016.

assertions regarding "effective connection" with materials found in sources such as history textbooks, stating "teachers are the organs through which the pupil is brought into effective connection with the material. Teachers are the agents through which knowledge and skills are communicated."[193] By "activating" paths of understanding through which sketching enables, this also is in line with best practices in learner-centered teaching and constructivist pedagogies.

Assessment in Design History Classrooms

Assessment in education is both a pedagogical tool and a reflection of the effectiveness of pedagogies chosen, for they help make clear the teacher's aims, recognizes student's achievements and development, and help ensure the basic requirements of the syllabus are covered. Every teacher has a set of assignments, projects, or exams that they use to measure coursework objectives, gauge student interest, and monitor the amount of learned material.

Both Raizman and Bird do not deploy a final exam, but do require a critical assignment that evaluates writing and critical thinking directly. As Raizman expresses, "So early on I got away from doing examinations to having writing assignments", a decision driven by his "deemphasizing lecture and emphasizing student engagement" approach, as he saw critical writings far more engaging than a written exam. Matthew Bird disseminates his own writing prompt for the final essay, a semester long research project called "40 Questions to Ask an Object".

[193] John Dewey, *Experience and Education*, 5.

History of Industrial Design
Spring 2017
Matthew Bird

40 Questions to Ask an Object
Worth up to 250 points

Overview:
This project is designed to help you experience a thorough research process, conduct a design analysis, and become familiar with a topic in a meaningful and layered way. If you are confused about any of the questions, maybe referring to the example will help clarify the intent.

Assignment:
Select a manufactured object created before 1990.
Objects must be designed for use, made in multiples, and perform a function (so, for example, not a sculpture whose "use" is to be pretty)
Email your choice to mbird@risd.edu for approval.
Use the questions below to steer an investigation of your object.

Phase 1 (Due March 20, up to 65 points):
Understand the Object
(the center of this cross-shaped investigation)
Find up to four images of the object.

Describe the basics of this object:
1. What is it?
2. What is it called?
3. When was it made?
4. Where is or was the object available?

Describe what it looks like (Formal Analysis):
5. What are the parts?
6. How are the parts composed (consider line, shape, form, balance, emphasis/focus, movement, pattern, repetition, unity)?
7. What materials are used?
8. What colors are used?
9. What textures are used?

Describe what this object does (Functional Analysis):
10. What does it do?
11. How does it work?
12. Does it also have a social function?
13. Does it have a patent?
14. Is it used conspicuously or privately?

Describe the user:
15. Who is the user?
16. What is specific about the user (consider geography, social class, income, gender, ability, age, etc.)?
17. Are there unintended or other users?

Describe the designer:
18. Who designed this object?
19. Is there team of designers?
20. Where was it designed?
21. Is the designer also the producer?

Describe production:
22. Who produced it?
23. Where was it produced?
24. What methods were used to produce this object?
25. Who paid to make it (company, manufacturer, commissioner, client, patron)?
26. Were there pieces or parts from other places?
27. Were there any constraints on its production (legal, political)?

Phase 2 (Due April 17, up to 65 points):
Understand the Context of the Object
(the horizontal of this cross-shaped investigation)
Collect up to four images of alternatives from the same time period. This locates your object in the world it was created for and allows you to learn how it differs from its competitors in price, taste level, quality, availability, features. Not older or newer versions of your design, but examples of competing designs from the same time period.

After learning a little about each, choose one of the alternatives to research enough to answer these questions:

28. How are the objects the same (cost, availability, materials, manufacturing/production)?
29. How are the objects different (cost, availability, materials, manufacturing/production)?
30. Who would use the alternative (consider genders, geographies, abilities, age)?
31. Do the two objects appeal to the same taste?

Phase 3 (Due May 8, up to 65 points):
Understand the History of the Object
(the vertical of this cross-shaped investigation)
Collect up to four images of previous and/or later versions of your object. This puts your object in an historical context so you learn how it evolved over time. What problems were resolved, what new features added, what new materials used, how price and availability changed.

Note: Remember that new technologies are just variations of things that existed before. If you chose the first iPod you can't say there was no iPod before, so this section doesn't apply. The whole point is to learn where an iPod came from. The entire history of how people listened to music is part of this story, and you will have to make some smart decisions about what to include.

Describe what came before and after.
32. When were the alternatives made?
33. How has the object changed over time?
34. How has the use of the object changed over time?
35. How has the user of the object changed over time?
36. Where have these objects been used over time?
37. How did technology or new materials change this object?
38. Did changing social structures affect the use of this object?
39. Did changing social structures affect the perception of this object?
40. Did legal requirements or trade agreements change these objects over time?

Phase 4 (Due May 19, up to 55 points):
Summary

Figure 5. Matthew Bird, Pages from "40 Questions to Ask an Object", 2016.

In this project, he breaks up the semester long project into groups of questions to "ask" of the object, culminating in a final project that graphically presents a synthesis of the semester long research. Bird states this activity is successful and that it forces "them to really do a deep dive into research techniques and into sources of information that they never would have bothered

with. They otherwise would just Wikipedia everything. I mean, people were doing patent research and looking at ads as primary sources."[194] This aligns with cognitive learning theories that state, "One does not collect facts he does not need...One is first perplexed by a problem and then makes use of the facts to achieve a solution."[195] Breaking up this large inquiry into smaller pieces also results in an ill-structured problem, which speaks to approaches used successfully in problem-based learning as discussed above and is "an approach that is consistent with how the brain processes information – as opposed to the lecture method, which is generally incompatible with how information is processed."[196] He achieves such results through a highly structured and research focused document that acts as the student's guide in their research. Bird explains that this project reconciles many issues he has with prevailing forms of how history is taught, remarking on why he finds exams to be ineffective to his learning objectives, and saying, "For me the content really is a tool to have the conversation. If I were to expect them to take notes and learn it, I'd have to constrict to things that really made sense." The means in which he assesses the students (through an open-ended, ill-structured problem regarding a designed object) allows for more complex and nuanced conversations in the history classroom on a day-to-day basis because students aren't worried about memorizing for repeating on an exam.[197] They are free to construct meaning and reflection as they choose without repercussions, but subject to the same level of criticality an exam would require. In Lichtman's essay, she stresses a similar point, discussing the "inadequacy of the traditional survey approach, where students listen attentively, take notes on important facts enunciated by the professor and then recite those facts back on exams...is the aim of history of design surveys to make better historians or better designers?"[198]

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[194] Bird, Matthew. (Professor, Rhode Island School of Design), in discussion with the author. November 2016.
[195] L. Calder, "Uncoverage: Toward a Signature Pedagogy for the History Survey," *Journal of American History* 92, no. 4 (2006): 1363.
[196] J.L. Cooper and P. Robinson, "Using classroom assessment and cognitive scaffolding to enhance the power of small-group learning," *Journal on Excellence in College Teaching* 25, 149-161.
[197] Wiggins and McTighe, *Understanding by Design*, 32.
[198] Lichtman, "Reconsidering the History of Design Survey," 342.

In that same essay, she goes on to elucidate the goals the lecture/recitation format that her class at Parsons uses, where the recitation is intended "to stimulate discussion and debate and provide a chance for the students to engage more deeply with the readings and with ideas raised in the lecture."[199] While the addition of recitation sections to lecture halls is well intentioned and works in theory, it does not so much work in practice. In my own experiences, as well with other graduate student teaching assistants (TA), this recitation functions more as a recap of the lecture, driven both by the students and the TA to successfully prepare students for the course's primary assessment, exams that test for content coverage. This means of assessment does not encourage understanding the material as a means for debate, but as material that they must prove they can recite on an exam, which thus affects what the students need the recitation to function as and what TA's feel like they must deliver.

During one of my recitation sections, the class had managed to break away from the content review and lively debated issues surrounding the problems and advantages in standardization as well as domesticity and gender roles within design environments as it related to Margarete Schutte Lihotzky's Frankfurter Kitchen and interiors today. Per Lichtman's intentions, this is how the recitation ought to function. However, this critical conversation was stifled when a student raised her hand and said, "This is great and all, but what do we need to know for the test?" While I explained that these issues, and our debates surrounding them, are essential, the critical thinking they would need to demonstrate for the extended essay in the exam (as well as the larger meaning to be found in history), some students retorted that these "irrelevant opinions" didn't matter, and the students had returned to verifying history styles, materials, and social significance of the design as it related to the "right answers" on the exam, and not discussing how these "irrelevant opinions" are still an important aspect of design practice today. Students having frustrations with these "irrelevant opinions" (which should be a main value gained from a history course) is explained by Grant P. Wiggins and Jay McTighe, authors of *Understanding by Design,*

[199] Ibid.,343.

stating that "What is difficult for many teachers to see (but easier for students to feel!) is that, without such explicit and transparent priorities, many students find day-to day work confusing and frustrating."[200] Therefore, a critical discussion when the assessment is based in content coverage becomes a hard pair to reconcile.

Many history classes use coverage exams to test the means of knowledge obtained. Lichtman acknowledges the downfalls to this, starting "Perhaps rather than courses that emphasize memorization and historical narrative, history of design surveys need to implement more individually expressive approaches to the historical material."[201] Furthermore, students listening to a lecture, with only knowing that they have to know *everything* for an exam, incite the common reaction of "what's the point? What's the big idea here? What does this help us understand or be able to do? To what does this relate? Why should we learn this?"[202] To address this, Lichtman implemented a final project that directly speaks to the issues in design history and practice today:

> Your project should embody the issues, ideas, values, and concerns covered in a particular movement or period in this class (Arts and Crafts, Art Nouveau, Modernism, Postwar design, etc.). You may create your project in any medium. In addition to the project, you are also required to submit a 250-word statement explaining how you have completed your project, and why, and how the project reflects ideas and values from the course. Remember, the project is not an imitation, but a contemporary expression of historic ideas.[203]

This format of appealing to the heuristic skills of design students, as Matthew Bird does with his *40 Questions to Ask an Object* and sketching assignments, pedagogically resonates with students, citing that this project was "extremely important to inform studio work" and "excellent additions to studio."[204] In its open-ended, problem based provocation that is related to their practice in studio coursework, this assignment also resonates with problem-based learning and constructivist

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[200] Wiggins and McTighe, *Understanding by Design*, 16.
[201] Lichtman, "Reconsidering the History of Design Survey," 347.
[202] Wiggins and McTighe, *Understanding by Design*, 16.
[203] Sarah Lichtman, "A History of Design, 1850-present," (syllabus, The New School, New York City, Fall 2016).
[204] Lichtman, "Reconsidering the History of Design Survey," 347.

pedagogy. In my personal experience, this enabled students to have the larger conversations that history aims to incite; they used design provocations promoted by social concerns elucidated in Lichtman's lectures. For example, one of my students, Rose Kramer, redesigned the Joseph and Meeks Broadside—exploring the notion of consumer advertisement in promoting the objects made in the paradoxical philosophies of Morris and Ruskin, titled "*Objects for the Wealthy & Design Conscious in the 21st Century."* Kramer explains:

> The concept of joy in labor that Morris and Ruskin laid out in the 1800s is now referred to in 2016 as artisan; objects like Mast Brothers Chocolate and Mansur Garvriel handbags take mundane items but return craftsmanship to them and charge a high price... there has been a resurrection of these concepts once again as it shows just how important history, and design history is to our everyday lives. Another one of my favorite items is probably the Tesla car, as I think the intention of the car is to create an honest and truly good product...although many of the intentions of these designs are inclusive, the consequences or outcomes of them is very exclusive.[205]

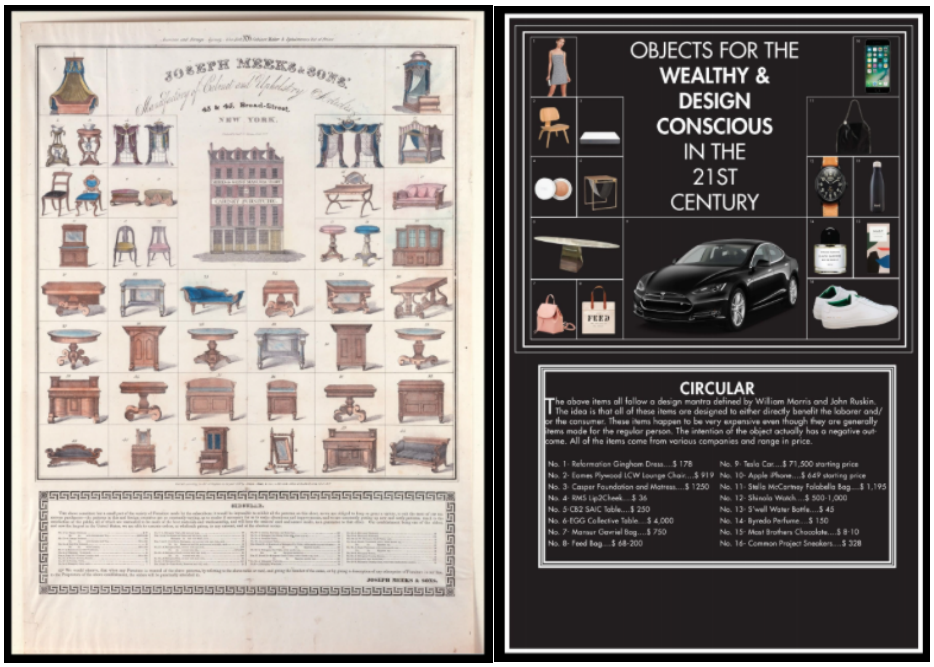

Figure 6. Left, Joseph Meeks Broadside 1833. Right, Kramer, History of Design Project Fall 2016.

These kinds of design oriented assignments are a bridge to what may be a better alternative for engaging with material in history courses as well as assessment. In addition to tapping into

[205] Rose Kramer, Parsons School of Design, Fall 2016 Student Work.

heuristic skills and aptitudes, it mobilizes the learning differently as a student moves through the course. A student who listens to lectures *in order to critically design an object that speaks to lessons from history,* as opposed to listening to lectures *in order to be tested for content coverage for an exam*, will listen and process identical content in two very different ways.[206] In fact, Bird has seen results congruous to results of training a historian, with the methods in which students research their design projects for Bird's class; "It forced them to really do a deep dive into research techniques. I mean, people were doing patent research and looking at ads as primary sources!"[207]

This isn't to say that design-oriented activities should replace critical reading and writing as core tenets of a history class, as most history classes play a vital function in the university curriculum for the specific development of these liberal arts skills. However, as a means of contact to establish a transmission of ideas, utilizing avenues of learning they are familiar with, can lead to increased levels of criticality in reading and writing, as there is an understanding as to what they will be *doing* with this information. We do not need to lose the focus of reading and writing as a core tenet of the course – just access them through a different means of critical thinking, another core tenet of history courses. This can also foster a deeper understanding of the critical function that writing plays in design – as a form of communication and expressing of ideas and intent which ultimately encourages students to "bring a more informed perspective to bear in the application of their primary technical skills."[208]

History Courses in Curricular Structures

The sequencing of coursework in a design degree can be an overwhelming task, especially when one considers accreditation requirements, institutional barriers, and the

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[206] Wiggins and McTighe, *Understanding by Design*, 32.
[207] Bird, Matthew. (Professor, Rhode Island School of Design), in discussion with the author. November 2016.
[208] Mark Salmon and Glenn Gritzer, "Parallel Content: Social Science and the Design Curriculum," *Design Issues* 9, no. 1 (Autumn 1992): 84.

intellectual rigor it takes to conceive of a holistic approach to a 4-year degree program. Therefore, each institution's implementation of curriculum not only speaks to the accreditation requirements but also informs each individual program's identity as well as responding to the evolving professional design practice.[209] I will be analyzing 20 collegiate approaches to organizing a product or industrial design degree, specifically where history classes fall into.

For this sampling, I chose ten private and ten public universities that are all accredited by the National Association of Art & Design Schools (NASAD). The selected twenty programs are also identified as exemplary design schools in America by their consistent appearances on rankings from US News and World Report, Design Intelligence Annual Design School 2017-2018, and rankings completed by College Values, which assessed both the "quality of the program" as well as tuition rates and return value on initial costs.[210] Furthermore, these samples showcase the expanding offerings in degree types for product or industrial design programs, which has expanded past Bachelor of Fine Arts (BFA) and Bachelor of Science (BS) to include Bachelor of Industrial Design (BID), Bachelor of Science in Design (BSD), and Bachelor of Designs (BDes), a deliberate choice made by universities as it "acknowledges the growing importance of the design disciplines as separate and distinct from Fine Art" as well as a tactic to position professional degree programs inside of liberal arts schools.[211]

For the scope of this analysis, the research only surveys the *specific* history courses that the curriculum identifies as "required" (see Appendix 1). While more history courses may be taken by a student in their liberal arts electives, required history courses "may be the *only* time

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[209] Ibid., 14-19.

[210] SEE APPENDIX 3.2 I was hoping to avoid a gathering of just private, expensive schools – as to represent curriculum experiences of design students from many different economic levels and educational backgrounds. For this gathering, I relied on the methodologies of assessment conducted by College Value, who evaluated "cost of tuition, high return on investment, a high percentage of students receiving financial aid, and the number of minors, concentrations, or areas of emphasis offered within the program. The return on investment figures were sourced from Payscale.com The tuition and financial aid information was sourced from The National Center for Education Statistics College Navigator Database. Salary information was sourced from the Bureau of Labor Statistics"

[211] "School of Design, Carnegie Mellon University," Undergraduate Degrees, December 01, 1970, accessed December 15, 2017, https://design.cmu.edu/programs/undergrad.

students are introduced to historical content," so being exclusive to these courses allows a survey on how and what various product and industrial design curricula considered *adequate foundational knowledge* of historical content, should a student choose to go no further in history coursework than in their electives. While there are many components to curricula design to dissect, I focus on three curricula considerations as they emerged from the survey. First, art history courses continuing presence in prominent design programs and curricula. Second, exploring various approaches to foundational knowledge in mapping history courses in the four-year suggested plan. Lastly, comparing the curricula with degrees of elective choice, and assessing current practices in assessing the degrees of freedom for students in their curriculum, from more controlled education as mandated by rigid required coursework to looser frameworks that favor electives.

Required Courses: The Stronghold of Art History

One of the most obvious symptoms of historical precedent in design education is the emphasis on art history courses, particularly in private universities. In the 28 courses identified as required history courses in the 10 private schools surveyed, 57% are art history focused and 32% are design history focused (see Appendices 1 & 2). However, what is interesting is that in public institutions, almost the exact opposite occurred, of 26 identified required history courses, only 26% were art history focused, whereas 74% were design history specific. This could be symptomatic of what other scholars have addressed as design programs being "a child of art school," and therefore suffering under the curricular "hand me downs" from art schools – for a BFA constitutes as 6 of the 10 degree programs in product design at the top private schools, but only accounts for (1) in the top public schools (see Appendix 3).[212] The exaltation of this is *Savannah College of Art and Design* (frequently ranked in the top 3 design schools by Design

[212] Margolin quoting Penny Sparke's opening notes at a Design History conference, see Margolin, *Design History vs Design Studies,* Design Issues 1995; Riccini, "Innovation as a Field of Historical Knowledge," 26; Dilnot, "The State of Design History,"11-12.

Intelligence) which require no design history, but a sequence of 3 traditional, art history lectures, and the exception to this is *Parsons School of Design*, who offers a BFA in Product Design, but does not require an Art History course for designers, rather it requires a sequence of two courses titled Objects as History and History of Design 1850-2000 (see Appendix 1). Furthermore, it could also be reflective of public schools being geared more towards antecedents in preferring professional degrees, modeling curricula off other professional degrees such as engineering and medicine, therefore not relying on curriculum established by liberal arts or fine arts schools.

Approaches to Laying Foundational Knowledge[213]

As discussed earlier, the case study interviewees all agreed that a foundation understanding of chronology allows a deeper understanding of any introductory thematic elements. Scaled up, this notion aligns with many institution's curricula who introduce broad history surveys before any methods courses, which are generally defined as thematic or theoretical focused coursework. In this way, it would mean that initial art history surveys that come before theory or histories of design – found in California College of the Arts and Pratt Institute – would potentially allow for a deeper learning in the required upper level design history surveys and would be interesting to see how students with a foundational knowledge in art history perform next to students in other programs where the foundational courses are design histories, such as Parsons or Arizona State University, and the upper level continue to build design history teaching. Despite the saturation of Art History courses in private schools, there are many interesting courses that seem to experiment with "foundational" historical knowledge for a beginning design student. While many schools approach foundational knowledge through sets of historical surveys, Iowa State, Arizona State, and MICA offer interesting case studies for the initial exposure to history, theory, or critical thought to design students.

[213] For all courses found in these sections, please refer to Appendix 1.

Iowa State's first required liberal arts course is titled, Design Cultures, which is described as, "A broad-based exploration of the dynamic relationship between design and culture, employing the case study method to investigate examples of cultural production in contemporary society. Design processes and design works are presented as culturally, economically, environmentally, historically, ideologically, politically, and socially grounded events and artifacts."[214] Iowa State has taken an inverse approach, providing a thematic course, laying the groundwork for methods of research, before any chronological. Following this course, the students are exposed to two full semesters of History of Industrial Design, the second section of which starts in 1960 and ends in the contemporary. Furthermore, this introductory class specifically addresses "design processes" in addition to design works, bringing the act of designing up to the same importance as the work of design. Also, in enabling a case studies approach, this course has pedagogical roots in history courses used in law school, for "they can illuminate both the *practical and theoretical"* because of their specificity in representing larger ideas.[215]

Moving a step past that, Arizona State has a fall first year required course titled "Design Awareness" which "Surveys cultural, global, and historical context for the design professions." Again, while it is like existing structures, this positioning of the survey under the "Design Profession" allows for a nuanced introduction to historical content and position, potentially inducing deeper learning and criticality in the surveys during their Junior Year, Design History I and II. Lastly, MICA has a required seminar course for first year students titled, Art Matters, and is described as:

> A first-year foundation experience, this course introduces students to the interpretation of art, architecture, and design. The course is not a survey class. Rather, it focuses on teaching students how historians, curators, and critics approach the study of art, architecture, and design in context – the types of questions they ask and the methods they use to answer those questions. Different sections of this course will focus on specific

[214] "Design Studies (DSN S)," Design Studies (DSN S) | Iowa State University Catalog, accessed January 02, 2018, http://catalog.iastate.edu/azcourses/dsn_s/.
[215] Shulman, "Knowledge Growth in Teaching," 11.

> themes that will guide the content of each section. When registering, students will have the opportunity to list their order of preference for the themes offered each semester. Students in all sections will complete a common series of art-historical writing assignments and will receive instruction in library use and research.[216]

This course serves as the groundwork for the proceeding course in history requirements, titled Modernism and After, as well as complementing a required first year course titled Critical Inquiry. The concept of teaching design students *why* and *how* "historians, curators, and critics approach the study of art, architecture, and design in context" could potentially serve to overcome the disconnect that's so often seen between why a historian teaches something, and why a student must learn it. Establishing this "meta" lesson could be beneficial to elucidate ways of learning and knowing, such as revealing "domains and categories of content knowledge in the minds of teachers" so the design student better understands design historians, potentially inducing more critical reflection in a history class later on that otherwise would be seen as disconnected.[217] Lendol Calder, a pedagogue for teaching history more generally, used similar tactics to rethink his approach to historical surveys, written about in his essay *Towards a Signature Pedagogy* and implemented an initial 3-week period in his course that was "the prologue, is designed around questions and exercises meant to uncover important aspects of the historical enterprise: What is history, why study it? What problems trouble historical knowledge?" He reports that this approach saw astounding success, in both the criticality of the students and their understanding of a design history canon, and thus re-oriented his survey to aim at elucidating methods that historians use, question existing cultural norms, and dive deep into the nature of truth.[218] While this approach isn't instrumentalizing to studio work, it is instrumentalizing in that it aims to elucidate concerns in the field of history, where the student can see the relevancy of the history course past just an exam.

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[216] Maryland Institute College of Art, "MICA: Maryland Institute College of Art," Curriculum | MICA, November 21, 2017, accessed January 02, 2018, https://www.mica.edu/Programs_of_Study/Undergraduate_Programs/Product_Design/Curriculum.html
[217] Shulman, "Knowledge Growth in Teaching," 10.
[218] Calder, "*Towards a Signature Pedagogy,"* 1363-68

Degree Requirements: The Balance Between Required Courses and Electives

Another element of curriculum design is the extent to which liberal arts courses are controlled through required courses or allowed to be made as elections by the students. Dan Michalik, the Program Director of Product Design at Parsons, reflected on the restructuring of degree requirements stating that, "we intentionally let loose on some of our grips on required coursework, allowing these electives to enable the students to study what they want to and bring in topics to studio that they are interested in."[219] This is beneficial in allowing students to navigate their own interests – but presents a conundrum when considering the effectiveness of intentional knowledge transference from critical studies to studio work, for it prevents "lateral curriculum knowledge, which underlies the teacher's ability to relate the content of a given course or lesson to topics or issues being discussed simultaneously in other classes."[220]

For example, Carnegie Mellon's approach to curriculum pairs specific studio topics to a three credit unit of *Design Studies*, which encapsulate both history and theory, to each semester's studio. This results in two years of continuous studio and critical studies to directly speak to one another, allowing professors to "rethink the ways they teach [and thus help students] connect content with practical skills."[221] A similar approach is used in the first year curriculum at Parsons, in the two courses titled Integrative Seminar and Integrative Studio, which curricularly sets a precedent regarding the relationship to creative and practical based courses and research and writing based courses. After moving into the crux of their degree program, the only coursework that is deliberately tied to studio work are technical classes, until the Fall of their senior year, when students take Advanced Research Seminar, which correlates as a research methods class to their senior studio work. Parsons' approach allows for more freedom in personal choice and exploration, resulting in a lack of intentional pedagogical connections to studio practice. Carnegie Mellon's approach allows for less personal exploration, but results in intentional connections to

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[219] Daniel Michalik, interview by author, Parsons, School of Design, November 29, 2017.
[220] Shulman, "Knowledge Growth in Teaching," 10.
[221] Gritzer and Salmon. "INTERDISCIPLINARY USE OF THE LIBERAL," 200.

studio and liberal arts, which works to overcome what Lichtman has stated as "the history of design survey often seems an existential exercise with little relation to creative projects."[222] While the Integrative Seminar sets up this condition to hopefully enable students to self-implement practices of interdisciplinary approaches, reflecting on Lichtman's observations, this seems to get lost in the second year.

Furthermore, that extensive scaffolding of design studies addresses a larger issue in design education, which is hiring professors with interdisciplinary approaches – who otherwise don't fit neatly in separated curriculums but often are the most effective teachers, as one pedagogue reflects, "individuals with varied social backgrounds may be useful for developing a faculty committed to the liberal arts. In these ways, faculty who teach professional courses can be encouraged to integrate the liberal arts into their technical courses, thus supplementing and reinforcing the aims of general education."

Conclusions

There are many aspects to teaching design history – from the ways we convey knowledge inside a history classroom, to activities and assessment chosen, to how institutions align history coursework with other liberal arts and studio coursework. To make this more complicated, the amount of varied backgrounds in the formation of design history is compounded with the professors of design history having varied backgrounds, as well as the different curricula that they function in. Each professor brings a certain focus to each class as well as notions of what "good teaching" is and how material is best synthesized, or not, to practical studio coursework. One way to overcome this is considering how coursework aligns – such as the examples of Carnegie Mellon and Parsons that were discussed. Also, interdisciplinary teaching is a consideration, or coursework that resembles what European schools are exploring in terms of melting all studies into one or two intensive courses a semester – for example where skills like ethnography are

[222] Lichtman, "Reconsidering the History of Design Survey," 342.

taught inside of the studio as a technical attribute that students must perform to and work with directly into their design practice.[223]

Since design history is "essential because it can help sharpen the focus on complexity, community, consumption, mediation and production...[to] help design students embrace criticality"[224], we must assess and understand the implications of such approaches, new means of assessing curricular effectiveness and in turn, this results in graduating students who possess, or don't, the benchmarks of a holistic, critical designer.

[223] Central Saint Martins in the University of Arts London School is a good example of this. Matt Malpass, who has authored quite a few writings on inciting criticality in designers, has worked to shape their curriculum which addresses silo-ing that has historically happened in the past, see http://www.arts.ac.uk/media/arts/colleges/csm/courses/programme-specification-2018-19/CSM-BA-Product-Design-Programme-Specification_201819-Entry.pdf

[224] Williams and Rieger, "A Design History of Design," 17.

CONCLUSIONS

In design schools in the United States, the methods in which we teach and value history courses in a student's design education are a result of many pedagogical antecedents and cultural forces that have shaped the precedent for design education. The liberal arts components of a designer's education promote critical thinking, give consideration of social contexts that "enable designers to play a more active decision-making role in the design project", yet they remain a chore in a design student's undergraduate career, seen as unrelated to their studio work. Traditional approaches to education, industrialists' control over design education, the emergence of design history as a field, and the evolving definition of design practice continually impact and shape current day design programs.

The silo-ing of education perhaps is the largest culprit in the student's inability to connect content meaningfully across their liberal arts and studio based courses. To better the relationship between history courses and the education of a design student, design educators must work to overcome the separation of coursework, building stronger connective tissue between the relevancy of history lessons and content and student's studio practice. While there is much work to be addressed in the content selection of the history course, issues in content should, at least partially, be informed by the curricular marriage and deliberate fusion of history coursework and design studios. From the École des Beaux-Arts, to Walter Sargent at University of Chicago, to the revolutionary Bauhaus curriculum, all advocated for an approach that married vocational and liberal arts studies but contemporarily, these practices remain at the fringes of education, not the rule.

However, these methods were not stamped out because of their failure to train a designer, but societal forces that favored producing designers as aesthetic stylists (or as Moholy-Nagy said "to produce bread-winning" designers) for the market and the misconception that history studies would hinder a new, modern expression. With these beliefs in place, history courses have

suffered under the superficial marriages between the liberal arts and vocational training, rendering the valuable content that history has to offer meaningless and forgotten by the student.

While there are a variety of in-house solutions to this, such as syllabi reviews in a department that aim to inform faculty of other courses happening, a good precedent to look to is Walter Sargent, whose history courses saw record number enrollments after instituting an aggressive teacher training that focused on interdisciplinary teaching, professors that could guide students through the application of theory to practice, and the relevance of history in making and designing today, believing that "Teachers of tools and teachers of theories are equally undesirable. Teachers who can use tools well, but without taste, and teachers of taste who can do nothing themselves, are blind teachers to guide blind."[225] Furthermore, this case study offers a marriage where history courses weren't conceding to be instrumental to studio work, for the history department at the University of Chicago hugely benefitted. Not only did it see record enrollment in history courses, but this approach also produced one of the most comprehensive and influential art history textbooks of all time, Helen Gardner's *Art Through the Ages.* Inspired by Sargent's approach, her text was interdisciplinary in nature – considering the tools that design students would need to contextualize material, including material libraries terms and manufacturing techniques lists, as well as notes for teachers to convey the material to the students in an effective manner. Despite the large success, these experiments too were wiped out and Gardner's textbook was completely edited to accommodate the "traditional" histories of aspirational elegance and luxury (great works of art) in the western canon that was deemed as rampant consumerism and nationalism that followed in the post war years.

But these approaches are making a return overseas, where curricular structures such as Central Saint Martin often combines liberal arts studies to the studio coursework, bringing in

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[225] Henry T. Bailey was an influential art pedagogue in the early 1900s, see L. D. Summers, "The Correlation of Drawing and Manual Training," The Elementary School Teacher 4, no. 2 (October 1903): 109, doi:10.1086/453291

specialists to co-teach content in a shared space. Their approach is explained from their "Programme Specification" guide where they specify how they conceptualize the liberal arts component to the product design degree:

> Contextual Studies examines some of the key historical, theoretical, and social contexts from which products acquire meaning and in which product design practice operates. Crucially in our programme, it is taught in-studio alongside Design Studies [CSM regards design studies as in design practice] to introduce ideas and thinking from radically different disciplines to inform and energize design projects.[226]

The Bauhaus had a similar idea, with their conception of "Design Basics," which aimed to merge thinking and making, but Gropius failed to employ professionals in the social sciences and history, or content specialists in these areas, because it would have "wrought havoc in the Bauhaus [with] fanatic attitude which ran counter to my own broader approach."[227] Therefore, the notion of critical thinking in design studio was introduced, but any notion of a *formal* education in theory and history lacked any specialists teaching these subjects, again, superficially merging these ideals. Curriculum today adopts a more separated approach, where history is left in the history classroom and studio is left in the studio, but with the benefit that trained professionals in each field come into contact with students. But the separation of these areas of study does a disservice, as students navigate required and elective courses, this arrangement leaves professors of various courses unaware of what else the students are taking, and thus, valuable knowledge transference across courses get lost. Good curriculum design "should lay out the most effective ways of achieving specific results. Our frameworks should provide a set of itineraries deliberately designed to meet cultural goals rather than a purposeless tour."[228]

While curricularly this should be resolved, the practices and content inside the design history classroom should also be scrutinized for how best to incite criticality in design students.

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[226] *Programme Specification BA Product Design*. London: University of Arts London, 2017. December 10, 2017. http://www.arts.ac.uk/media/arts/colleges/csm/courses/programme-specification-2018-19/CSM-BA-Product-Design-Programme-Specification_201819-Entry.pdf
[227] Ibid., 32.
[228] Wiggins and McTighe, *Understanding by Design*, 13.

The consistent enforcement of history as lessons to train the aesthetic eye, or a history of styles, for designers is in part a result of the industrialists control over design education formation, who desired designers that were seen as the "pretty police" for commodity culture, and clearly exhibits scholarship that was developed in the service of auction houses. Many design history courses' content features expensive and fetishized furniture, such as Thonet bentwood chairs and Bauhaus products. While these should not be excluded, they must be balanced out with other historical content that is of importance to a design student, such as the evolution of the design process, how innovation and economics have impacted the design professions and contemporary issues in designing for a digital age and in an age of sustainability that makes the contextualization of the entire march of history relevant for the practitioners of 2020. Not only do these train the student in a more relevant historical context for their practice, but also allows for more connective tissue to the material as it aligns with Constructivist pedagogy and concepts of how designers think and it is explored in Donald Shön's theories on the "Reflexive Practitioner."

Lastly, assessment in the history classroom should be scrutinized under best practices in teaching and learning as well. If history courses aim to incite critical conversations and "questioning what they see," then the concept of a history classroom as debate speaks to the general preference for seminars over lectures in design history. But even as design history classes try to incite debate, such as the lecture and recitation model at Parsons, if the assessment remains to test for coverage, the experimentation is in vain. Assessment is considered an umbrella term "covering evaluation, testing, measuring, grading" and the activities that seem to have succeeded in history courses (*40 Questions to Ask an Object* & *The Design Proposal)* are evaluation based, or "judging the value of something with qualitative aspects" over exam testing which "refers to a process of obtaining data."[229] Raizman and Bird, a historian and a practitioner, agree that open-ended investigations, or qualitative" assignments, deliver much better results in the students at the conclusion of the semester.

[229] Trevor Rayment, *The Problem of Assessment in Art and Design* (Bristol: Intellect, 2007), 89.

In order to continue to provide education that is relevant for the design profession, design education must assess some of the traditional methods it holds on to, such as the separation of liberal arts and practice based courses, and history courses need to address both issues in content, making sure that students are able to anchor new information on to existing knowledge for best practices in learning, and pedagogy, emboldening the heuristic skills of designers to more readily access information, allowing for a more critical dive into any content that is chosen. Designing, drawing, making, and visually expressing are areas that they can explore and are familiar with, and can act as the road to learning more about writing and research more effectively. Anchoring new knowledge into an actionable objective also helps students understand *why* they are learning what they are, whether it's for an open-ended project or for a better understanding of a historian's approach, the *why* cannot exclusively be an exam for coverage. If a student thinks *how one uses history* is related to the *memorization of facts*, they are unlikely to *use* history to assess larger critical issues in design making because such knowledge has not been mobilized in that way. Education is vital not only in establishing a designerly value system, but nurturing and evolving it through the teaching of *how* both practical skills and liberal arts are *essential* to the competencies required for professional design practice today. Through curricula reconfigurations, scrutinizing our methods and content in teaching history to design students and assessing the result in students undergoing such experiments can we resume the evolution of design education that was interrupted in the middle years of the 20th century.

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APPENDICES

APPENDIX 1: Current Day Design Curricula - Historical Coursework and Scaffolding

Each section gives a snapshot of the institution's required liberal arts course progression, with the required history courses listed first and the supporting required liberal arts courses below.

School[230]	Semester (4 year degrees = 8 semesters)	Title of Required Courses	Course Format
California College of the Arts (CCA)* ***BFA Industrial Design***	**1**	**Introduction to the Arts: Antiquity to Early Modern**	Lecture
	2	**Introduction to the Modern Arts**	Seminar
	3	**History of Industrial Design**	Seminar
	1/2	Writing 1/Writing 2	
	3	Foundations in Critical Studies	
Carnegie Mellon* ***BID - Bachelors in Industrial Design***	2	Global Histories	Lecture / Recitation
	1	*Design Studies:* Placing (Comparing contrasting home and new area)	
	1	Interpretation and Argument (art of crafting arguments from critical resources)	
	2	*Design Studies:* Systems (design in ecologies/socio technical regimes.)	
	3	*Design Studies:* How People Work (Lecture & Reading heavy, emotional, cognitive and physical understanding of humans)	
	4	Research Methods	
	4	*Design Studies*: Cultures	
	5	*Design Studies:* Futures	
	6	*Design Studies:* Persuasion	
Pratt Institute*	1	Themes in Art & Culture I (retains Art & Architecture themes)	Seminar

[230] These are presented in no particular order, but are grouped first by 10 private schools followed by 10 public schools who are identified as exemplary design schools in America by their consistent appearances on rankings from US News & World Report, Design Intelligence Annual Design School 2017-2018, as well as assessments completed by College Values - which assessed both the quality of program as identified in student feedback, but also on return value on initial costs. I was hoping to avoid a gathering of just private, expensive schools – so as to speak to a larger audience of Design Education to include students from many different economic levels and educational backgrounds. "Industrial Design Degrees: Top 30 (Undergrad)," College Values Online, , accessed December 15, 2017, https://www.collegevaluesonline.com/rankings/industrial-design-degrees-top-undergraduate/.

BID - Bachelors in Industrial Design	2	Themes in Art & Culture II	Seminar
	3	History of Industrial Design	
	1/4	Literary and Critical Studies 1, Literary and Critical Studies 2	
	7	Design Theory & Research	
PARSONS* ***BFA Product Design***	1/2	Objects as History	Seminar
	3	History of Design 1850-2000	Lecture / Recitation
	1/2	Integrated Seminar 1, Integrated Seminar 2	Seminar
	4	Intro to Design Studies	Lecture / Recitation
	7	Advanced Research Seminar: Constructed Environments	Seminar
Savannah College of Art & Design* ***BFA Industrial Design***	1/2	Survey of Western Art I	Lecture
	2/3	Survey of Western Art II	Lecture
	3/4	20th Century Art (no required design history)	Lecture
	½	Speaking of Ideas	
	1/2	English Composition	
RISD* ***BFA Industrial Design***	1	History of Art + Visual Culture	Seminar
	2	Topics in History, Philosophy + The Social Sciences	
	4	History of Industrial Design	Lecture
	1	First Year Literature Seminar	
MICA* ***BFA Product Design***	1/2	Art Matters	Seminar
	3	Modernism & After	Lecture

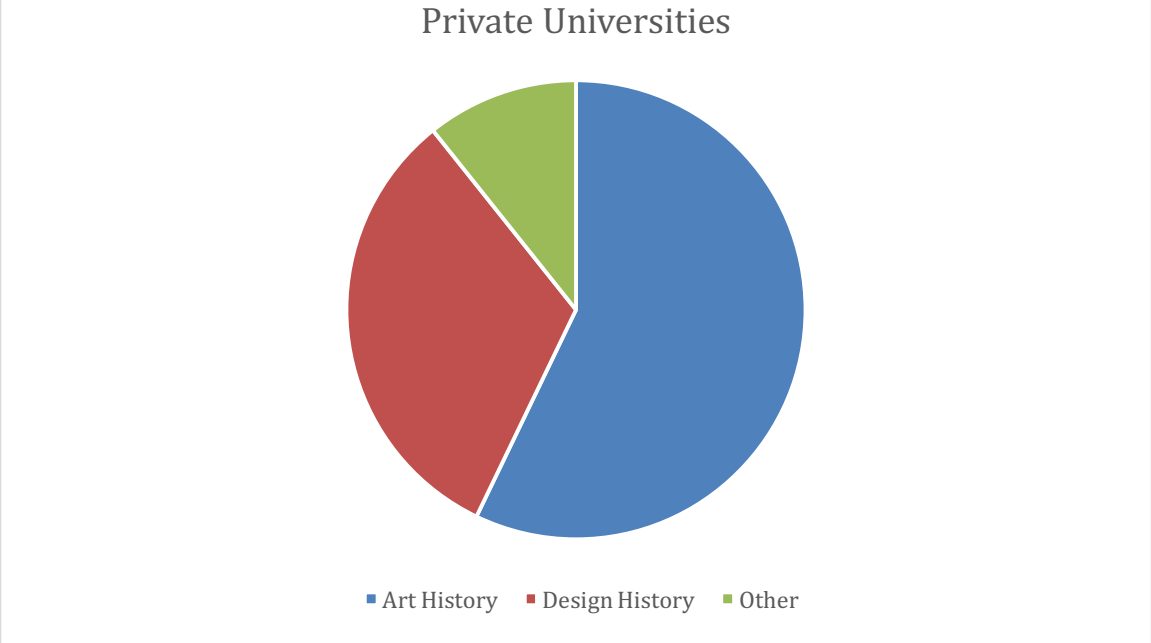
	3/4	Intellectual History 1	
	3/4	Intellectual History 2	
	1	Critical Inquiry	
Art Center College of Design* **BS Industrial Design**	2	Intro to Modernism (History Course - but more broad in content)	Lecture
	3	History of Industrial Design	Lecture
	1	Writing Studio	
Otis College of Art & Design * ***BFA Product Design***	2	Birth of Modern	?
	3	History of Product Design	?
	4	Contemporary Issues	?
	1	Writing in the Digital Age	
	1	Introduction to Visual Culture	
	2	Ways of Knowing	
Drexel University* ***BS Industrial Design***	1	History of Art II: Renaissance to Romanticism ARTH	
	2	History of Art III: Modern Art ARTH	
	1/2	History and Analysis of Product Design PROD	
	5+	History of Modern Design ARTH	
	1	Composition and Rhetoric 1: Inquiry and Exploratory Research	
	2	Composition and Rhetoric 1I: Advanced Research & Evidence-Based Writing	
	8	Applied Design Research	
University of Cincinnati ***Design, Architecture, Art & Planning (DAAP)*** ***BS Industrial Design***	1	History of Art 1	Lecture
	2	Sources of Modern Design	Lecture
	3+	Design History, Theory and Criticism	Seminar
	1	English Composition	

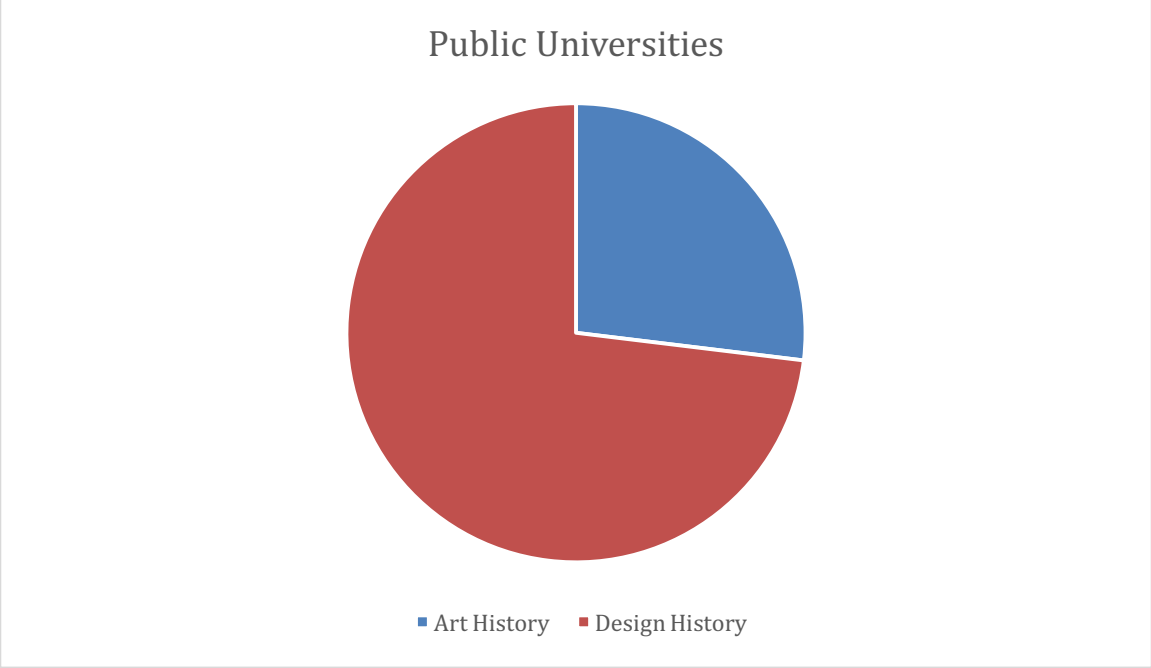
	3	Theory of Industrial Design	
Georgia Institute of Technology ***BS Industrial Design***	1	History of Modern Industrial Design ID2202	Lecture
	4	Art History II COA2242	
	6	Culture of Objects ID 4206	
	1 & 2	English Comp 1, English Comp 2	
Arizona State University ***BSD Industrial Design (Ohio State & Penn also offer BSDs)***	1	Design Awareness - Surveys "cultural, global & historical context for the design professions" DSC	Lecture
	5	20th Century Design I	Lecture
	6	20th Century Design II	Lecture
	1 & 2	English Comp 1, English 2	
	8	Writing for the Professions	
Iowa State University ***BID Bachelor's Industrial Design***	2	Design Culture DSN S 183	Seminar
	5	History of Industrial Design 1 IndD387	Lecture
	6	History of Industrial Design II	
	1	Critical Writing & Communication	
	2	Written, Oral and Electronic Communication	
Purdue University ***BFA Industrial Design***	3	History of Art Since 1400	Lecture
	5	New Media Culture	
	6	History of Design II	
	1	English First year Composition	

	2	Fundamentals of Speech	
	5	Design Methodology	
	5	Seminar on Ideas in Industrial design: Design & Society	
	7	Seminar on Ideas in Industrial design: Design & Creative Problem Solving Methods	
University of Illinois at Chicago ***BDes Industrial Design***	3	Art History I	
	4	Art History II	
	5	History of Design I: 1760-1925	
	6	History of Design II: 1925-present	
	1/2	Academic Writing 1 / Academic Writing II	
	1	Design Colloquium	
	7/8	Senior Colloquium	
Michael Graves College ***BID Industrial Design***	2	Art History I Prehistorical to Middle Ages	
	3	Art History II Renaissance to Modern	
	6	History of Industrial Design	
	1	College Composition	
	1	Speech Communication	
	2	Intro to Design & Visual Culture	
	8	Critical Perspectives	
Ohio State	2	Design History	

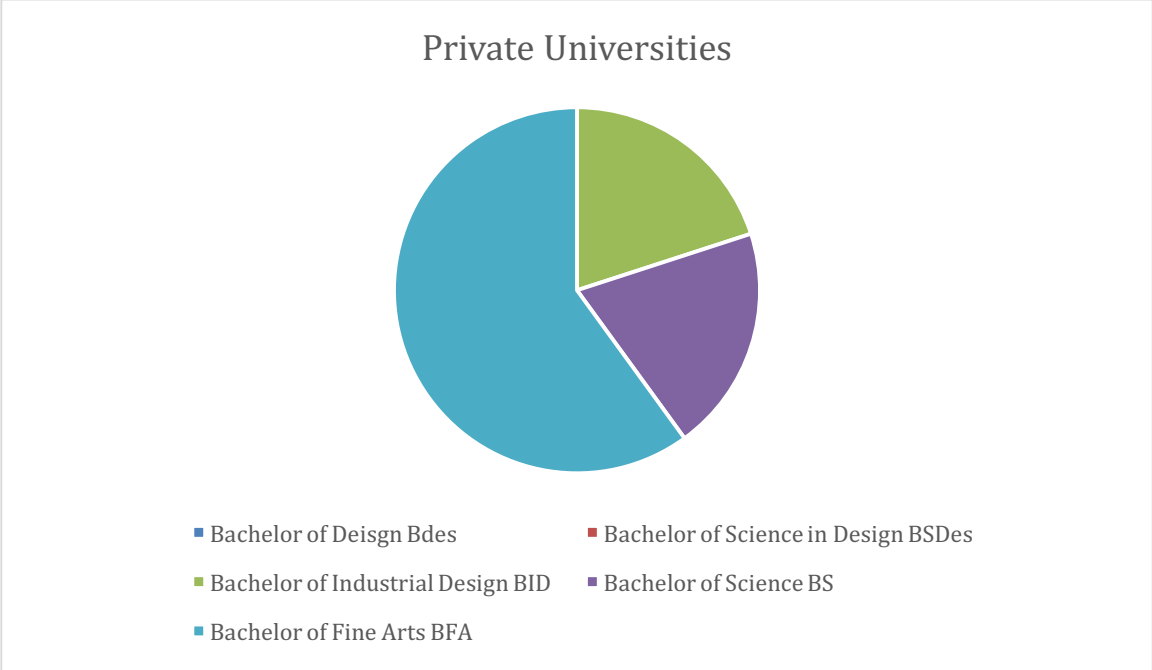
University ***BID Industrial Design***	1	Intro to Design Practice (Theory/Methods Course)	
	2/3/4/	Design Research - Taken in Tandem with Studios (like Parsons)	
Lawrence Technological University **BS Industrial Design**	1	Art & Design Awareness	
	6	Industrial Design History	
	1	College Composition	
	4	Writing Proficiency Exam	
California State University Long Beach **BS Industrial Design**	1	Design History	
	8	Hist/Theory of Design, Global Issues	
	1	Written Communication	
	2	Oral Communication	
	3	Critical Thinking	

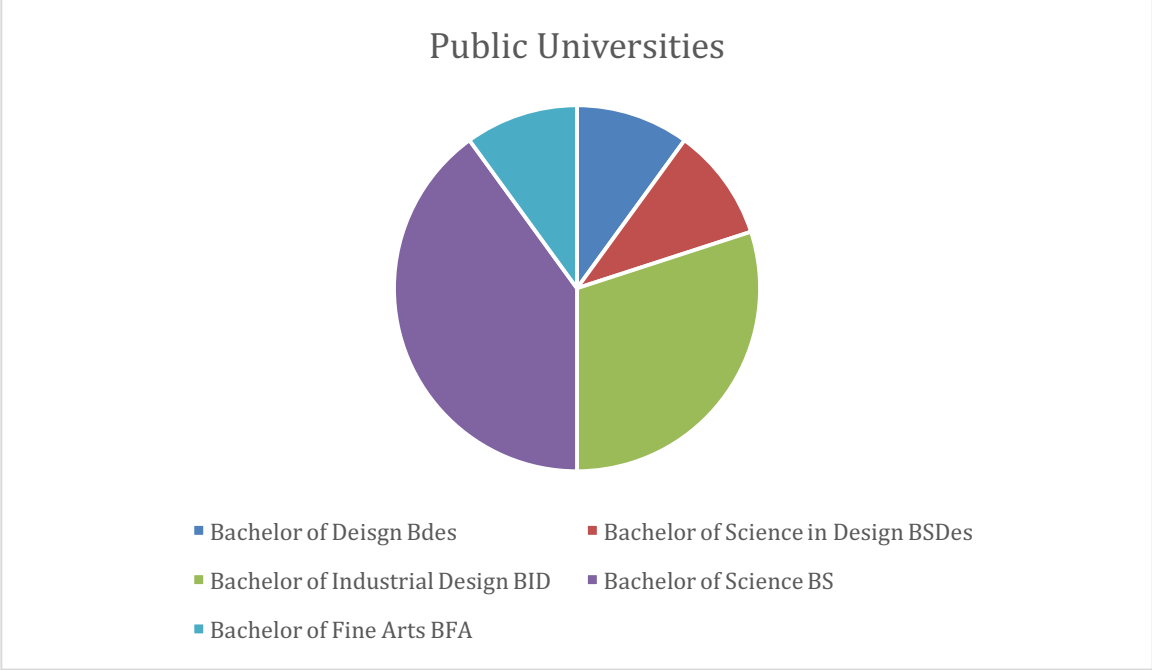
APPENDIX 2: Required History Courses





APPENDIX 3: Analytics of Degree Types Offered





APPENDIX 4: Learning Outcomes in Various Design Degree Programs

1. Parsons, BFA Product Design - https://www.newschool.edu/provost/curriculum-learning-outcomes/

2. Pratt, Bachelor of Industrial Design - https://www.pratt.edu/academics/school-of-design/undergraduate-school-of-design/undergraduate-industrial-design/industrial-design-bid/

3. Art Center, BFA Product Design - http://www.artcenter.edu/academics/undergraduate-degrees/product-design/course-of-study/program-learning-outcomes.html

4. Cal Arts, BFA Product Design - https://www.otis.edu/student-outcomes/program-learning-outcomes-product-design

5. Rhode Island School of Design, BFA Industrial Design - http://www.risd.edu/academics/industrial-design/undergraduate/