

The Myron E. Ullman, Jr. School of Design

the making of an american design school

Gjoko Muratovski

The Myron E. Ullman, Jr. School of Design
The Making of an American Design School

Written by Gjoko Muratovski © 2019

Published by The Myron E. Ullman, Jr. School of Design
Originally written for She Ji: The Journal of Design, Economics, and Innovation

Cover Design: Gjoko Muratovski
Layout Design: BeckmeyerDesign
The Ullman Typeface Design: Akshat Srivastava
Copy Edit: Ekaterina Loy and Sarah Chase
"150 Years of Design" Commemorative Logo Design: Gjoko Muratovski
All rights reserved.

The Myron E. Ullman, Jr. School of Design
College of Design, Architecture, Art and Planning (DAAP)
The University of Cincinnati
342 Clifton Court
Cincinnati, OH 45221
United States of America

Pantone chips at right match the College of DAAP building.

One Hundred and Fifty Years of Design.



Copyright Disclaimer: This publication is not for sale and is developed for nonprofit educational purposes and noncommercial use. Under Section 107 of the Copyright Act of 1976, allowance is made for "fair use" of copyrighted material. All images in this book are used for purposes of criticism, comment, teaching, scholarship, and research. The publication itself is developed as a part of a research study and is a scholarly work that examines and comments on the history of The Myron E. Ullman, Jr. School of Design.

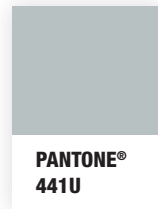
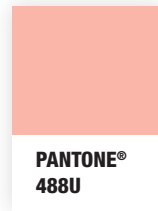
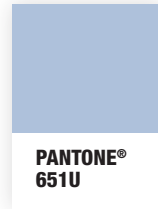


table of contents

	Foreword
1	Introduction
2	The Origin Story
5	The McMicken School of Design
12	The Rise of the Industrial Arts
16	The European Influencers
21	The Rise and the Loss of the McMicken School of Design
34	The Birth of Cooperative Education
40	The Second Life
51	The Next Generation
58	The Ullman School of Design
69	Industrial Design
87	Transportation Design
96	Communication Design
104	Fashion Design
116	Building Blocks for the Future
119	Development of New Skills
124	Enhanced Student Engagement
126	Empathetic School
131	Changing Demographics
134	Working Professionals
138	Entrepreneurial Mindset
140	Teaching Innovation
141	The School as a Destination
142	Prospective Student Support
143	“Hardest to Hire” Skills
146	Conclusion
149	Acknowledgments

foreword

Some time ago I was fortunate enough to produce a book titled *Visions/Revisions* (2001) about that shining institution on the hill named The College of Design, Architecture, Art, and Planning (DAAP), at the time a leader in the nation in almost all offered programs. The occasion was a unique moment in that it marked the turn of the century, a seemingly appropriate time to record the state of the college. It also coincided with the occasion of my stepping down as the Dean of the College after serving for nearly two decades – two very eventful decades in which both the University of Cincinnati and the college experienced tumultuous changes. In the case of the university, these changes resulted in the complete “re-Imagineering” of a decrepit old campus, and in the college, it was manifested in a re-envisioning of the academic structure while growing into a radical new architecture.

I always believed that we needed to know the way we were in order to envision where we need to go. Accordingly, I had commissioned two writers to address the history of the college and its leadership under four successive deanships. Terri Premo, a Ph.D student at the time of our much-celebrated history professor Zane Miller, focused on the history of the college, while Cindy Damschroder, a faculty member of the Art History department, discussed the individual deanships in depth. These, along with our college organizational and alumni history, formed the basic structure of this effort. It allowed us to develop the zeitgeist of where and what we were at the turn of the century.

As somewhat of a history buff, I was very excited when a request came from Gjoko Muratovski, Director of The Myron E. Ullman, Jr. School of Design, to write a foreword to a book that he was working on which would explore and trace the formulation and development of the School of Design in greater detail and depth. Nothing would have been nearer to my heart, as Gjoko has brought much-needed freshness and has energized the school with major new appropriate initiatives. He has also produced a brilliant narrative, which readers will undoubtedly enjoy.

Indeed, such explorations on the part of other schools at the college would be welcomed by all concerned at DAAP.

Jay Chatterjee

Dean Emeritus

Professor Emeritus of Architecture and Planning

The College of Design, Architecture, Art, and Planning (DAAP)

INTRODUCTION

As I write this article in 2019, the design world celebrates the **100th anniversary** of the Bauhaus. This was an exceptional art, design, and architecture school in Germany whose legacy, despite its short existence (from 1919 to 1933), still lives on today. The guiding principles established by the founding Director, Walter Gropius, and the teaching strategies developed by the Bauhaus staff inspired the curriculums of many art and design schools around the world. In many ways, the design philosophy that Bauhaus introduced a century ago still remains relevant and continues to inspire new generations of creative talent.¹

Bauhaus had a strong vision, clear ideological focus, and an embodied sense of identity. This is what made the school unique to other similar schools at the time in Germany. Throughout the modern history of design there were a number of other design schools that tried to shape the field in one way or another. While some were experimental, others were grounded and had a very practical focus. Very few of these early-day mavericks survived the test of time, remained true to their original mission, and continue to thrive today. The Myron E. Ullman, Jr. School of Design, whose heritage can be traced back 150 years in Cincinnati, Ohio, is one of these schools. Its predecessor, The McMicken School of Design, which was established with the mandate to drive innovation in industry, set the foundations for a design program whose idea still



lives on even today.² This year, as the Ullman School of Design at the University of Cincinnati's College of Design, Architecture, Art, and Planning (DAAP) celebrates its 150th anniversary, I would like to take a look back at its history in order to envisage its future.

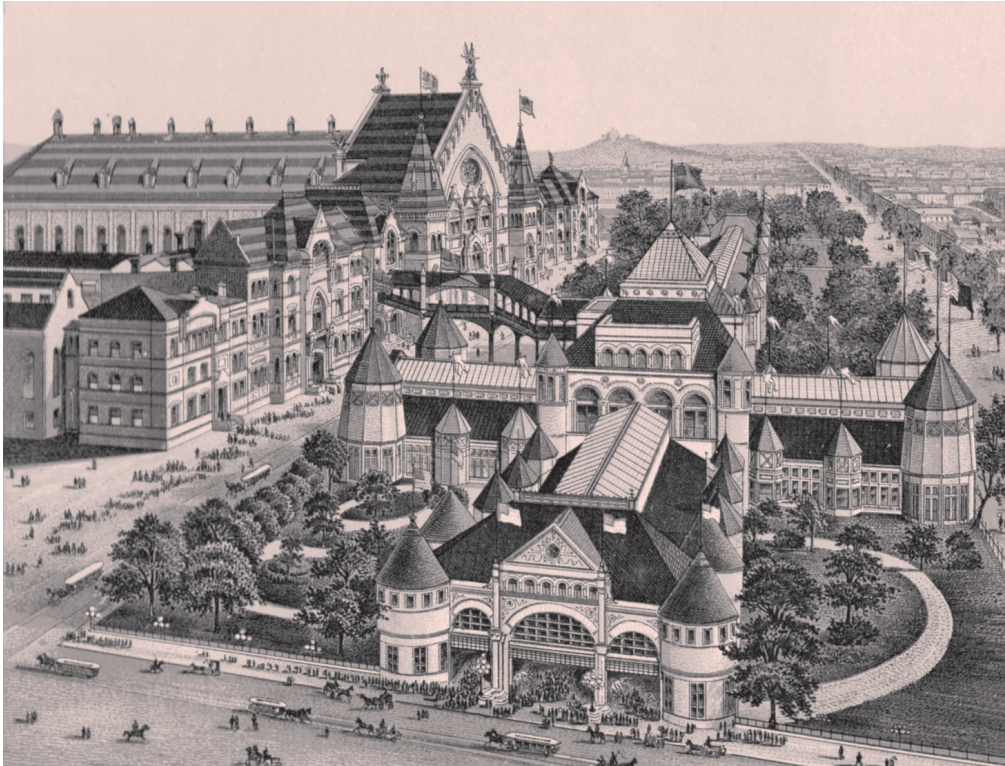
THE ORIGIN STORY

Exactly fifty years before the Bauhaus, in 1869, The McMicken School of Design in Cincinnati, Ohio was perhaps the first university-based design school to open its doors in the United States.³ Other eminent American design schools such as the School of the Art Institute of Chicago (established in Chicago as the Chicago Academy of Design in 1866), Rhode Island School of Design (established in Providence, Rhode Island in 1877), Columbus College of Art and Design (established as the Columbus Art School in Columbus, Ohio in 1979), Parsons School of Design (established as the Chase School in New York City in 1896), Academy of Art University (established as the Academy of Advertising Art in San Francisco, California in 1929), ArtCenter (established as The Art Center School in Pasadena, California in 1930) were established as private, standalone schools. Most university-based design schools as a part of the public university system only emerged after World War II. This is what makes the McMicken School of Design so ahead of its time as an institution. The school's history is rich and complex, and closely mirrors the politics of its time, the social fabric, and the fluctuating state of the economy. As with any institution, its history is marked with successes and downfalls, but its longevity demonstrates that the need for a school like this continues to persist through time.⁴

This quintessential American design school was established with the sole purpose of advancing industry by using design as a tool for creating a competitive advantage. Since the early days, the school's unique curriculum and its capabilities have been created with this in mind. For example, in one of the earliest records in our archives, the *Circular of the University of Cincinnati for 1875-76*, the McMicken School of Design was described in the following way:

The special aim of this school is not merely the study of Painting and Sculpture, but also the improvement of the industrial arts, by affording to the citizens of Cincinnati, and particularly to the operative classes, a thorough, technical and scientific education in Art and Design, as applied to manufacturers; thereby imparting to them such taste and skill in the form and finish of their works, whether large or small, as will always command remunerative employment, and a ready sale for the products of their industry. The advantages which will be derived from this School (if properly sustained by our people), can scarcely be overestimated. Schools of Design, which in foreign countries (and in France especially) have long been liberally sustained at the expense of the government, have given great superiority to their manufacturers, in many of the most important branches of industry. This is proved, not only the results of the great competitive Expositions, but by the contents of our own stores and shops. There can be no doubt that the workmen of this country possess a fertility of invention, and an expertise in the application of their knowledge, which will enable them to excel in whatever they have the opportunity of thoroughly learning.

In the first quarter of the twentieth century, these principles were taken a step further. The entire education model for areas such as engineering, design, and architecture at the University of Cincinnati



▲
The “Queen City of the West” – Cincinnati in the late 1800s.

was re-envisioned and co-created with the support of local and national industry partners who even today play an active role in the day-to-day operations of the school. However, unlike some other well-known design schools, this school seldom used advertising, promotional materials, or other marketing strategies to highlight its profile. In typical Midwestern fashion, the school quietly relied on the strength of its graduates and their reputation in order to maintain its own. Its graduates have helped shape the American professional design culture, and their contemporaries continue in their footsteps by holding design leadership positions at some of the most influential American design firms and corporations. In 2016, the present-day version of this school became known as The Myron E. Ullman, Jr. School of Design.

THE MCMICKEN SCHOOL OF DESIGN

The early history of the McMicken School of Design and what followed from there into the twenty-first century was chronicled by Terri Premo and Cindy B. Damschroder in the University of Cincinnati millennium publication – *VisionsRevisions*.⁵ Their research into the origin and the history of the school sheds a light on the era that inspired its establishment, as well as the numerous challenges that this institution and its forebearers had to endure and overcome. Nevertheless, over a period of 150 years, one idea still remains firmly as a guiding principle of the school – this should be a place where design education and industry come together.

In a period of less than a hundred years, Cincinnati evolved from an isolated frontier outpost founded in 1788, to one of America’s leading

art and commercial centers. During the nineteenth century, Cincinnati quickly grew as a center for trade and commerce, and by 1859, the city was among the largest industrial centers in the United States, second only to Philadelphia. Because of its position as the largest city in the west, the city was soon given the title “Queen City of the West.” Along with rapid industrial growth, Cincinnati also flourished in the realm of the visual and decorative arts.⁶

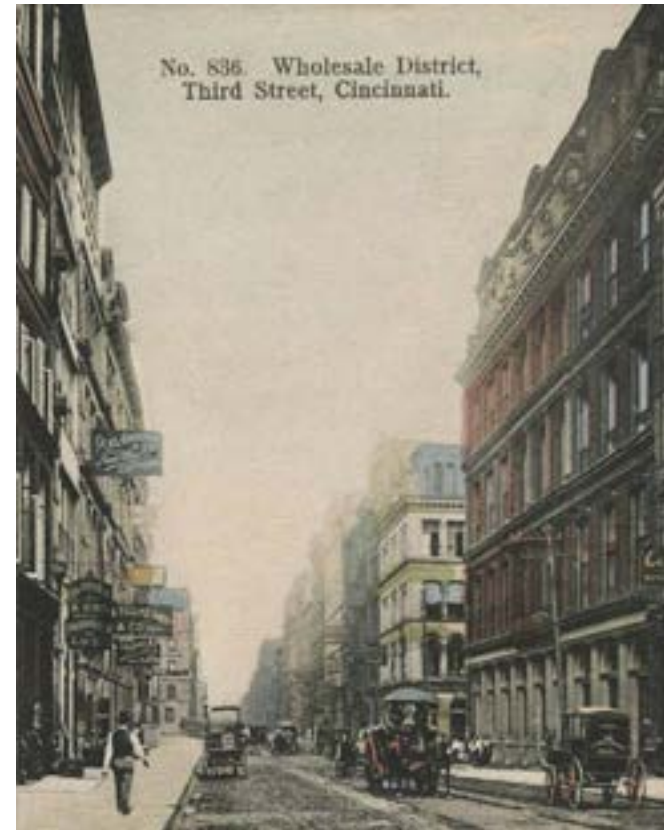
In the years following the Civil War (1861-1865), the city entered a period of relative decline and the people of Cincinnati were eager to reestablish the “Queen City” as the primary center for arts and industry of the American Midwest. A number of new initiatives, organizations, and institutions were introduced, all with the shared goal to foster a new image for the city: The Queen of the Arts. As the city already had an impressive early history of artistic works and patronage, it was not difficult for the cultural promoters to attract community interest and funds for a wide variety of projects. Artistic activity flourished at all levels, and between 1865 and the 1890s many great arts institutions were founded that still exist to this day. The Conservatory of Music (1867), Music Hall (1878), Rookwood Pottery (1880), Cincinnati Art Museum (1886), and the Cincinnati Symphony Orchestra (1895) are examples. These arts institutions were also meant to inspire and educate the city’s working class and to ensure Cincinnati’s standing as a respected urban cultural center.



The establishment of the University of Cincinnati’s first school of design can be credited to the untiring efforts of Sarah Peter, a Cincinnati who prior to this founded The Ladies’ Academy of Fine Arts in Philadelphia in 1854. Its operations, unfortunately, ceased a few years later due to the Civil War. Peter, however, continued promoting women’s arts education and in her efforts during the 1850s, she utilized arguments that would be repeated often over the next quarter-century: “Manufacturing success must be linked to proper design if American wares were to compete and win in the international marketplace.” Peter also believed that women possessed unique qualities and talents which made them especially suitable as designers, especially when it came to furniture and pottery. She argued that local manufacturers who would support a school of design would find their efforts repaid tenfold in terms of the improved quality and appeal of their well-designed products. In 1864, she convinced her board of directors to donate the Ladies’ Academy of Fine Arts collection to



▲ Image of the Academy of Fine Art, Philadelphia, as depicted in an 1800s postcard and painting of Sarah Peter, founder.



◀ Third and Main Streets, downtown Cincinnati — The first location of the McMicken School of Design.

the newly-founded McMicken University in Cincinnati. This donation eventually formed the core of the new arts and design program and the university's first functioning department.⁷

The university as a whole, however, was far from functioning as a viable institution in those early years. Since 1858, the city of Cincinnati and its educational leaders struggled to give life to Charles McMicken's

◀ Walnut Street, downtown Cincinnati — The second location of the McMicken School of Design.

dream for the creation of a secular institution of higher education.⁸ Despite McMicken's generous gift to the city (he left approximately \$30 million in today's value in his will for this project), a series of legal and economic misfortunes got in the way. Fortunately, by consolidating funds from various educational trusts, the city managed to organize its new municipal university into a comprehensive educational program. The McMicken School of Design was the first department with many following behind it.

In 1870, under city authority and funding, the name was changed from McMicken University to the University of Cincinnati. In these early days, there was no single campus that unified the various components of the university. The first classes of the McMicken School of Design were located downtown on the two upper floors of a building at Third and Main Streets, later moving to the upper floor of Cincinnati College on Walnut Street.⁹ The Ullman School of Design and the College of DAAP are now located on the University of Cincinnati's Main Campus in uptown Cincinnati on Clifton Court.

▶ Clifton Court, Uptown Cincinnati — The current location of the Ullman School of Design / College of Design, Architecture, Art, and Planning (DAAP) at the University of Cincinnati.





THE RISE OF THE INDUSTRIAL ARTS

Throughout the Golden Era of the arts in Cincinnati, one consistent theme dominated discussions of the fine and applied arts education, and set the tone for much of McMicken School of Design's early history – a strong and innate relationship needs to be manifested between the field of design and its commercial application. Even today, this idea continues to define the Ullman School of Design, which can be seen by the inseparable connection of the school with industry – including some partnerships that were established over a century ago. One long-standing partnership that still thrives today is with Procter & Gamble (P&G) – another Cincinnati institution founded in 1837.

Cincinnati's pragmatic approach to the arts was uncommon for the times. Many artists and collectors had little interest in applying art to machine-made products (apart from those who would seek such opportunities to make ends meet, that is). The city even had a dedicated group of artisans who responded to the emergence of what William Morris, the leading figure of the Arts & Craft Movement, termed the "Age of Shoddy," by fostering a revival of the handicrafts. These artisans were also interested in celebrating the relationship of design and function, but by separating the arts and crafts from industrial production rather than applying them to it. However, for many of the most influential patrons of the arts – who were also the industrial barons of the era – the merger of arts with commerce made great sense.





Despite the focus on industrial arts, the ideals of the Arts & Craft movement were never ignored at the McMicken School of Design. Works by Morris and the ideas of the English art critic, John Ruskin, were held in great regard by the teaching staff and the institution itself. The school's library had hundreds of titles in its catalogue – from classic works on art, architecture and architectural history, to the newer (at the time) art literature of Ruskin. The literature collection of the school mirrored the artistic interests of the staff and the students, and also those of industry. The crossover between the fine and applied arts, the philosophical and practical, the artist and the craftsman were woven into the fabric of the school and continue to be represented in all their facets in the present-day College of Design, Art, Architecture, and Planning (DAAP).¹⁰

While Cincinnati's manufacturing and commercial productivity was strong, it started to decline relative to other cities, especially Chicago. This competition took place not only between cities striving to reach top rankings in the race for commercial and industrial preeminence, but also between nations. America, at the time, was generally perceived as a second-rate country in its ability to produce high quality manufactured goods. In the pursuit of competitive advantage and innovation, civic and industrial leaders, as well as arts patrons and educators across the nation, began to advocate for the application of the arts to industry, or "design" – as this is how this process was defined at the time. Boston, New York City, and Philadelphia were sharing the same sentiments as Cincinnati at the time. The future, as these industrial powerhouses saw it, lay in the application of "artistic design" to the processes and products of industry.

◀ The *Marigold* wallpaper pattern by William Morris from 1875, displayed at the Metropolitan Museum of Art in New York City.

In line with the spirit of the time, the McMicken School of Design was dedicated to “the application of Drawing and Design to the Industrial Arts.” The board of directors elaborated further on this goal: “[The school] would benefit Cincinnati by spreading among the operative classes of this city a more thorough technical and scientific education in art and design, as applied to manufacturers...”¹¹ City officials also believed that if art in industry was to succeed, then the McMicken School of Design would be a key element to that success.

Then again, there were already some precursors to this in Cincinnati. For example, the Ohio Mechanics Institute (OMI), which was established in 1828, (now also a part of the University of Cincinnati) was originally intended to promote the “cultivation of arts and sciences” with a particular focus on the fine arts. By the 1850s, OMI’s School of Design introduced “practical arts” in its curriculum and stressed the importance of training craftspeople, artisans, and others on applying their skills to the products of manufacturing.¹² These early design schools such as OMI were critical in endorsing and maintaining the civic optimism and cultural ferment for industrial arts in the United States. It was within this setting that the forerunner of the Ullman School of Design opened its doors in 1869.¹³

THE EUROPEAN INFLUENCERS

This view of design (or the use of arts in industry) was not uniquely American. The Government School of Design in London, also referred to as the Central (or Metropolitan) School of Design, was established in 1837 in the United Kingdom, upon the recommendation of the Select Committee of the House of Commons. This Committee, appointed



in 1835, was set to “inquire into the best means of extending a knowledge of the Arts and the Principles of Design among the people (especially the manufacturing population) of the country.” The recommendations included the formation of an institution, where “not theoretical instruction only, but the direct practical application of the Arts to Manufactures ought to be deemed an essential element.” This became such a popular endeavor that more space was needed. As a temporary arrangement, “to meet the growing want of the public for education in Art applied to Industry,” additional accommodation has been afforded by “the gracious permission of Her Majesty the Queen.”

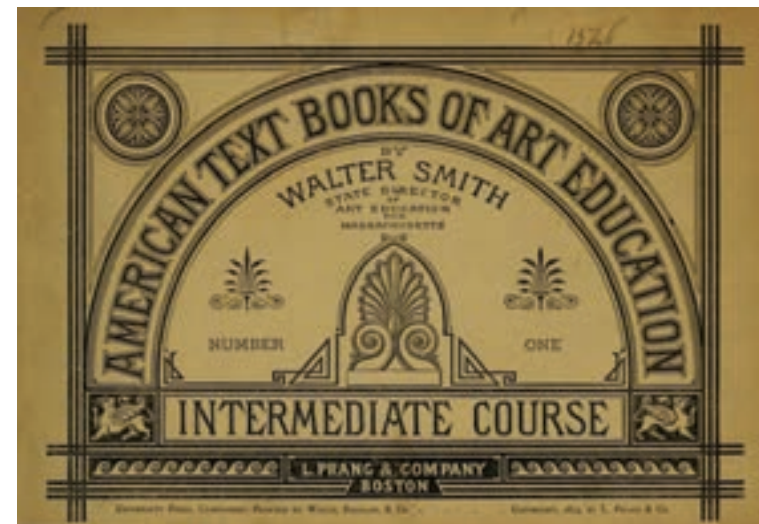
◀ The Greenwood Building – the first permanent home of the Ohio Mechanics Institute (OMI) was built in 1848. The OMI Building was the institute’s home for sixty-three years. In 1860, the Prince of Wales (the future King Edward VII) visited an exhibition in Greenwood Hall. The public library shared shelf space with the OMI library for a time. In 1867, young Thomas Edison, working as a telegraph operator, often visited the OMI library to read every book on electricity that he could find. According to the *Cincinnati Enquirer*, Edison later sent an autographed photo to OMI, crediting the library for its role in his education. OMI became the Ohio School of Applied Sciences in 1958, and was absorbed into the University of Cincinnati in 1969. The university moved the school to its main campus in 1989.



▲ Crystal Palace, the giant glass and iron exhibition hall that housed the Great Exhibition of 1851 in Hyde Park, London. Designed by Sir Joseph Paxton, it consisted of an intricate network of slender iron rods sustaining walls of clear glass. On the ground floor housed more than eight miles (thirteen kilometers) of display tables, showcasing over 14,000 exhibitors.

Henry Cole, who was instrumental in the development of this institution (and later masterminded the *Great Exhibition* of 1851) noted that the Central School of Design was established with “the express purpose of which was to provide for the architect, the upholsterer, the weaver, the printer, the potter, and all manufacturers, artisans better educated to originate and execute their respective wares, and to invest them with greater symmetry of form, with increased harmony of color, and with greater fitness of decoration; to render manufacturers not less useful by ornamenting them, but more beautiful, and therefore more useful.” The establishment of the Government School of Design in London, which later became known as the Royal College of Art, was followed by the organization of twenty-one other schools, located in all parts of the United Kingdom. This also included other well-known institutions such as the Glasgow School of Art, which was established in 1845 as the Government School of Design and the South Kensington Museum in 1852, later known as the Victoria & Albert Museum.¹⁴

It is worth noting that despite their early start (compared to their American counterparts), the British design schools were not particularly good in those early days. Or at least, not as good as the French design schools at the time. Nevertheless, the British design education system eventually improved and their influence spread to the U.S., mainly through the work of Walter Smith – a well-regarded British art and design educator who emigrated to the United States in 1871. Smith played a significant role in improving the English design school system in the mid-1860s by learning from the French. Commissioned by the British Lords of the Committee of Council on Education, Smith analyzed the French design education and based on that, recommended improvements and modifications to the English design education. These recommendations were published in 1864 in his *Report on the Works of Pupils, in the French Schools of Design [...]*¹⁵. In the early days of the Industrial Revolution, French industrial arts were far superior



▲ Walter Smith's first *American Textbook of Art Education*, published in 1875 by University Press, Cambridge, Massachusetts. At the time, Smith was the State Director of Art Education for Massachusetts.

compared to those of England (to the point of national embarrassment for England – as believed by Smith). This prompted him to improve and promote design education first at home, and later – based on his success and reputation – to do the same in the U.S.¹⁶

Smith came to America in 1871 from the South Kensington School of Industrial Drawing and Crafts (now the Victoria & Albert Museum) where he served as the Headmaster. Prior to his appointment at the South Kensington School, he served as the Principal of the Leeds, Bradford, Wakefield, Halifax, and Keighley Art Schools. Given Smith's ability to manage multiple institutions at the same time, Boston city officials simultaneously appointed him as the Massachusetts Director of Scholastic and Industrial Art Education, the Boston Director of Art Education, and later as the principal of the Massachusetts Normal Art School for art educators. At this point, he became a leading representative for the U.S. government's agenda to institute formal industrial art education in all states, modeled on a combination of English and French school systems – both of which Smith was very familiar.

The American industrialists realized that they were significantly lagging in quality and craftsmanship of commercial goods compared to their European counterparts. After assessing the British system of art education, some industrialists lobbied politicians to create a formal discipline for public art education that would increase American commercial competition in the international market of industrial goods. By educating the American workforce in the elements of industrial design, the industrialists hoped to increase the craftsmanship of their products. Smith was chosen to be the principle

educator who would turn the American designers into competitors with European designers.¹⁷ In this capacity, he wrote a series of textbooks on art and industrial design education, some of which could have been found in the library of the McMicken School of Design.¹⁸

THE RISE AND THE LOSS OF THE MCMICKEN SCHOOL OF DESIGN

Thomas S. Noble, a New York-based artist, was appointed to serve as the first Director of the new McMicken School of Design. Noble, a recent Gold Medal Winner from the National Academy of Design, was a proponent of the classic academic style of education. His own traditional design education from Paris and Munich was reflected in the new curriculum and structure of the school. Shortly after its founding in 1869, the McMicken School of Design established itself as a center of training, teaching, and exhibitions in Cincinnati, bringing new prominence to the decorative arts across the nation. Several of its programs gained national recognition, and the school played a significant role in the revival of handicrafts, such as woodworking and ceramics. Many painters trained in the school also achieved wide recognition. These early-day alumni include some of the most acclaimed nineteenth-century American artists such as John H. Twachtman, Elizabeth Nourse, Edward H. Potthast, Joseph R. DeCamp, and Robert Blum – who later became one of the youngest members of the National Academy of Design.



▲ Thomas S. Noble was the first Director of the McMicken School of Design and the only teacher at the time. His first class consisted of about thirty students.



▲
Springtime — painting by John Henry Twachtman.



▶
The Blue Cup — painting by Joseph DeCamp.

▶▶
Self Portrait — painting by Elizabeth Nourse.





◀
Chinese Street Scene – painting by Robert
Frederick Blum.

Understandably, in those early days, the students and the curriculum of the drawing and design classes at the McMicken School of Design had very little resemblance to what we have today at the Ullman School of Design. The admission requirements were set with much lower limits – at thirteen years of age – which meant that the first McMicken School students were often quite young. While a certain degree of creativity and freedom of expression was encouraged in the school, “punctuality and good order” were required, and not much else was tolerated. The school administration was quite strict and student behavior was carefully observed. Irregular attendance, talking in class, the use of tobacco, the abuse of school property, and other signs of “casual disregard for school rules” were not accepted. Student progress was determined at the end of each term in an exhibition format by a review of appropriate “specimen[s] of proficiency,” and prizes for winners of design competitions were announced. The teaching sessions were organized from Monday to Friday, 9 a.m. to 2:30 p.m. This was later changed to a three-day program for day students and a two-day program for night-school students. Admissions were open to both female and male students, with maximum enrollment set at sixty students. Residents of the City of Cincinnati could study tuition-free.

The McMicken School of Design initially had a three-year course of instruction which provided a traditional design education, with a particular focus on industrial arts – application of art and design in



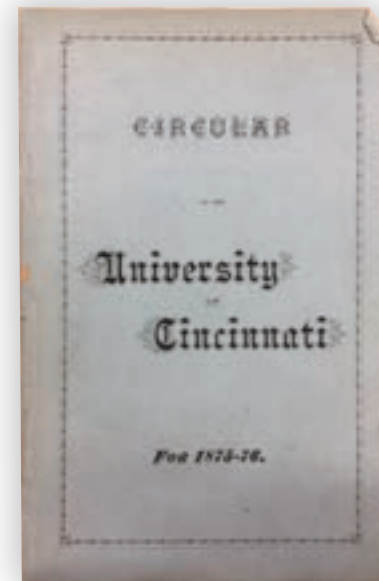


On the Beach – painting by Edward Henry Potthast.

industry. First-year students studied basic object drawing, shading, perspective, and anatomy. This was considered to be foundational training to prepare the students for more complex design tasks. At the discretion of the instructors, some students could also pursue studies in composition or design. Others, however, would have to wait until the second year of their studies to do so. During the second year, in addition to studying design, students also advanced to drawing from plaster models and casts of antique statuary, which was a common practice for design students of the time. In the third year, studies in design composition continued and students were also given the chance to “draw the human form from life.” Also, a “thorough study of color” was available for those interested. In addition to the standard course of instruction, students could select a program of special studies that could help them to get training in specific crafts or design fields. This included areas of interest such as textile design, architecture, lithography and drawing on wood, and a program of “original composition” which could be applied to specific areas of manufacturing.

By 1875, a fourth year of studies was introduced. The coursework in “special studies” that began in the third year now continued into the fourth. The increasing availability of specialized art and design courses is an indication of the general success of the school and stability based on steady enrollments. According to the *Circular of the University*

of Cincinnati for 1875-76, the faculty of six instructors now offered painting classes in oil, watercolor, fresco and tempera, and training in decorative design techniques in a variety of media. Lithography, wood and metal engraving classes, and courses in mechanical and scientific drawing were also available. Architectural offerings were broadened to include principles and history, design, and working drawings. This enabled the McMicken School of Design to become one of eleven university-based institutions in the country to offer coursework in architecture.¹⁹



Circular of the University of Cincinnati for 1875-76 published by James Barclay.



▶ One of the many inventions and achievements on display at the 1876 Centennial Exhibition in Philadelphia was the torch and part of the arm of the Statue of Liberty. Other exciting new inventions introduced at the Exhibition was Alexander Graham Bell's telephone and the first Remington Typographic Machine (the typewriter). Richard Wagner composed the *Centennial Inauguration March*, which was played at the opening.

The same year, a class in woodcarving was added. Woodcarving, under the direction of Benn Pitman (with help from his daughter, Agnes Pitman), became one of the school's most successful and popular areas of training. In his first term, 121 students (the majority of whom were women) enrolled in his classes.²⁰ By the end of the term, Pitman reported, "We have in hand, or have completed eight hundred and twenty pieces of work, and have used over three thousand feet of black walnut lumber." The quality of their work was so impressive that the following year, in 1876, Pitman's students' work was exhibited at the Philadelphia's *Centennial International Exposition* – the first official World's Fair in the United States, held to celebrate the 100th anniversary of the signing of the Declaration of Independence.²¹

▶▶ *Hanging Cabinet* – designed by Benn Pittman, carved by Emma Marqua, and painted by Charles T. Webber.



In 1877, inspired by the national recognition and the positive critical acclaim received at high-profile exhibitions and in publications, Director Noble prepared a list of 208 former students who found prominent employment in their respective fields after graduation. More than twenty-five percent of them were women, and the percentage would have been considerably larger if he would have included the many women who had received instruction in the woodcarving department (and presumably in porcelain painting, as well). They were omitted from this list simply because they produced their own work, instead of pursuing outside employment – which was the criteria he used when compiling the list. Women were less inclined to pursue outside employment since few professional outlets were considered appropriate for women artists, and most didn't provide a living wage. Nevertheless, there was a genuine interest by women to learn skills and apply their talents and in turn, many study programs at the McMicken School of Design were developed for women.²²

At the same time, however, the success of the school failed to satisfy some patrons of the arts in Cincinnati. The Women's Art Museum Association (WAMA), a new organization with a strong agenda on redirecting the course of art education in Cincinnati, emerged as an outgrowth of the Women's Centennial Executive Committee. Under the direction of Elizabeth Williams Perry, WAMA dedicated the next nine years to promoting interest in the construction of an art museum and an associate art academy. In doing so, Perry was hoping to replicate the model of the South Kensington School and Museum, and at the same time further advance women's industrial artwork in Cincinnati. She was, of course, fully aware that Cincinnati already had a school of design that provided considerable opportunity for the training of

women, but she was dissatisfied with the school's scope, direction, and management of resources. And for some reason, so were few others – including Pitman, who already had a significant recognition in the school for his woodworking program. Pitman, (despite the fact that he was selected to represent the McMicken School at the *Centennial International Exposition*) wrote a letter with a list of complaints to WAMA, urging them to assume charge of the school. Whether this was orchestrated or not, it seemed that public criticism of the school began to emerge from all sides. Some current students, former students, and local artists began to complain to the media that the school was not responding to the new European teaching techniques, and not exposing students enough to contemporary art movements. The tensions heightened in 1881 when one of the major donors to the school – Joseph Longworth – expressed dissatisfaction with how his funds were managed and he severed his relationship with the University of Cincinnati. The McMicken School of Design, it seems, was not immune to the social politics of the time.²³

In 1882, WAMA formed the Cincinnati Art Museum Association. Longworth became one of the incorporators and first President of the Cincinnati Art Museum Association. At the time, when the McMicken School was most vulnerable, they started a formal push for the transfer of the school under their management. The new Museum Director, Alfred T. Goshorn, made an official request to the University of Cincinnati Board of Trustees for a transfer, citing both economic and political reasons as to why this would benefit the university. At this point, Longworth also offered to provide a substantial financial gift toward the establishment of the new Art Academy if the University of Cincinnati would transfer the control and management

of the McMicken School of Design to them. A case was made that a consolidation of arts facilities would be in the best interest of the city – even if that meant the privatization of the only public design school in Cincinnati.²⁴

Finally, after fifteen years of operation and much pressure, on February 1, 1884, the Cincinnati Art Museum Association absorbed the McMicken School of Design. The Art Academy of Cincinnati was created.²⁵ In spite of their calls for progressive education, the Art Academy did not make any significant changes to the curriculum that they inherited from the McMicken School of Design. For many years after they officially opened their doors in 1886, their training and instruction continued to emphasize the much-criticized “conservative” approach established under Thomas Noble’s leadership. This was, in a way, expected, since all of their teaching staff but one was educated at the McMicken School of Design at the University of Cincinnati.²⁶

THE BIRTH OF COOPERATIVE EDUCATION

For a period of time following this hiatus, the University of Cincinnati remained without its flagship design school, albeit some residual arts and architecture programs continued to be delivered via the College of Arts and Sciences and the College of Engineering. The idea of having a strong, industry-focused design program, however, was never fully abandoned.

Under the leadership of Herman Schneider, who was the Dean of the College of Engineering in the early 1900s, the foundations were laid for a unique new education program and, subsequently, a new



▶ *Ambassador to Industry: The Idea and Life of Herman Schneider* – by Clyde W. Park, Schneider’s biographer.

design program to replace the loss of the McMicken School of Design. Schneider's most important legacy, however, is the introduction of a new study model that he called "cooperative education" (or "co-op" as it is commonly called today). With this, he changed the course of higher education in the U.S., and in the process, dictated how design would continue to be taught at the University of Cincinnati.

This co-op model, which essentially offers the opportunity for the students to apply the theory of the classroom to the workplace, is now widely adopted by many higher education institutions in the United States. While Schneider first introduced co-op education within the

College of Engineering in 1906, this model proved equally viable for preparing designers for a life in the industry. Trained as an architect and civil engineer, Schneider understood the value that design and visual arts can bring to industry, and in 1922 he led the founding of the School of Applied Arts, which eventually became the College of Design, Architecture, Art, and Planning (DAAP).

In the pre-World War I years, Cincinnati was an industrial powerhouse that needed a highly qualified workforce. The city was the largest epicenter of hardwood lumber in the world, as well as a world leader in the production of machine tools, woodworking machinery, soap, ornamental iron, playing cards, and bottles. At the time, Cincinnati had some of the world's largest factories and, in general, the greatest variety of factories in the country. The proposal of establishing an educational partnership between the university and the local industry in training the workforce of tomorrow made perfect sense. This was also in line with some of the earliest practices in the university, which were exemplified with the establishment of the McMicken School of Design.²⁷

Schneider believed that individuals, universities, and communities shared mutual obligation and responsibilities in an industrialized society. As a pragmatist, he also believed that education is best served by "hands-on" experience. His proposal for a work/study program would meet both the needs of industry who will reap the benefits by engaging a young, committed workforce, and the needs of the

▼ This early twentieth-century photo of Cincinnati (1906) shows The John A. Roebling Suspension Bridge, originally known as the Cincinnati-Covington Bridge. When it opened on December 1, 1866, it was the longest suspension bridge in the world at 1,057 feet (322 meters). This bridge was the test model for Roebling's more famous 1883 design – The Brooklyn Bridge in New York City.





students who will be trained by their prospective future employers in the realities of the workplace. Essentially, Schneider wanted to create a symbiotic relationship between the university and the industry: The university will serve the industry sector, and in return, the industry sector will serve the university.²⁸

Putting some of these ideas into practice, to the extent that Schneider proposed, was not an easy task. This was a radically new concept, and it took several years for Schneider to develop his proposals into a workable scenario. In its early stages, the plan for the introduction of this combined model of education was met with limited approval among educators and prospective employers. Schneider had the support of the university President Charles W. Dabney, but he faced considerable opposition from the more conservative academic staff at the university who rigidly held on to traditional notions of classic education. Furthermore, Schneider also needed to secure firm commitments from the city's industrial leaders whose support was necessary for the success of this venture. His ability to eventually convince both groups could be attributed in part to his forceful personality and, perhaps, to him being able to present his proposal as a "common sense" argument. In an era that was heralded by pragmatism, his ideas sounded reasonable. Schneider was also able to clearly outline how this could work in terms of scheduling, compensation, and program coordination. What he needed was the right moment to introduce his experiment. He was already in the right place.²⁹

In 1905, Schneider was finally able to put his experiment to the test. The University of Cincinnati Board of Trustees reluctantly allowed Schneider to "try this cooperative idea of education for one year only, for the

failure of which they would not be held responsible." The cooperative education program was an immediate success. In 1906, three years after his arrival at the University of Cincinnati, Schneider launched the first version of the co-op education. The first cohort of co-op students included twenty-seven engineering students who were divided into two sections. While one group was taking classes, the other was at work. Each week the groups would switch, and they continued alternating on a weekly basis. Schneider would personally supervise both sides of the program, making sure that both employers and students were mutually satisfied. The program was a major success and the following year more than four hundred students applied for the seventy available spots. By 1912, only six years after the launch of the co-op program, there were already fifty-five companies participating in the program. Schneider was right to believe that industry needs workers skilled in both technique and theory. He also anticipated the needs of both employers and prospective students for a program that would prepare a future workforce for rapidly changing industrial and commercial environments. The program continued to evolve and its success made Schneider famous in American higher education circles. As a result, he was invited to serve as a consultant to many universities from around the country who wanted to adopt the same model.³⁰

One century after the inception of the co-op program, in a September 2015 board meeting, the University of Cincinnati revisited this matter. The Board of Trustees declared that the "hundred-year trial period" of Cooperative Education officially ended. This time they added, perhaps somewhat sarcastically, that the Board now resumes full responsibility for the success of this program. Today, the University of Cincinnati facilitates more than six thousand co-op placements annually at more

▲ Herman Schneider, the "Father of Cooperative Education" also served as the University of Cincinnati President from 1928 to 1932.

than 1,300 companies and organizations in forty-four states and twenty-two countries.³¹ In 2018 alone, the students who participated in this program earned over \$66 million in salaries.³²

THE SECOND LIFE

Once his concepts were deemed to be a success, Schneider absorbed the College of Commerce into the College of Engineering, and then focused on bringing back architecture and design. In 1910, he even commissioned plans for a new building for applied arts programs. Although the building would not be constructed for sixteen more years, Schneider was planning ahead and started laying the foundation for a new School of Applied Arts that would bring back to life some of the programs of the McMicken School of Design. In 1922, the Board of Trustees approved a five-year course in architecture leading to a Bachelor of Science degree in Architecture within the College of Engineering and Commerce. The architecture program (in addition to co-op fieldwork) also included coursework in landscape and interior design. First-year students were required to take the same courses as all engineering students. Design coursework was introduced from the second year of their studies. The architecture program began modestly. Only one additional faculty member was hired to teach architecture and he left after only one year. Nevertheless, the enrollment started growing rapidly and the program stabilized quickly.

By 1925, Schneider's understanding of the relationship between architecture and engineering changed, and similarly to Walter Gropius's ideas for the Bauhaus, he also came to the conclusion that architecture should instead become a central component of a new kind of applied arts program.³³ However, for Schneider, the emphasis on the applied arts was not driven by ideology (as was the case with Gropius), but by the changing market economy and the correlation between good design and successful marketing strategies. Schneider was aware that with the advent of greater purchasing power in a consumerist society such as America, an ever-widening number of consumer products will follow. To him, it was clear that only those products that are well-planned and well-designed will survive in the modern market. The principles of good design, he argued, should be applied to everything – whether that may be a refrigerator, a building, or a perfume bottle. These sentiments echoed the principle ideas of the founders of the McMicken School of Design and demonstrated the durability of the continuing debate surrounding the application of art to industry. Finally, in July 1925, the recently-named Department of Architecture and Applied Fine Arts became the foundation on which the School of Applied Arts was formed. The school remained under the direction of Schneider within the College of Engineering and Commerce.

These exciting new beginnings were not without their challenges. Staffing issues in the first year loomed over the school administration. Some faculty were retained from the architecture program, and others were hired from outside. Ironically, many of the new hires were actually former students or teachers from the institution that absorbed the McMicken School of Design – the Art Academy of Cincinnati. While many of these appointments formed the core of the teaching



staff that would remain with the school for years, a number of these appointments resulted in early resignation – four in the first year alone, including one attributed to a nervous breakdown. Evidently, expectations and tensions were running high during those first years.³⁴

Within a few years, the school stabilized and many new programs such as Applied Design, Costume Design, and Advertising Design were introduced – from interior decoration to fashion design. Schneider insisted that all aspects of art and design instruction (including history) should be studied and understood as a whole. Students were asked to concurrently take three full years comprehensively studying art history, literature, and architecture, together with a general historical survey, while studying specific periods (e.g. History of Later Medieval and Renaissance Civilization). This approach allowed for the development of an appreciation for the unifying cultural forces that could influence an era.³⁵

Some of the most interesting inspiration for the students was coming from the current art, design and architecture movements overseas. The *1925 Decorative Arts (Art Deco) Exhibition* in Paris and the work produced by the Bauhaus in particular, caught the attention of the young creatives who eagerly followed what was happening in Europe. With Walter Gropius joining Harvard University in 1937 and



An aerial image of The International Exhibition of Modern Decorative and Industrial Arts held in Paris, France in 1925. During this period Paris was a highly influential place for American artists and writers. Ernest Hemingway, F. Scott Fitzgerald, Aaron Copeland, and Josephine Baker are some of the American creatives who lived in Paris in the 1920s and '30s.

▶ New Bauhaus students outside the school's original location, the Marshall Field's mansion on the South Side of Chicago.



László Moholy-Nagy founding the New Bauhaus in Chicago in the same year, the modernist discourse shifted from Europe to America. This was further reinforced a year later when Mies van der Rohe, the last Director of the Bauhaus in Germany, joined Moholy-Nagy in Chicago as the Head of Architecture in what is now the IIT Institute of Design at the Illinois Institute of Technology.³⁶ The staff and the students at the University of Cincinnati were now able to more closely observe the Bauhaus-style training. While it was evident that some parallels between the two schools existed, the division between the two modernist ideologies also became clear. Despite sharing similar teaching techniques, one school was driven by conceptual thinking and philosophy and the other was firmly grounded in industry-focused pragmatism.

One of the most important areas of study at the new School of Applied Arts was the coursework in “Art in Industry” – the predecessor to our Industrial Design program today. Students in this course (which was originally established in 1927) would undertake problem-solving tasks through practical work in the field and they designed products, packaging, and graphics. By 1930, manufacturers started visiting the school and showing interest in purchasing some of these commercially-viable design solutions developed by the students.³⁷

These developments marked yet another new dimension of the school. The students would not only get professional experience while on co-op; they also started working on actual projects inside their classrooms. The same kind of grounded and pragmatic approach to design has remained in place even today. For example, one of the most distinctive features of the Ullman School of Design is its Bachelor of Science in Design degree, a five-year program (compared to other design schools where the undergraduate degree takes three to four years to complete). This is because in order for the design students to graduate they have to complete five industry placements at up to five different companies during their studies. All of these placements form the model of cooperative education and are paid for by the employers and arranged for by the University of Cincinnati’s Division of Experience-Based Learning and Career Education. This is the oldest, and one of the largest, cooperative education programs in the world. Our network of industry partners participating in the co-op program is vast and diverse, ranging from small family-owned businesses to large multinational corporations. Even today, for close to 1,200 students of the Ullman School of Design, participation in this program is mandatory for graduation. Also, even when students are not on



co-op, on many occasions they may work on industry-sponsored projects, under industry supervision. The extensive real-world experience that they gain while studying is one of the reasons why many of them have employment offers even before they graduate.

The Great Depression (1929-1939) was the worst economic downturn in the history of the industrialized world and it affected everyone – including the universities.³⁸ Design and architecture programs decreased in size throughout the country by an average of twenty-six percent, and this trend continued until World War II. The School of Applied Arts teaching staff was reduced from forty instructors in 1930 to twenty-nine in 1939. Despite all of this, the school still remained an attractive option for students. The cooperative work program was still functional and it allowed students to earn a modest salary during their school years. The school also accommodated working professionals by offering courses in the late afternoons and evenings, as well as Saturdays. This type of flexibility and accommodation allowed the school to remain effective during the Great Depression and World

◀ A photo taken in Michigan during the Great Depression. Economically, Michigan fared worse than the rest of the country in the Depression. Between 1930 and 1933 the unemployment rate was thirty-four percent while it was twenty-six percent for the nation as a whole. Employment in the auto industry, which had become a key industry in Michigan's economy, declined precipitously in only a few years – between 1928 and 1932 employment at General Motors was cut in half.

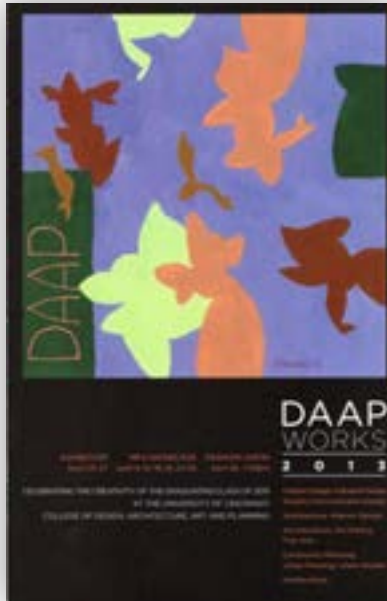


War II. Additional measures of support were introduced throughout the war, including the refund of tuition for those called to military service, grants of leave of absence for the university staff called to national defense service, and options for fast-tracked completion of undergraduate degrees. By 1942, the School of Applied Arts even offered an accelerated study program option that allowed students to complete their undergraduate degree in three years instead of five by waiving the co-op requirement. By demonstrating flexibility and adaptiveness, the school endured through both economic depression

and wartime, and so did the work/study program that was established by Schneider almost four decades earlier, albeit on a reduced scale.

Additional recognition for the school came at the end of the war. In 1944, the Metropolitan Museum of Art invited representatives of art and design schools from across the nation to meet in New York City to discuss the new field of industrial design and its representation in education. These meetings continued in a conference format until 1948, when it was decided that a firm organizational structure was

▲
The Metropolitan Museum of Art,
New York City.



▶ Michael Graves designed the poster for DAAPworks 2013, an end of year student exhibition at UC.

needed to represent the field. This is how the National Association of Schools of Design was founded and the University of Cincinnati became one of the twenty-two founding charter members. The organization, now known as the National Association of Art and Design Schools (NASAD),³⁹ is the only accrediting agency covering the entire field of art and design that's recognized by the United States Department of Education.⁴⁰

The postwar future was now eagerly anticipated, but this would be a future without Herman Schneider. He passed away unexpectedly in 1939. His work was continued by Robert C. Gowdy, who served as Executive Director of the School of Applied Arts and as the Dean of the College of Engineering and Commerce until 1946.⁴¹

In the meantime, the pre-war program Applied Design became the Department of Industrial Design during the war. In 1946 the School of Applied Arts became the College of Applied Arts with Ernest Pickering as a Dean.⁴² In 1948 the Department of Design was introduced, covering all standalone design programs such as industrial design, costume design, advertising design, and interior design. Two other departments in the College were also formally named as Departments of Architecture and Art. One of the most notable alumni from this time was Michael Graves – a 1958 graduate who later become known as one of the most iconic architects of the twentieth century, and an accomplished product designer with an enormous body of work.⁴² In 1982, he was awarded an Honorary Doctorate by the University of Cincinnati, alongside the NASA astronaut, Neil Armstrong. In addition to the many awards he has received for his professional work, Graves was honored by U.S. President Clinton in 1999 with a National Medal of Arts. In 2001, Graves received the American Institute of Architects' highest honor, the gold medal.⁴³

THE NEXT GENERATION

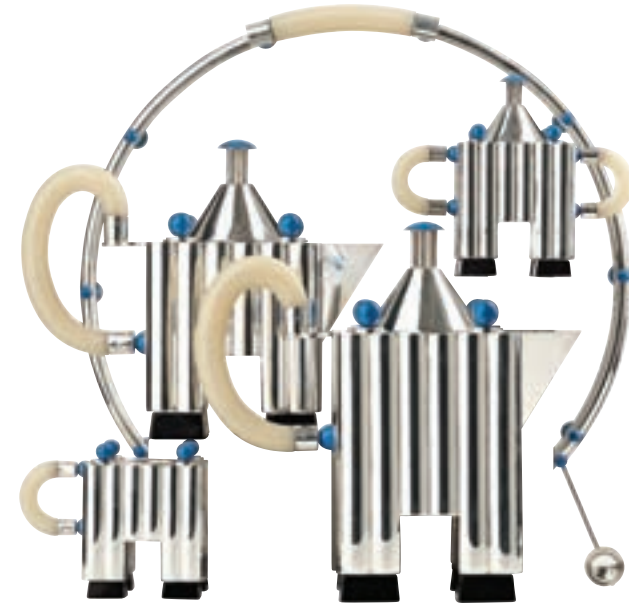
The post-war economic expansion continued, as did the growth of suburbia. As the baby boom generation started to come of age, the interest in college and university education in the U.S. began to soar. Collegiate schools of art and design were becoming increasingly popular. Between 1960 and 1965, student enrollment within public schools of art increased by 207.4 percent. By the 1960s, the term "applied arts" seemed archaic and no longer in line with what the college represented. A new name was proposed and the College of Design, Architecture and Art (DAA) was established. In 1963, a new



▲ Michael Graves' Whistling Bird Teakettle launched in 1985 and has been Alessi's number one seller for the past thirty years, with over two million units sold. The *Harvard Business Review* wrote, unlike a kettle that simply signals that water is boiling, Graves' whistling bird kettle is designed to bring users joy. And while the

wide base of the kettle makes the water boil faster, Graves' design "showed its greatest originality in broadening people's expectation of what a kettle was and did and, indeed, the nature of the breakfast experience." Featured in countless magazine spreads and on movie sets, the kettle continues to charm the public and

can be found in the permanent collections of museums and international institutions all over the world, including the Victoria & Albert Museum in London, the Philadelphia Museum of Art, the Australian National Gallery and the MuDe: Museum of Design and Fashion in Lisbon.



▲ In 1980, Alberto Alessi wanted to show off his company's manufacturing might. He hired eleven architects to design a sterling silver "Coffee & Tea Piazza," which he exhibited at galleries and museum shops. Despite its \$25,000 price, Michael Graves tapped into the public's taste and

his set sold best. From there came the commission for the now-famous 9093 kettle, as well as more than 150 other objects.

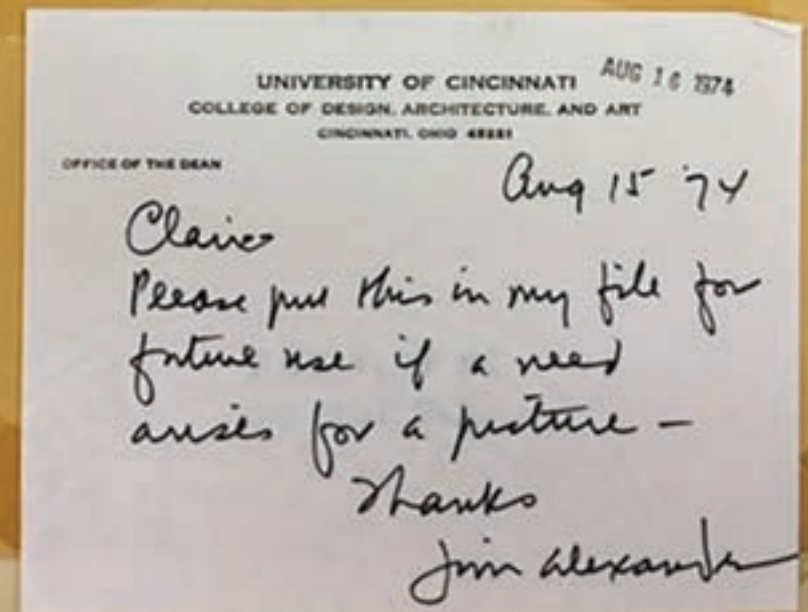


Dean to lead the College of DAA was appointed – Harold Rice. He served as Dean until 1973, when he was replaced by James Alexander (in an interim capacity) who served as the Head of the Department of Industrial Design prior to this. Alexander, an alumnus of the School of Applied Arts, made a career for himself working for the prestigious design firm of Raymond Loewy in New York City, before returning to Cincinnati in 1947 by a request from Ernest Pickering.⁴⁴ Alexander had many accomplishments in his career. In 1961 he was elected as the national President of the Industrial Design Education Association (IDEA) and in 1967 he was elected as a Chair of the Education Committee of the Industrial Designers Society of America (IDSA). One particularly interesting project that Alexander was leading at the school is the design of dwelling shelters for use on the moon. The “Expendable Lunar Shelter Concepts”, as the project was called, was sponsored by the U.S. Air Force in 1963 – six years prior to the moon landing.⁴⁵

At DAA, the departments of Design, Architecture, and Art were expanded as divisions with their own departments.⁴⁶ New independent administration was also introduced. A wave of change came in 1975 when Bertram Berenson was appointed as a Dean of DAA. By working closely with Jay Chatterjee, who was an Associate Dean at the time, Berenson introduced a concept for a new school structure within DAA. The new structure was finally implemented by Chatterjee in 1982 when he was appointed as the acting Dean after Berenson’s appointment ended. Chatterjee regrouped the existing departments into more manageable components (there were around eleven departments at the time). The following schools were introduced at the time: School of Design, School of Architecture and Interior Design, School of Art, School of History and Education of Art and Design (which was

◀◀
University of Cincinnati main campus.

▶
Photo of James (Jim) Alexander from his personnel file at the University of Cincinnati.





▲ Raymond Loewy, dubbed the “Father of Industrial Design” in America, was a French-born designer who achieved fame through his design efforts, which shaped America before and after World War II. He was featured on the cover of *Time* magazine in 1949 for his extraordinary accomplishments. His career spanned seven decades, until his death in 1980.

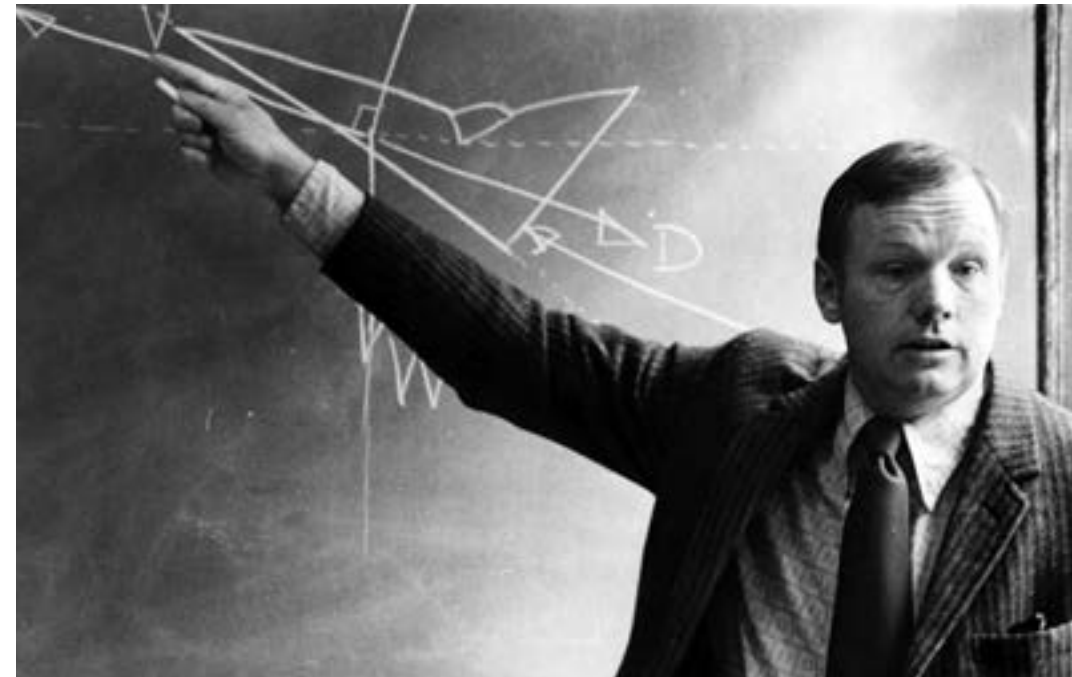
phased out in 1982 and reorganized within the School of Art), and School of Planning. As a result, the college was renamed as DAAP (the “P” was added for Planning). Under this structure, the new schools received autonomy within the college and had their own budgets. This structure, mostly unchanged, remains in place today.⁴⁷

THE ULLMAN SCHOOL OF DESIGN

After the 1982 restructure, the University of Cincinnati got a full-fledged design school once again. James Alexander, who in the

past served as an acting Dean of DAA, was appointed as the Interim Director of the school and a string of Directors and interim Directors served the school in the years to come. Alexander and Chatterjee were instrumental in leading the next level of transformative changes in the college and the school. Even beyond that, Chatterjee helped redefine the entire University of Cincinnati campus, including the landmark building that is now the home of DAAP and the School of Design. In 1987, the University of Cincinnati President Joseph Steger asked Chatterjee (by then fully installed as a Dean) to help reimagine the campus. Chatterjee, an architect and urban planner himself, assembled a team of signature-name architects to lead this urban transformation. Leading architects Frank Gehry, Peter Eisenman,

▼ Neil Armstrong, the first man on the moon, teaching at the University of Cincinnati. Armstrong was born in Wapakoneta, Ohio, on August 5, 1930. He began his NASA career in Ohio and joined UC as a Professor of Aerospace Engineering in 1971, less than two years after the moon landing. He taught in a full-time capacity until 1979. “I’d always said to colleagues and friends that one day I’d go back to the university,”





▲ Photo of Myron E. Ullman, III from 2005 while he served as the CEO and Chairman of JCPenney.

Bernard Tschumi, Thom Mayne, and our alumnus Michael Graves were commissioned to design several new built environments across the campus. Eisenman, in particular, was tasked with the design of the new home for the College of DAAP where the four schools are based. The building, which was completed in 1996, was named the Aronoff Center for Design and Art.

One of the most important developments happened in April 2007 when Myron E. Ullman, III (who was at the time Chairman and CEO of JCPenney)⁴⁸ and his wife Cathy (class of 1970 alumna of our Graphic Design program), provided a \$10 million endowment for the school in honor of Ullman's father, Ullman, Jr. In the 1960s, Myron E. Ullman, Jr. was a figure of innovation in the same way that renowned inventor James Dyson was in the 1990s. An inventor at heart, Ullman, Jr. developed nearly fifty patents under his name, including the invention of the modern dishwasher. To honor his legacy, on April 13, 2016, the school was officially renamed as the Myron E. Ullman, Jr. School of Design. It was around this time that I joined the University of Cincinnati as the first Endowed Chair and Director of the Ullman School of Design. The Ullman Endowment fund played a critical role in providing the school with a significant level of financial independence. In return, this has allowed me, as a Director, to fund a range of initiatives and investments toward creating new innovation capabilities of the school.

Over the last four decades numerous programmatic changes have taken place in the school and we continue to evolve as we explore what design is and could be in the twenty-first century. The core idea and vision of the school still remain true to the founding ideals behind the McMicken School of Design. This is why the design program at

the University of Cincinnati never deviated from its industry-focused trajectory. The commitment to professional practice is so embedded in our teaching that almost everything we do is in one way or another co-created with industry. This makes us very different from other design schools, where the gap between theory and practice is often so wide that students must be retrained when they enter the workforce. Our students work on industry-sponsored projects as a regular part of their curriculum, and they work under the supervision of professional designers. Most of the work produced by students, even when it is not commissioned, is assessed by a panel of industry professionals who provide a studio-style critique. We also have an extensive roster of industry professionals serving as Adjunct Professors or Professors of Practice who then develop and teach a variety of courses for us. This, together with the industry experience that the students receive during their co-op placements, ensures that they are exceptionally well prepared for the challenges of the real world.

Training students to be industry-ready from the moment they get their first industry-placement is what defines us. But in an increasingly complex world, this is simply not enough. Over the last several years I have worked on expanding our teaching philosophy by focusing more on future foresight, evidence-based research, and design-led innovation within our curriculum. We have successfully implemented this way of working in a number of industry-sponsored studio projects.

In line with this, we have also broadened our engagement activities with research and innovation groups and communities. In 2017, the Ullman School of Design and the College of DAAP served as the hosts of the bi-annual conference of the International Association of



► Poster of the 2017 International Association of Societies of Design Research (IASDR) Conference, hosted by the Ullman School of Design and DAAP. Visual identity designed by Matthew Wizinsky (class of 2001).

the Societies of Design Research (IASDR), with Craig Vogel, Associate Dean for Research at the time, and myself serving as co-chairs of the conference. This was the first time that this prestigious event was held in the United States. In 2018, the Ullman School of Design hosted executives from the White House Presidential Innovation Fellows (PIF) Program⁴⁹ for an innovation roundtable and a strategic collaboration session where we discussed how we could use evidence-based research in design to tackle some of the nation's biggest challenges. The relationship with the White House PIF Program was established a year earlier by me, when I was invited to Washington, D.C. by the White House PIF executive team to assist with the onboarding for the new class of Presidential Innovation Fellows.⁵⁰

Today, the Ullman School of Design offers three core study programs: Industrial Design, Communication Design, and Fashion Design, and one specialized study pathway in Transportation Design. Most of the work produced at the school sits on the intersection of these disciplines – ranging from social innovation and healthcare design to the future of mobility and wearable technologies. In addition to the five-year-long Bachelor of Science in Design degree, the school also offers a two-year-long Master of Design degree. In the period between 2017-2019, a major effort has been undertaken for the revision and renewal of the entire school curriculum. The new curriculum was intended to provide more opportunities for interdisciplinary collaboration, more flexibility for the students to tailor their educational experience, and a more holistic approach in the way the courses are integrated together. As a special initiative, I also developed and introduced a new Executive Education program for design and innovation leaders at major Fortune 500 companies.



▲
A work session held by the White House Presidential Innovation Fellows.





▲ The first Apple mouse was designed by Douglas Dayton (class of 1973). Dayton, working together with a small team of Stanford graduates (including IDEO founder, David Kelley) accepted a commission by Apple Computer to develop a device (mouse) that would allow users to avoid remembering keyboard commands in order

to execute tasks. The team was asked to design a mouse that was precise, reliable, durable, and easy-to-use that cost less than \$10. The nearest reference prototype mouse at the time cost hundreds of dollars, malfunctioned regularly, and was nearly impossible to clean. In an interview with the University of Cincinnati, Dayton said

Apple co-founder Steve Jobs “wanted the personal computer to become as ubiquitous as bikes in Europe, which were and are used by everyone everywhere there.”



▲ The IBM Thinkpad 701c is just one of the products designed by Sam Lucente (class of 1981). When opened, the keyboard unfolded from beneath the screen like the wings of a butterfly. The computer is now displayed at various contemporary art and design museums and galleries around the world.

INDUSTRIAL DESIGN

Industrial Design was, and continues to be, the most dominant study program in terms of student numbers and industry engagement.

Some of the notable alumni of this program include designers Jim Swearingen (class of 1972), Tom Osborne (class of 1975), and Mark Bourdeaux (class of 1978), who designed the first *Star Wars* toys for Kenner (later Hasbro). Over 300 million *Star Wars* toys have been sold



▶ A selection of the original *Star Wars* action figures, produced by Kenner and designed by Jim Swearingen (class of 1972) and Mark Bourdeaux (class of 1978). More than 300 million sold since 1977. A set of these figurines are now part of our design collection and are displayed in the Ullman Design Museum.



▶ The Plymouth Prowler is a retro-styled production car, manufactured and marketed from 1997 to 2002 by DaimlerChrysler. The 1993 concept car that inspired the Prowler was developed by Timothy Anness (class of 1990).





The Jeep Grand Cherokee developed by Timothy Anness (class of 1990), has sold over 4 million units and is partially credited with Chrysler's return to profitability.

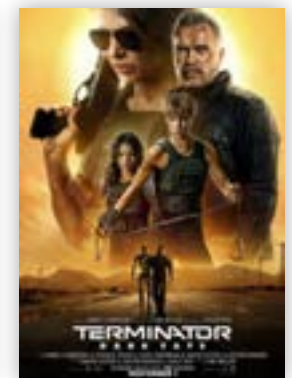
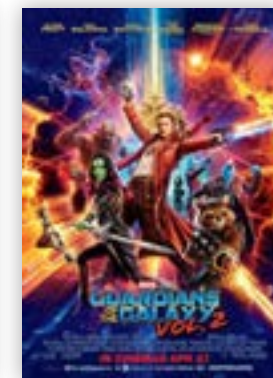
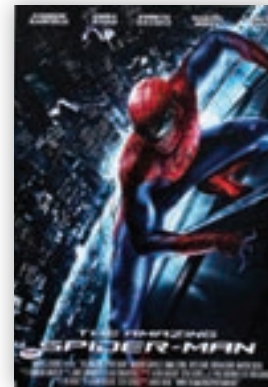
since their introduction in 1977.⁵¹ Douglas Dayton (class of 1973) worked with Apple founder, Steve Jobs, and David Kelley, founder of IDEO, on the design of the first Apple mouse.⁵² Sam Lucente (class of 1981) became the first Vice President of Design at Hewlett-Packard. His work has been recognized with major design awards and is in the permanent collection at the New York Museum of Modern Art (MoMA), San Francisco Museum of Modern Art (SFMOMA), the Smithsonian National Design Museum, and other collections.⁵³ Tom Dierking (class of 1988) held a number of design leadership positions at Procter & Gamble (P&G) – a global corporation whose products are used by over five billion people. Dierking is currently the Global Design Director of P&G's cutting-edge Innovation Studio. He's in charge of Transformational Platform Technologies – an R&D unit that develops new technologies and technology platforms to accelerate product innovation at P&G.⁵⁴ Timothy Anness (class of 1990), the Director of Exterior Design for Jeep FWD, worked on the design of a number of high profile cars in his career, including the Chrysler 300C, Jeep Grand Cherokee, Plymouth Prowler, and Dodge Charger.⁵⁵ George Hull (class of 1993) made his career in Hollywood. As a leading conceptual artist, he imagined worlds for movies such as *Star Wars*, *The Matrix*, *Blade Runner 2049*, *Transformers*, *Mission Impossible*, *The Amazing Spiderman*, and many more. Steve Eichmann (class of 1999) is the Global Head of Industrial Design and Human Factors at Johnson & Johnson. In this role, he is primarily in charge of the development of new medical devices and healthcare technology. The management consulting firm, McKinsey & Company, recognized Eichmann as “the changing face of medical-device design” and heralded his ability to make design a CEO-level topic.⁵⁶ Ben Shaffer (class of 2001) joined Nike after graduation and during his tenure there he also became the



Founded in Cincinnati in 1836, Procter & Gamble continues to be one of the strongest and most committed industry partners of the Ullman School of Design.



▶ Movies on which George Hull (class of 1993) was concept designer.





◀ Designed under the guidance of Steve Eichmann (class of 1999), Johnson & Johnson's HARMONIC FOCUS® is today's standard for head and neck surgery. It enables fine dissection and sealing of vessels up to five millimeters in head and neck procedures. The HARMONIC FOCUS® is a recipient of two International Design Excellence Awards (IDEA) in the research category and the design category; an *R&D Magazine* Top 100 award, a Medical Design Excellence Award (MDEA), and a Product of the Year Award from Environmental Leader.

Studio Director of their secretive R&D unit, the Innovation Kitchen. One of the flagship projects he led at Nike's Innovation Kitchen was the Flyknit shoe. Schaffer was invited to join Jony Ive's Industrial Design team at Apple where he worked on the design of the iWatch.⁵⁷ Many of our recent graduates follow this path by taking on emerging or leading roles within major global corporations and consultancies, and continue to define the field of design with their work.



▲ Following his success at Nike, Apple hired Ben Shaffer to join its Industrial Design team in 2013. He was part of the design team of the iWatch.

◀ The Flyknit shoe, designed by Ben Shaffer (class of 2001), Studio Director of Nike's Innovation Kitchen, is one of the most iconic shoes ever produced by Nike. The shoe made its debut at the 2012 Olympics on the feet of some of the world's fastest athletes and is an instantly recognizable icon of design. Under Shaffer's lead, Nike was named the most innovative company in 2013 by *Fast Company*.





One of our more recent initiatives in the Industrial Design program includes a new focus on Furniture Design. In 2017, in collaboration with our School of Architecture and Interior Design, we piloted a new Furniture Design course, which was strongly grounded in the Makers Movement. In this course, a group of Industrial Design and Architecture students came together with a single purpose – to design a furniture collection for millennials, by millennials. They named the collection “Midwest Modern” in homage to the region where they live and study – a region which is also home to some of the greatest American furniture companies, including Haworth, Herman Miller, and Steelcase. The students were in Section 001 of their studio course and this simple reference to an administrative code became the brand name of their exhibited work later that year at the International Contemporary Furniture Fair (ICFF) as a part of the annual NYCxDESIGN event in New York City. The entire process, from research and design to production of

◀ The award-winning 2017 “Midwest Modern” furniture collection by the Ullman School of Design collective – Section 001, exhibited at the International Contemporary Furniture Fair (ICFF) at NYCxDESIGN in New York City. It is now permanently exhibited at the Ullman Design Museum.



◀ Part of the 2018 "Mind the Grid" furniture collection by the Ullman School of Design collective – Section 001 (2nd Generation). This collection was also part of the ICFF and NYCxDESIGN exhibition in New York City.



▲ Frank Lloyd Wright's Fallingwater House. On July 10, 2019, the UNESCO World Heritage Committee officially inscribed the 20th-Century Architecture of Frank Lloyd Wright, which includes Fallingwater and seven other Frank Lloyd Wright-designed sites, to the UNESCO World Heritage List.

full-scale prototypes, took only fifteen weeks. Top editors of prestigious design publications, such as *Architex*, *Metropolis*, *Stroll Productions*, *Interior Design*, and *Dezeen* selected Section 001's "Midwest Modern" for the Editors' Award – one of the show's most coveted honors. The project's success inspired us to continue working on furniture design concepts and collections and to exhibit again at ICFF.⁵⁸ The work produced as a part of these courses also gained the interest of the Fallingwater Institute – the educational arm of Frank Lloyd Wright's Fallingwater House. In fact, the topic of one of these courses – Creative Workspaces – formed the basis of my appointment there as a Scholar-in-Residence in 2018. We expanded this relationship with Fallingwater further by jointly developing a student residency in 2019.⁵⁹

TRANSPORTATION DESIGN

In 1997, in close collaboration with the automotive industry, a new Transportation Design program (a pathway within our Industrial Design program) was introduced. The help of our alumni, Stuart Shuster (class of 1962) was instrumental in launching this program. Shuster, a lead designer from General Motors (known for penning the iconic Pontiac Firebird Trans Am emblem)⁶⁰ provided the necessary industry support to start this program. This is also the first time when a combination of onsite and field visits and video conferencing was used by major automotive manufacturers such as General Motors and DaimlerChrysler to mentor and provide critical reviews to design students. To mark our new relationship, General Motors sent us a major gift – the EV1.⁶¹ This was the very first mass-produced electric vehicle of the modern era, developed by a major automaker. Shortly after the launch of the EV1, General Motors changed its mind and decided to

▶▶ Gjoko Muratovski and Juan Antonio Islas Muñoz at the launch of the Future Mobility Center. The DeLorean, an iconic vehicle best known for its appearance in the *Back to the Future* franchise, was used as a prop at the launch of the new Center. The car was generously provided by Josh Haldeman, an Adjunct Professor in Industrial Design at the Ullman School of Design.



DAAPworks 2019
APRIL 30-MAY 4

DAAPworks 2019 is the final event of
each year's graduating class at the esteemed
University of Cincinnati College of Design,
Architecture, Art, and Planning.



▲ Thanks to General Motors, the Ullman School of Design has one of the very few surviving models of the now infamous EV1, the world's first mass-produced electric car. After years of storage in a forgotten warehouse, we have recovered it and included it in our design collection. As of this year, the car is proudly displayed in our lobby, once again.

recall all of these vehicles to destroy them. Fortunately, we managed to retain the one that was given to us and we now own one of the rarest vehicles on the planet as a part of our design collection. The interesting history of this vehicle was recorded in the 2006 documentary film, *Who Killed the Electric Car?*.

The Transportation Design program, which was primarily focused on exterior car design, was reimagined in 2016 after industry interest started to decline. The program, under the new leadership of Juan Antonio Islas-Muñoz as the Head of Transportation Design, and myself, refocused in order to address issues related to new forms of mobility, autonomous vehicles, user experiences, and vehicle interiors. The new vision behind the program quickly regained industry recognition and a series of projects and partnerships were introduced. In 2018, the Japanese giant, Toyota Boshoku Corporation was so impressed by the



◀ The "screaming eagle" emblem of the classic American muscle car, the Pontiac Firebird Trans Am, was designed by Stuart (Stu) Schuster (class of 1962). The car was made famous by being placed in the spotlight of *Smokey and The Bandit*, starring Burt Reynolds.



▲ A meeting between myself, Juan Antonio Islas Muñoz (a professor in the Transportation Design program), and Mark Fields (CEO and Chairman of Ford Motor Company), during the launch of Ford's new vision "The City of Tomorrow" in 2017 in Detroit.

new program that it sent one of its designers, Yuki Fukunaga of the Advanced Design Department, to spend two years as designer-in-residence in the program. Other projects and engagements followed and new relationships were established with European companies such as Pininfarina and Jaguar. That same year, the Transportation Design program was commissioned to develop a new concept strategy for General Motors' (GM) new ridesharing platform, Maven. This new GM division was introduced in 2016, and after two years of trials in various cities, we were asked to help the company define new user-experience models and propose a business strategy for Maven. The team of almost

thirty people that participated in this project consisted of industrial designers, computer scientists, and behavioral psychologists. Together, we envisioned a range of new mobility solutions and autonomous vehicle concepts to replace existing conventional fleets. We set the parameters for a new human-computer interaction system and user experiences, and conducted a due diligence study on the type of urban infrastructure that Maven may need in order to implement these recommendations. The same year, we led a project that included the Ford Innovation Hackathon, where we worked on Ford's "City of Tomorrow" vision, exploring how near-term mobility advancements such as autonomous and electric vehicles, ride-sharing, ride-hailing, and connected vehicles could potentially interact with urban infrastructure to create a more cohesive transportation eco-system. This year, with our 150th anniversary, we launched a state-of-the-art, Future Mobility Center where we introduced future-forward design workflows such as immersive sketching, advanced communications software, virtual reality (VR) interaction, generative design technology, material appearance digital capture, and digital upholstery patternmaking. The Future Mobility Center was made possible with the support of industry partners Lectra Automotive, X-Rite / Pantone, 3D Color, Autodesk, Gravity Sketch, Tachi-S, Hankook Tire & Technology, Toyota Boshoku, Ford Motor Company, Fiat Chrysler Automobiles, and General Motors. The Center is comprised of an Advanced Visualizations Lab, the Color Technology Lab, VR Automotive Design Lab, and a Generative Design Lab.

▶▶ By 2016, there was a significant decline in the interest of our Transportation Design program from our traditional industry partners from Detroit. In the interest of relaunching the program with new leadership and a new vision, I reached out to several European auto companies to find new partners to work with us. In 2017, the Ullman School of Design hosted Maurizio Corbi, a Senior Ferrari Designer from Pininfarina. The Ferrari California, which was displayed in front of DAAP during Corbi's visit, is one of the many iconic luxury cars he designed. The Transportation Design students had an opportunity to participate in a Ferrari design critique directly with the designer of the car. We also hosted a visit from Jaguar's Design Manager, Cesar Pieri. He worked with our students on a series of workshops and presentations. These new engagements helped us reinvigorate the interest of our past partners from Detroit and soon after we were able to reignite our relationship with them.



COMMUNICATION DESIGN

Our current Communication Design program began as a merger of two other programs—Graphic Design and Digital Design. In 1968, the Department of Advertising Design was changed to Graphic Design and a new Head of Department was appointed – Gordon Salchow, a graduate of Yale University. Salchow brought a new design philosophy to the department, which stemmed from his background in design work at advertising agencies. He combined the strengths of American design and Bauhaus-style attention to industry and technology with Swiss aesthetics in typography. This created a very distinctive and strong graphic design approach that resonates decades later. One of the best-known alumni of this program is the co-designer of the NASA “worm” and the Absolut Vodka logos, Bruce Blackburn (class of 1961)⁶². In addition, Michael Bierut (class of 1980), who became Vice President of Graphic Design at Vignelli Associates and later a partner at the leading design consultancy, Pentagram, is one of our high-profile alumni in this discipline. Best known for the graphics he designed

▼
The NASA “worm” logo designed by Bruce Blackburn (class of 1961).



◀
The Absolut Vodka logo, also designed by Blackburn.



▲ Michael Bierut (class of 1980) led the design team at Pentagram, the firm behind the visual identity for *The New York Times'* headquarters. For the building's opening in 2007, Pentagram created a customized program of environmental graphics, including a massive landmark sign on the building's façade, and an interior program of wayfinding and identification signage.

This interior signage, largely unseen except by staff, visitors and other insiders, is unusual. There are over 800 office signs—each different, and each unmistakably part of the *Times*. Early in the design process, the designers and their clients at the newspaper decided to reinforce the unique *Times* culture through as many details as possible. As a result, every bathroom sign, every

back-of-house sign, every public room sign bears a different image culled from the paper's immense photographic archive. Working with *Times* archivists, the designers selected historic black and white images to create these hundreds of one-of-a-kind signs.



▲ Michael Bierut (class of 1980) and Jesse Reed (class of 2010) worked together on the visual identity for Hillary Clinton's 2016 presidential campaign.

for *The New York Times*, Saks Fifth Avenue, Mastercard, and most recently the Hillary Clinton presidential campaign, Bierut still fondly remembers his time at the University of Cincinnati and writes about it in his memoirs.⁶³ Another interesting alumnus of this era is John Lutz (class of 1995), who worked on the design of the famous FedEx logo with Lindon Leader during his co-op placement at Landor Associates. Lutz designed the brand communications master plans for Universal Studios and Sony World Headquarters and went on to become the President of The Society for Experiential Graphic Design.⁶⁴ Another



▲ John Lutz (class of 1995) worked on the FedEx logo design during his co-op at Landor. On the logo above, notice how the negative space between the E and X forms an arrow.



allbirds

▲ Tim Brown (class of 2005) is now the CEO of the \$1.4 billion shoe brand, Allbirds. *Time* magazine called Allbirds' debut wool runner shoe the "world's most comfortable shoe," while *Wired*, *Fast Company*, *Huffington Post* and others followed with equally glowing reviews. "I consider my design education

such a valuable thing for what I'm now doing as an entrepreneur," Brown said in an interview, explaining that although he never thought of himself as a great sketcher, he developed a "designer-thinker" mentality, thanks to DAAP.

notable alumnus of the later days of the Graphic Design program is Tim Brown (class of 2005) who launched the billion-dollar shoe brand, Allbirds. Although he was trained as a graphic designer, Brown exhibited an early interest in shoe design, which later materialized in his launch of the "world's most comfortable shoe".⁶⁵

In 1996, a Digital Design program was introduced to the school, with a focus on computer-based design, 3D modeling and animation, and interactive design. One of the most notable alumni of this program is Luke Woods (class of 2006), who went on to become the Head of Design at Facebook, then Vice President of Design at Instagram.⁶⁶

In 2011, this program merged with the existing Graphic Design program to form a new Communication Design program. In 2016, 2017 and 2018, the industry publication, *Graphic Design USA (GDUSA)*, recognized the Ullman School of Design in their Top 50 Graphic Design Schools rankings, under the "Highest Honors" category.⁶⁷



◀ Luke Woods (class of 2006) joined Facebook in 2011 as a Director of Product Design and became Head of Design in 2015. Prior to this, he was a Senior Interaction Designer at IDEO.



◀ In 2019, Woods' role was expanded to include the appointment as the Vice President and Head of Design at Instagram, the photo-sharing platform owned by Facebook.

The Myron E. Ullman, Jr. School of Design

Ullman typeface

A B C D E F G H I J
K L M N O P Q R S T
U V W X Y Z a b c d
e f g h i j k l m n
o p q r s t u v w x
y z 0 1 2 3 4 5 6 7
8 9 . , : ; ... ! ; ?
š · • * # / \ [] -
— — “ ” ‘ ’ " ' % |

Ullman Thin
Ullman Extra Light
Ullman Light
Ullman Regular
Ullman Medium

Ullman Semi Bold
Ullman Bold
Ullman Extra Bold
Ullman Black

◀ Ullman typeface designed by Akshat Srivastava (class of 2019), available in nine weights: Thin, Extra Light, Light, Regular, Medium, Semi Bold, Bold, Extra Bold, and Black.

FASHION DESIGN

The Fashion Design program continues to perform highly and its annual fashion shows, held every year since 1950, have become one of the most anticipated public events in the city. One of the most notable alumni from the Fashion Design program is Stan Herman (class of 1950) who went on to become the President of the most influential fashion organization in the nation – the Council of Fashion Designers of America (CFDA). Herman also designed some of the most iconic uniforms of corporate America such as those for McDonald's, FedEx, United Airlines, TWA, Avis, and more.⁶⁸ Many of the recent graduates have continued securing positions at high profile fashion labels such as Marc Jacobs (Maggie Paxton, class of 2013), Victoria's Secret (Tara Guillozet, class of 2018), and Vera Wang (Nathan Haberthy, class of 2019). Also, a very strong relationship has been established with sports apparel and footwear companies such as Reebok, Adidas, Nike, Vans,



▲ United Airlines 1976 uniform and TWA label from uniform designed by Stan Herman (class of 1950).

Who says air hostesses have to look like this?



TWA says they can look like...girls!



... girls are TWA hostesses. Wearing working clothes.

... you surprised?
... given that old-fashioned uniform
... much. As of now, our hostesses are
... They have a whole new wardrobe
... bers and costumes—can choose

... which to wear and when. (And note the new
... freedom of hairstyles!)

... That way, they look prettier, feel happier
... —all the better to serve you. Result: you'll
... feel happier, too. Which is the way we want it.
... So whether you fly over the Atlantic or
... across the USA, west to San Francisco or east

... to Hong Kong—come take off into the col-
... orful new future of TWA!

... What a wonderful way to run an airline!

up up and away **TWA**



◀ Nathan Haberthy's (class of 2019) collection shown at our 68th Annual Fashion Show.

Toms Shoes, and Brand Jordan. One of the social innovation initiatives that we launched together with these companies in 2011, was also profiled by *Fast Company*. Three of our students at the time, Charley Hudak, Vanessa Melendez, and Jince Kuruvilla partnered with a local

high school to create a curriculum that would engage and empower inner-city youth through footwear design. The result was a program aimed at giving disadvantaged teens who live in an underserved neighborhood an opportunity to learn new skills and pursue their

dreams by learning the creative process. This grassroots initiative brought designers and creative directors from some of the leading footwear companies in America together with our students in a period of seven weeks they delivered an introduction to design thinking, creative problem solving, and taught the design-making process to the students of Hughes High School in Cincinnati. They called this education experiment the Tread Project.⁶⁹

A commitment to sustainability is also high on our agenda. In 2018, we launched the Sustainable Fashion Initiative (SFI) – a program that focuses on introducing a culture of sustainability in the school, with a goal of achieving a Zero Waste studio environment. For the development of this initiative, I appointed our alumna, Elizabeth Ricketts (class of 2010), an environmental activist and also a Harvard graduate, to develop an extracurricular education and training program on sustainability, upcycling, and recycling, so that environmentally-conscious students can learn how their work and daily habits can be adapted to contribute to a Zero Waste environment. In the first year alone, students have reduced the waste generated in our studios by almost seventy percent, and this trend will continue to grow as we move to the next stages of this program. The seed funding for this initiative was provided entirely by Bob Ott, a private donor who has regularly supported the school. While this initiative first started within the Fashion Design program, over the past year it has expanded throughout the school and across the entire university. It has now been adopted by the City of Cincinnati with plans to introduce this initiative into several public high schools.⁷⁰



▲ Elizabeth (Liz) Ricketts (class of 2010) standing in front of the world's largest used clothing landfill in Ghana.



▲ Ribbon cutting ceremony of our new Fashion Technology Center, with Bruce and Beth Altieri – two of our most dedicated donors and supporters.

In line with our beliefs that design can make the world a better place, the Ullman School of Design joined the World Design Organization (WDO) in 2018.⁷¹ This is a global, non-governmental organization with United Nations (UN) Special Consultative Status. WDO promotes the ability of design to generate better products, systems, services, and experiences; better business and industry; and ultimately a better environment and society. By working together with the WDO, we have committed to using the UN Sustainable Development Goals as our guiding principles.⁷²

Over the last three years, the Fashion Design program has undergone a major transformation and a suite of new labs were introduced with the launch of the new Fashion Technology Center in 2019. The Center includes four translational research and production labs: The Apparel Production Lab, Textiles Innovation Lab, Wearable Futures Lab, and a Digital Patternmaking Lab. This was made possible with



◀ Our former student, Hannah Beachler, receiving an Oscar at the 2019 Academy Awards for her work on *Black Panther*. For the *Black Panther* movie (poster on next page), Beachler designed the fictional African country of Wakanda that was never colonized and is rich with tradition and advanced technology. She also devised the architecture, clothing, food, transportation, and ways of life for Wakanda. Beachler incorporated many of these aesthetics with concepts from the original Marvel comics, created by Stan Lee and Jack Kirby.

the support of private donors from the Altieri Family, the Ott Family, The Evelyn G. Burgoyne Foundation, and industry partners like the French technology conglomerate Lectra, who provided us with a new industry-grade patternmaking software valued at \$1.65 million that can be used across a range of industries – from fashion to automotive. This particular partnership was recognized by *Bloomberg Business*.⁷³ This year, the world's most relevant assessment of schools, *The Business of Fashion (BoF)* Global Fashion School Rankings, named the Ullman School of Design as one of "The Best Fashion Schools in the World."⁷⁴



▶ Industrial Design student fabricating in the DAAP Build Lab.



It is interesting to mention that one of the highest-profile alumni from our Fashion Design program is not a fashion designer, but a production designer in Hollywood. Our former student, Hannah Beachler, recently made history by becoming the first African-American woman to win an Oscar at the 2019 Academy Awards for creating the world of Wakanda for Marvel's *Black Panther* (2018) movie. Prior to this, she worked on the production design of the new Rocky movie, *Creed* (2015), the Miles Davis biopic, *Miles Ahead* (2015), and *Moonlight* (2016). She also helped produce Beyoncé's visual album, *Lemonade* (2016).⁷⁵

BUILDING BLOCKS FOR THE FUTURE

One of the most important new developments that we introduced in the school over the past few years is a strong commitment to evidence-based research when working on industry-sponsored projects. In doing so, we have shifted the focus from individual, outcome-based projects, to team-based exploratory research projects.

This decision was made for the purpose of introducing students to more advanced ways of thinking and designing. Outcome-based projects are typically the same type of projects that would be assigned to a junior-level designer while working in the industry. This would take the shape of a very specific design brief that must then be executed. The quality of the final outcome depends on the technical skills of the individual designer and how well the designer has interpreted the brief. The students receive formative feedback throughout the project and the final work is assessed in terms of how they translated the design brief into a tangible design outcome.

▼ First year Foundation Design students critiquing value studies.



This kind of project is more or less the same kind of work that the students will normally do in their co-op placements. There was nothing wrong with this approach, as doing work like this further strengthens the skills that emerging designers need to have in order to enter the industry. However, if our goal is to educate a new generation of design leaders capable of driving innovation in industry, then we must move



▲
Fashion Design Final show, 2015.

away from this approach. Since our students have close to two years of diverse industry experience by the time they graduate, thanks to our co-op education model, they are no longer entry-level designers when they enter the workforce, and they would benefit from another level of skills at this stage.

DEVELOPMENT OF NEW SKILLS

As a School Director, my intent was for us to make our curriculum complementary to the co-op experience that we provide to our students, rather than merely replicating the type of work that students already know how to do well. We piloted this approach in 2018 within the Industrial Design program where John Dixon (a Professor of Practice in Industrial Design), Stephen Slaughter (a Professor in Architecture) and myself co-taught an interdisciplinary course on design making together with a course on design thinking. The class, which included close to thirty students, brought design and architecture students together as a single team. The students were asked to work as a single unit and to design and produce a unified furniture collection called “Creative Workspaces,” based on findings and insights from their fieldwork research. The project, which was completed in fifteen weeks, was later exhibited at the International Contemporary Furniture Fair (ICFF) during the New York City design festival, NYCxDESIGN.⁷⁶

The team-based exploratory research projects are very different, even though our expectations for the quality of final execution remain high. What makes these projects different is that there is no design brief, and students must learn how to work as a team. Students are asked to

develop their own design brief by conducting research on the industry sector in which the sponsor operates. They must identify gaps in the market, determining new opportunities and challenges, gaining an in-depth understanding of the end-users and their needs, and framing the problems that they must address. Pursuing preconceived notions of what the design should look like should not be encouraged, as the research must inform the design. We now introduce this way of working in the third year of studies. In the first two years of studies, students learn how to do outcome-based projects and they focus on learning the fundamental design principles of their respective design fields. As they have never done an exploratory-research project before, we guide them through the process step by step, not as teachers, but as coaches. The learning curve is steep, and very rewarding at the end. Students are expected to exhibit curiosity, initiative, and leadership, and in the process, they develop critical thinking skills and learn how to negotiate a solution within a group setting. Through this process, we teach the students how to learn.

Since there is no blueprint for students to follow, they must start with a blank canvas and learn everything they can about the topic of interest before proposing design solutions. This is important. To drive innovation, designers must learn how to become comfortable working in uncharted territory. Ambiguity is an essential part of the innovation process. To be at the forefront of innovation means to be open to more than one interpretation of the situation at hand. At times, this also means learning new skills and technologies, and all of this becomes a part of the new learning process that we are now introducing. As a part of this, students are taught how to be flexible and adapt themselves to the circumstances that they face, rather



than perpetuating tried and tested methods of work that may not lead to the right answers and solutions. Learning how to do research plays a major role in professional development. Another important component is learning how to communicate ideas to a broad range of stakeholders, how to share and delegate responsibilities, how to function as a cohesive unit, and how to be supportive of one other.

For us, it was important to recognize that our students have their own way of looking at the world and their own understanding of what success means. We needed to accept the fact that for us as a school to try to collectively bring every single student to the same standard of work is an outdated concept. This was an appropriate model of education during the industrial era when the manufacturing process was such that everyone had to fall into line. Today, we no longer operate in this environment and we need to allow the students to pick and choose what they want to learn and what they need to learn in order to successfully complete their tasks and deal with the challenges that they face. This is why we have shifted our focus from teaching students how to do things, to teaching them how to learn.⁷⁷

▲ Communication Design Seniors evaluating Capstone Project Posters in 2018.



ENHANCED STUDENT ENGAGEMENT

Working with our students to identify a career they are passionate about, helping them achieve their academic goals, and supporting them to reach their full potential is what we continue to focus on. As a school, we strive to provide a holistic student support system that encompasses all touchpoints and interactions between the key stakeholders and the institution – from the moment prospective students consider enrolling at a university, to when they are alumni. The way this kind of engagement is delivered can be critical to the long-term success of the students and the university. Positive emotional experiences for students while they're interacting with the university before, during, and after their studies can provide invaluable, lifelong support to the institution in many ways.

Engaging prospective students early, communicating with them in a meaningful way, and using multiple platforms is incredibly important. Incoming students bring an existing passion with them – the role of the school should be to accelerate that into a career by providing an



Design students at work drafting patterns.



Foundation students evaluating Principle of Design Studies.

exceptional student experience. Students who feel connected to the school and feel cared about, who understand their purpose, and have clear academic and career goals are better motivated to succeed and have higher retention rates. Then, once they graduate, as engaged alumni they will be far more inclined to support the university by donating, volunteering, mentoring students, providing employment for recent graduates, and serving as university ambassadors.

Some efforts in this area have already shown results. In 2017, *Insight into Diversity* – the oldest magazine devoted to diversity and inclusion in higher education – recognized the Ullman School of Design as a “Diversity Champion,” when compared to other design schools in the country. *Metropolis*, the leading industry publication in the field of design and architecture, confirmed this further by calling the school a “game-changer,” and ranking the University of Cincinnati as having the number one design school in the United States, when it comes to implementing equity and diversity initiatives – with the Harvard Graduate School of Design coming in second place.⁷⁸ The sensitivity of this topic requires us to continue developing new strategies and implementing best practice protocols and procedures, and our two new initiatives, “Wellness by Design”⁷⁹ and “Diversity by Design,”⁸⁰ are already underway in the school.


EMPATHETIC SCHOOL

Given the implications behind these demographic shifts, it is important for us to better understand our students so that we can form a greater sense of connection. And sometimes that means looking at the bigger picture. When students experience difficulties in their studies, sometimes, this is because life gets in the way. Obstacles such as conflicting work and class schedules, lack of access to reliable transportation, family issues, or unaffordable childcare can all pose significant challenges for some students on their path to graduation. Being empathetic and finding ways to help students navigate through challenges of their daily lives is what will make their relationship with the university stronger. With this in mind, I can say that we need to identify various university-led and campus-based initiatives that can



be put in place to alleviate some of the daily challenges that students face. As students with non-traditional backgrounds become more of the norm, traditional support structures, such as daytime-only office hours for advising and student affairs, have already become inadequate. For example, one often overlooked demographic are young parents. Playgrounds for children and family-friendly restrooms on campuses will encourage student-parents to bring their children with them when visiting the university, so they do not feel that as parents they do not belong on campus. Initiatives such as this send a positive message to the community that the university is for everyone and the infrastructure provided by the university is an integral part of the social fabric.

▲ Students critiquing application design concepts.



BEAUTIFUL
IS MADE
NOT BORN

DAAP



▲
Communication Design students
critiquing concepts.

CHANGING DEMOGRAPHICS

A major challenge that we must take into consideration is the general shift in the demographic profile of incoming students. Many students no longer come to university straight from high school to attend classes full-time while living on campus or nearby. An increasing number of students are twenty-four years of age or older. Many prefer to study part-time in order to accommodate full-time work, or they need to take care of children or other dependents. The new generation of students, who are considered digital natives, are also adding to the pressure by expecting a digitally-enhanced learning environment.

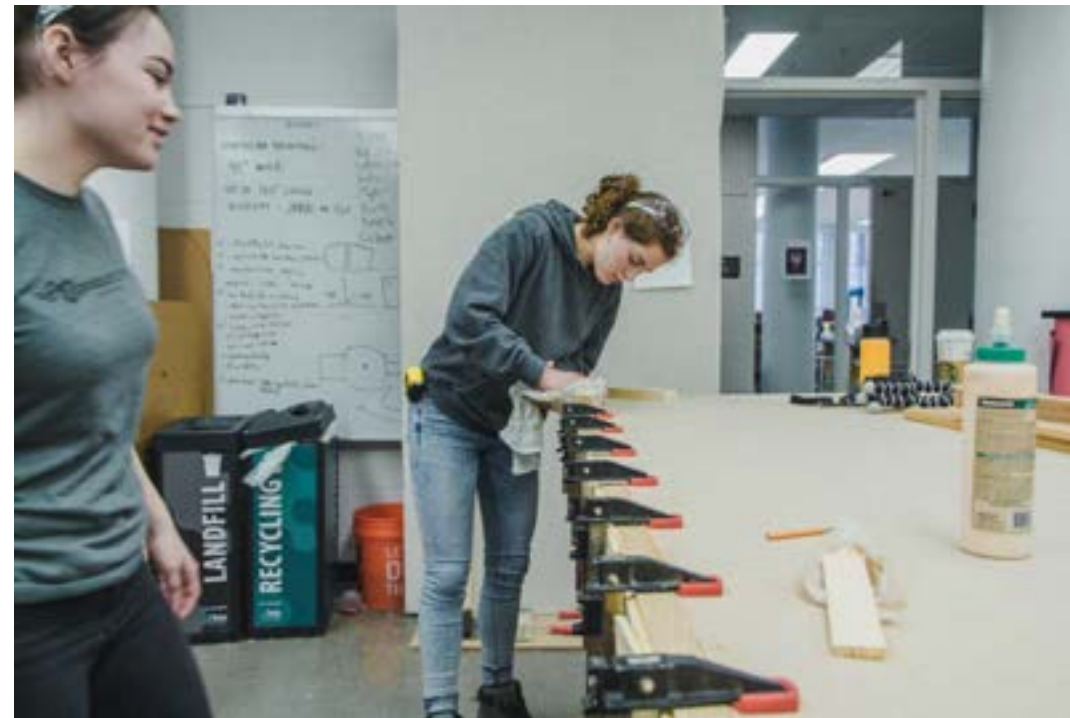
In the near future, we are also going to see increased numbers of displaced workers from disrupted economies enrolling in college to be retrained for new or emerging knowledge-based jobs. These industry shifts have already triggered the emergence of competency-based degrees that cater specifically to non-traditional students. Competency-based degrees reward prior experience and measure learning through demonstrated proficiency. They allow students to progress through courses at their own pace, shortening or lengthening the time needed to complete a degree. All of this creates additional pressure for us to build entirely new infrastructures and support systems.

Many design schools focus on emulating success stories at other institutions. By growing existing programs they already have



in their portfolios, they emphasize strengthening their macro-credentials. For us, it is important to shift this conversation to include a new understanding of adult student segments and motivations, assessments of the regional labor market demand, and an analysis of how we can address these new opportunities with our internal capabilities. We must take two key questions into consideration in this new "Audience-First Strategy". What is more important to students and employers: the credential or the skills? And, does the market segment realize that more education is necessary for advancement?

Industrial Design students fabricating.



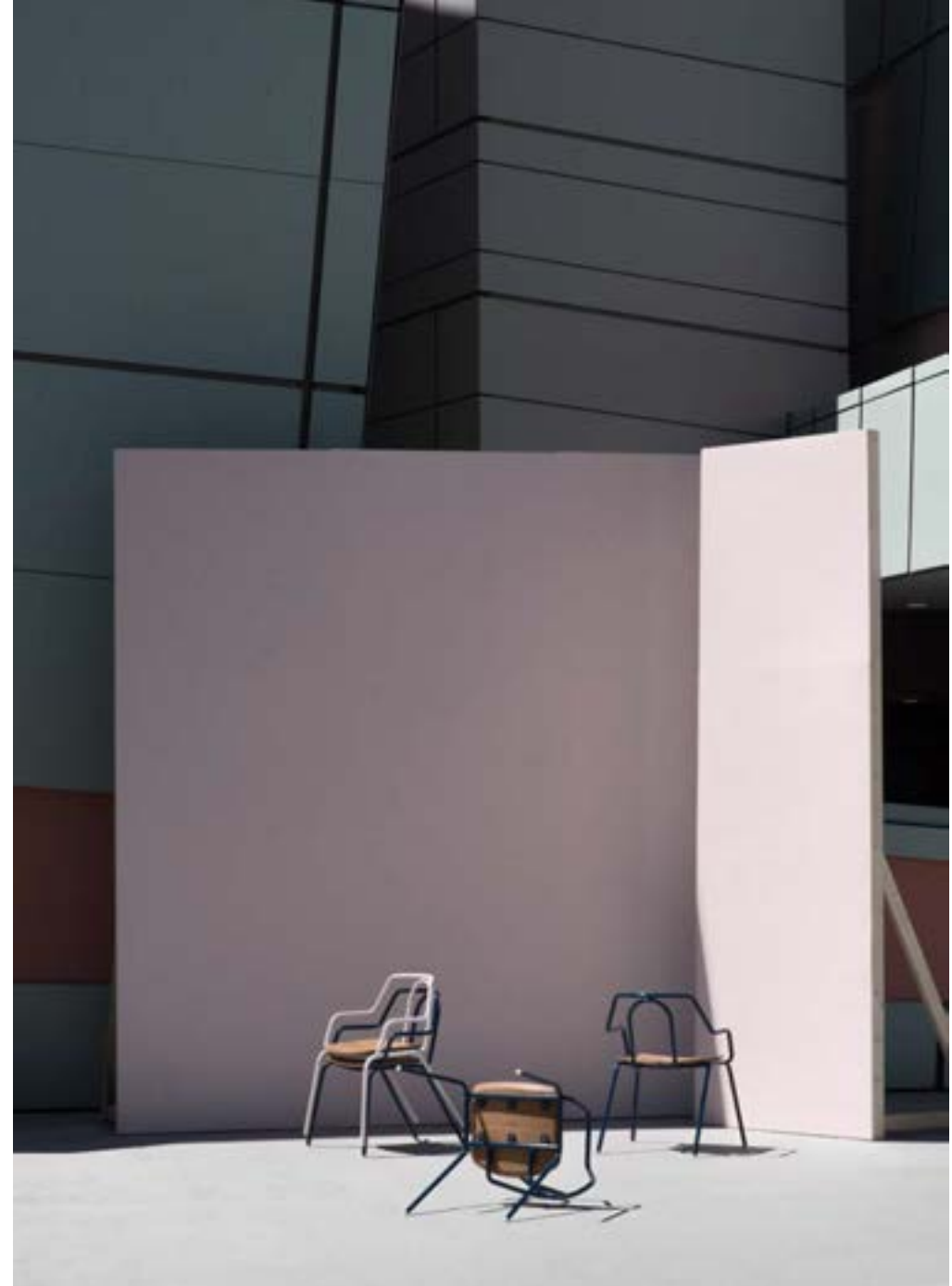
WORKING PROFESSIONALS

For many working professionals there are complex motivations and inflection points across career lifecycles that must be considered before they consider enrolling in a university. Essentially, there are six key areas that universities need to be prepared to address if they are to attract this new market segment:

1. Upskilling in Place (I need skills to keep up with job expectations.)
2. Seeking Promotion (I need to build new skills for my next step.)
3. Facing Replacement (My career doesn't exist anymore; or, I need retraining.)
4. Returning to Workforce (I haven't worked in a long time; or, I need to update my skills.)
5. Preparing for a Switch (I want a better job; or, I need to prepare for a career switch.)
6. Pursuing a Passion (I am looking for a career with meaning.)

Preparing to address the needs of this market segment is something that can be done in partnership with major industry partners who may have a vested interest in re-training or retaining their existing workforce, or in maintaining their market competitiveness by investing in new skills. There is a growing trend in the U.S. where major corporations such as General Motors, Nike, Google, and Facebook are developing their own internal educational capabilities for addressing some of these matters. Amazon, for example, is spending \$700 million

▶ Part of the "Mind the Grid" furniture collection displayed in front of DAAP.





Students in the DAAP Photo Lab.

to upskill its workforce by the year 2025, in hopes that these large-scale retraining initiatives will help move their workforce into more highly-skilled roles within or outside Amazon.⁸¹

ENTREPRENEURIAL MINDSET

There is no doubt that in order to remain globally-relevant and financially solvent, the university sector will need to become increasingly entrepreneurial and will need to build close ties with a range of industry sectors. In line with this, one of the key priorities for the school should be pursuing new funding opportunities that could help us diversify our revenue so that we can reduce our reliance on tuition and government funding with the goal of becoming entirely self-sufficient in the long term. Therefore, a key initiative that we should introduce is the development of a Venture Capital division of the school, that would be paired with a new Master's program in New Ventures.

Given the recent rapid emergence of billion-dollar businesses co-founded by designers (including one of our own alumni), a design school such as the Ullman School of Design can play a significant role in developing new, human-centric entrepreneurial activities. This could be a program where individuals, or interdisciplinary teams of students, will graduate with a degree and with a start-up business. This will also help us attract an entirely new cohort of students; individuals who are more interested in starting their own enterprise, instead of working for one. In the first year, the program can operate as an incubator, and in the second, as an accelerator. The enrollments could be open to students of any background, not only from design. However, the instructors and advisors in the program can advise the students on



◀ Technical pattern construction by a Fashion Design student.

how to approach their new business concepts from a design-thinking perspective, and how to conduct evidence-based research to validate their ideas.

The Ullman School of Design should retain a small part of the equity of each new business that will be launched, thus making this program a Venture Capital arm of the school. This is a long-term strategy that requires very little investment outside of standard operating costs, but comes with a high probability of significant revenue generation.



▲ Collaborative project between Fashion, Industrial Design and Communication Design in 2016.

TEACHING INNOVATION

Another challenge today is that the prevailing teaching models and environments in the university sector have evolved very little over the last 150 years. The way people interact in society today and the way industry operates has changed dramatically in recent history, yet the classroom, as a concept, has remained largely unchanged. Many teaching environments today continue to follow the industrial-age standards of education. As a result, progressive educators find it hard to foster creativity in environments that are designed to suppress it. That is why we need to rethink how we teach in the twenty-first century and what kind of learning spaces and experiences we are providing. The lecture-based model, which has characterized higher education since its inception, is now problematic. But with better technology and a much deeper understanding of how students learn, we are starting to personalize learning. Integrating research, theory and studio practice in a more holistic way, rather than treating them as separate courses will be critical next step. Teaching research methods should become a part of the foundational design skillset, introduced in the first year, alongside other discipline-specific design knowledge. Essentially, we need to replace our studios and classrooms with fieldwork research and a network of specialized laboratories.

THE SCHOOL AS A DESTINATION

To provide the highest quality of education, design schools must innovate in the ways that they interact and engage with students. One of the most pressing challenges today is the conversion of the traditional classrooms and studios into immersive and inclusive labs and environments supported by state-of-the-art technology. Many schools are increasingly working towards creating new learning and teaching environments that are both inspiring and future-focused. The learning environment that design schools provide today should challenge existing conventions and serve as a model for the workplace environment of tomorrow. New tools and pedagogies enable learning to happen anywhere, at any time. To remain relevant, design schools will need to offer something that cannot be found anywhere else – an inspiration, a sense of belonging to a community, and an experience of meaningful learning. This is why design schools must become destinations in their own right. The current development of a series of new eco-system of shared translational research labs in the Ullman School of Design is how we are trying to create such environments. Facilities and capabilities that we are currently developing include the Futures Foresight Lab, VR Automotive Design Lab, Experimental Packaging Lab, Apparel Production Lab, Advanced Visualizations Lab, Advanced Communications Lab, Wearable Futures Lab, Digital Patternmaking Lab, Textiles Innovation Lab, Color Technology Lab, Generative Design Lab, and a Makers Hub. Many of these facilities are now fully operational. Others will be completed by 2020. Also, as a part of our 150th anniversary this year, I developed and launched the Ullman Design Museum. Housed in the executive suite of the school, the purpose of the museum is to preserve and celebrate the design legacy created by our alumni. Private donors and corporate sponsors generously funded all of these new initiatives.

PROSPECTIVE STUDENT SUPPORT

For students from low-income families, financing is not the only factor standing in the way of higher learning. Many do not receive the quality high school education that they need to effectively prepare for a university in the first place. Many high schools – particularly those in low-income areas – do not help students develop the study skills they would need to excel in a university. Without this preparation, once enrolled in a university, students may have trouble keeping pace and eventually lose the confidence and motivation essential to completing their studies. Without adequate support, first-generation university students may not be able to rely on family or friends for advice about higher education. This can result in an additional burden of constructing a support network of mentors, role models, and advisors on their own. Without suitable advice and counseling, these students might make decisions that adversely affect their circumstances, and in return, their education. However, many individuals and organizations – whether within or outside the university – can help students succeed. A university that builds relationships with outside entities can offer its students a great starting point in their academic careers and beyond. A design school such as ours can partner with high schools to help prepare students for higher education. Collaboration with other peer institutions can be helpful when it comes to sharing best practices, or for implementing joint-strategies in a more cost-effective way. A broad engagement is necessary as support from a variety of stakeholders, coordinated by a university, can help put students in a better position to succeed in the long term.



◀ Vacuum bag operation in the DAAP Rapid Prototyping Center, 2013.

“HARDEST TO HIRE” SKILLS

According to a 2017 study facilitated by the *Business of Higher Education Forum*, a survey on the future of the workforce revealed that there are eight “hardest to hire” skills identified by employers in the U.S.⁸² These skills are the following:

1. Cybersecurity (97 percent)
2. Data Science and Analytics (95 percent)
3. Critical Thinking and Problem Solving (83 percent)
4. Design/Systems Thinking (79 percent)
5. Innovation and Creativity (79 percent)
6. Global Perspective (78 percent)
7. Cognitive Flexibility (78 percent)
8. Cross-disciplinary Ability (74 percent)

This presents clear evidence that design, as a field, has never been more influential and more in demand as it is today. Aside from

Cybersecurity, the Ullman School of Design should have no problem delivering on the remaining skills in terms of education in the near future. We are working on adding Data Science and Analytics to our portfolio of skills, as well.

In 2018, under my leadership, we started an initiative for the establishment of a university-wide Center for Predictive Analytics in a partnership between the Ullman School of Design, the School of Criminal Justice, and the School of Information Technology. Aimed at various government departments, major corporations, and investors interested in tracking industry trends, this Center can generate various types of trend reports by using a proprietary AI algorithm, deep machine-learning, and intuitive data visualization interfaces.

▼
Transportation Design Senior Capstone project, DAAPworks 2017.



What makes this Center unique is that it draws on the knowledge and expertise of highly diverse researchers and practitioners – from designers, computer scientists, and anthropologists, to police and national security intelligence officers. We are currently testing the capability of the Center by conducting a university-funded pilot project, and we are working on developing a business plan that will include different tiers of corporate subscriptions, alongside a range of customized research and consultancy services.

▲
Collaborative Studio (Fashion, Industrial Design, Communication Design) identifying personas for Luxottica brand Arnette in 2016.

Asserting ourselves as providers of seven out of eight “hardest to hire” skills is an opportunity that must be embraced and communicated to all prospective students and employers. The way we should pursue this opportunity at the Ullman School of Design is by the development of a Professional Doctorate in Innovation Leadership aimed at corporate executives (possibly as a flexible online program), and a more traditional PhD by Research program aimed at training a new generation of design researchers capable of addressing complex global challenges.

CONCLUSION

Design education is a relatively young concept. The demand for it was driven by industry and specialized design programs were introduced in order to meet the needs of an increasingly industrialized world. The structures of the courses were modified, refined, and expanded as the knowledge expanded. Graduate study was introduced for the pursuit of mastery and exploration of areas of advanced interest that cannot be covered on an undergraduate level for various reasons. Finally, postgraduate programs on a doctoral level were introduced so that a new body of knowledge can be empirically developed. At the Ullman School of Design, we are following the same patterns, while making sure that our programs stay relevant and ensuring that our graduates are in high demand.

Design is an ever-evolving field. The nature of the profession means that designers are constantly faced with new and emerging challenges that require new approaches. As the world becomes increasingly complex, designers must be able to reach across disciplines to gather data, extract ideas, and think critically from a multitude of viewpoints. It's becoming obvious (at least for us) that designers' abilities to learn skills as needed, absorb knowledge quickly, and translate insights into opportunities, are the critical new requirements for professional success. To remain true to our original mission, we must continue to develop and evolve. But this does not mean that we should change who we are as a school. My role is that of a steward whose job is to preserve the original vision of the Ullman School by preparing it for the future, while remaining true to our core mission.



acknowledgments

I would like to thank Ekaterina Loy and Sarah Chase for their help with the proofreading and formatting of this article, and Ken Friedman for his editorial advice and feedback. I would also like to thank Jay Chatterjee, the Emeritus Dean of the College of Design, Architecture, Art, and Planning (DAAP) and Kevin Grace, the University Archivist and Head of the Archives and Rare Books Library at the University of Cincinnati, for providing me with some of the archival records that I have used in my research.

endnotes

1 Peter Hahn, preface to *Bauhaus 1919-1933* (Berlin: Benedikt Taschen, 1993).

2 Terri Premo, "The McMicken School of Design," in *VisionsRevisions*, ed. Jay Chatterjee (Cincinnati: University of Cincinnati, 2001), 6-15.

3 The inaugural name of the school was "The McMicken School of Art and Design," but it was soon changed to "The McMicken School of Design," also known as the School of Design at the McMicken University (the McMicken University name was changed to the University of Cincinnati in 1870).

4 Charles McMicken, a businessman from Pennsylvania who regularly traveled through Cincinnati for his trading enterprises, donated close to \$1 million in 1858 (approximately \$30 million in today's currency) for the establishment of McMicken University, which became the University of Cincinnati in 1870. The city expanded the University of Cincinnati further by absorbing several other educational institutions, such as Cincinnati College and the Medical College of Ohio, which became chartered in 1819.

5 This study was commissioned by Jay Chatterjee, who was the Dean of the College of DAAP at the time.

6 "Cincinnati's Golden Age, 1850-1900," Cincinnati Art Museum, last modified

2019, accessed July 3, 2019. <http://www.discoveringthestory.com/goldenage/>.

7 Premo, "The McMicken School of Design," 7.

8 Premo, 8-9.

9 Premo, 13.

10 Premo, 9.

11 "Ohio Mechanics Institute," Ohio History Central, accessed July 4, 2019, http://www.ohiohistorycentral.org/w/Ohio_Mechanics_Institute.

The institute evolved into a more traditional college in the 1950s and in 1958 became known as the Ohio College of Applied Science, with an evening school still known by its original name. The Ohio College of Applied Science was incorporated into the University of Cincinnati in 1969.

12 Premo, "The Making of an Institution," 2-5.

13 "Mapping the Practice and Profession of Sculpture in Britain and Ireland, 1851-1951," Government School of Design (London), University of Glasgow History of Art and HATII database, last modified 2011, accessed July 4, 2019. http://sculpture.gla.ac.uk/view/organization.php?id=msib4_1267714397.

14 The full title of Smith's study is "Report on the works of pupils, in the French schools of design, recently exhibited in the Palais de l'Industrie, Champs-Élysées, Paris: With a comparison of the French and English systems of art education, and suggestions for the improvement and modification of the latter: as presented to the Secretary of the Science and Art Department, by order of the Lords of the Committee of Council on Education." The report was published in 1864 in London by Simpkin, Marshall, and Co., and a digitalized version can be accessed in full via the Boston Public Library archive: <https://archive.org/details/reportonworksofp00smit/page/n3>.

15 Kenneth E. Carpenter, "European Industrial Exhibitions Before 1851 and Their Publications," *Technology and Culture*, Vol. 13, no. 3 (July 1972): 465-486. The very first benchmark of the design capabilities of different nations was established during The Great Exhibition of the Works of Industry of All Nations—or, The Great Exhibition, that took place at the Crystal Palace in Hyde Park, London from May 1 to October 15, 1851. This international celebration of "art in industry," promoted by Queen Victoria's husband, Albert, became one of the defining points of the nineteenth century. This event is considered a pivotal point of the Industrial Revolution and was actually inspired by the French Industrial Exposition of 1844—which was the tenth in a series of eleven

French national industrial expositions that were put in place since 1798. However, the earliest industrial exposition was held in Vienna in 1754. It was not uncommon for exhibitions of various innovations to date back to the latter half of the 1600s in Europe.

16 Meredith Amanda Cole, *In Quest of Walter Smith: The Past, Present, and Future Impact of Visual Art in Adult Education*, Hattiesburg, Mississippi: University of Southern Mississippi, 2001, accessed July 10, 2019. <https://aquila.usm.edu/cgi/viewcontent.cgi?article=2107&context=dissertations>.

17 Premo, "The Making of an Institution," 13.

18 Premo, "The McMicken School of Design," 12.

19 Premo, 11-19.

20 "Benn Pitman – Background," Cincinnati Art Museum, last modified 2019, accessed July 6, 2019. <http://www.discoveringthestory.com/goldenage/bed/background.asp>. Pitman taught until 1893. His treatise on decorative art and a compilation of his teachings, titled *A Plea for American Decorative Art*, was published for the *1895 Cotton States and International Exposition* in Atlanta, Georgia. According to the Cincinnati Art Museum, he wanted to create an American "look" for deco-

rative arts based on local plants and wildlife. Perhaps not quite aligned with the founding industrial ideology of the school, many of Pitman's views were based on his philosophical mentors: John Ruskin (1819-1900), Ralph Waldo Emerson (1803-1882), and William Morris (1834-1896). Pitman's ideas on the decorative arts positioned him as a staunch proponent in the forefront of the American Aesthetic Movement. Pitman taught his last class in 1893 and died in 1910.

21 It is worth noting that even today we continue to have an exceptionally high ratio of female students, and this has only grown through the years. According to our 2019 census, on average, close to 73 percent of all new students enrolled in 2018 at the Ullman School of Design were female. Broken down by our three core study programs: 80.6 percent of our Communication Design students are female. The ratio is the highest in our Fashion Design program with 92.7 percent female students, and there is a decline in this trend in our Industrial Design program where 51 percent of the students are female. Our Master of Design graduate program is 71.4 percent female students.

22 Premo, "The McMicken School of Design," 6-15.

23 In order to overcome legal conditions in Charles McMicken's will, the

Ohio General Assembly had to pass a special enabling legislation in 1884, which along with property exchanges arranged by Longworth, opened the way for the transfer to proceed. This is an example of the level of influence that the social elites at the time had in Cincinnati.

24 "AAC History Timeline," Art Academy of Cincinnati, accessed July 5, 2019. <https://www.artacademy.edu/news-events/art-academy-cincinnati-history-timeline/>. As a result, in 2019, both the Ullman School of Design and the Art Academy celebrate their 150th anniversaries due to their shared lineage with the McMicken School of Design. The architectural program, however, did not survive this transfer. In one shape or another, with a minor hiatus, architecture continues to be taught at the University of Cincinnati to this day.

25 Premo, "College of DAAP," 23.

26 Premo, "Herman Schneider: Cooperative Education," 28-29.

27 Clyde W. Park, *Ambassador to Industry: The Idea and Life of Herman Schneider* (Indianapolis: Bobbs-Merrill, 1945).

28 Premo, 30.

29 Premo, 31.

30 "Career Education, Co-Op," University of Cincinnati, last modified 2019, accessed July 22, 2019. <https://www.uc.edu/campus-life/careereducation/get-experience/co-op.html>.

31 Matthew Koesters, "UC Co-Op Students Earned a Record \$66 Million," *UC News*, August 21, 2018, accessed July 15, 2019. <https://www.uc.edu/news/articles/2018/08/n200012.html>.

32 Charles W. Haxthausen, "Walter Gropius and Lyonel Feininger Bauhaus Manifesto, 1919," in *Bauhaus 1919-1933: Workshops for Modernity*, eds. Barry Bergdoll and Leah Dickerman, (New York: Museum of Modern Art, 2009), 64-67; Droste, *Bauhaus 1919-1933*, 18. In the Bauhaus manifesto from 1919, Walter Gropius writes that painting, sculpture, and architecture, once integrated in the "great building" have become mutually isolated, to the detriment of all three. Therefore, the goal of the Bauhaus would be to reunite them by creating a "new guild of craftsmen," thus ending the "arrogant class division between artisans and artists." In January 1919, Gropius also published a "Teaching Plan for Architecture and the Fine Arts on the Basis of Handcrafts," outlining this relationship further and declaring handcrafts as the foundation of art education.

33 Premo, "Rebirth & Renewal: UC's School of Applied Arts," 36-39.

34 Premo, 47.

35 Our Bauhaus Heritage," Illinois Institute of Technology, last modified 2019, accessed July 30, 2019. <https://id.iit.edu/new-bauhaus/>.

36 Premo, 44-53.

37 Despite the challenges, the Great Depression also played a role in further defining the course of modernity. Inventiveness and ingenuity became the driving factor of success and the emergence of new technologies in a range of industries expanded the realm of possibilities. The fabric of the American cities changed as the emergence of automobiles fast-tracked the transformation of nineteenth-century walking cities into taller, more compact, and centralized urban cores.

38 The name of the Association was changed in 1966 to the National Association of Schools of Art, and in 1981, to the National Association of Schools of Art and Design (NASAD). Over time, the Association assumed increasing responsibility for the development of educational standards in art and design.

39 "History," National Association of Schools of Art and Design, last modified 2019, accessed July 30, 2019. <https://nasad.arts-accredit.org/about/history/>.

40 Premo, "Rebirth & Renewal: UC's School of Applied Arts," 58-59.

41 "Alessi | Teakettles," Michael Graves Architecture & Design, last modified 2019, accessed August 20, 2019, <https://www.michaelgraves.com/projects/alessi/>.

Over the course of his career, Michael Graves designed over 2,500 products for companies such as Alessi, JCPenney and Target. Graves' Whistling Bird Teakettle launched in 1985 and has been Alessi's number one seller for the past thirty years, with over two million units sold.

"20 Years of Design for All," Target, last modified 2019, accessed August 20, 2019. <https://www.target.com/c/target-20-years-of-design-for-all/-/N-yk9q4>. On September 14, 2019, Target relaunched their Michael Graves product collection as a part of their anniversary, "20 Years of Design for All."

"College of Engineering and Applied Science: Facilities," University of Cincinnati, last modified 2019, accessed August 21, 2019, <https://ceas.uc.edu/about/facilities.html>. Also, worth noting is that in the 1990s, Graves was invited by the University of Cincinnati to design a new, signature-style building for the Engineering Research Center, which opened to the public in 1995.

42 “Famous Alumni, Designers, Architects, Artists from UC,” *UC Magazine*, last modified 2014, accessed August 21, 2019, <https://magazine.uc.edu/famousalumni/designers.html>.

43 Premo, “Harold Rice: Art School in the Woods,” 74-77.

44 “About Aerospace Engineering & Engineering Mechanics,” University of Cincinnati, last modified 2019, accessed September 8, 2019, <https://ceas.uc.edu/academics/departments/aerospace-engineering-mechanics/about.html>.

I discovered the records of the “lunar shelter” project in James Alexander’s personnel file in UC’s archives. This was not an unusual project, given that the University of Cincinnati is also the home of the second-oldest Aerospace Engineering program in the U.S. Neil Armstrong, the first man on the moon, was a part of this program as a Professor of Aerospace Engineering after his retirement from NASA. Armstrong taught as a full-time professor from 1971 to 1979. A strong relationship with NASA and the U.S. Air Force continues to exist today.

45 The divisions were dismantled in 1972, which allowed for greater autonomy of the departments, but this decision was reversed in 1982 when a new school structure was introduced.

46 Premo, “Bert Berenson: Extending the Vision,” 92-95.

47 Myron (Mike) Ullman, III is currently Chairman of the Starbucks Corporation.

48 “Presidential Innovation Fellows,” The White House online archives, last modified 2013, accessed August 21, 2019. <https://obamawhitehouse.archives.gov/innovationfellows>.

The Presidential Innovation Fellows (PIF) program was established by the White House in 2012 to attract top innovators into government, capable of tackling issues at the convergence of technology, policy, and process. The PIF program is administered as a partnership between the White House Office of Science and Technology Policy (OSTP), the White House Office of Management and Budget (OMB), and the General Services Administration (GSA). In 2013, with an Executive Order of the President Barack Obama, the PIF program established a permanent home and program office within the General Services Administration (GSA).

49 “Office of Presidential Innovation Fellows,” U.S. General Services Administration, last modified 2019, accessed August 21, 2019. <https://www.gsa.gov/about-us/organization/federal-acquisition-service/technology-transformation-services/office-of-presidential-innovation-fellows>.

50 “Kenner History,” Kenner Collector, accessed August 21, 2019, <http://www.kennercollector.com/kenner-history/>.

51 Alex Soojung-Kim Pang, “The Making of the Mouse,” *American Heritage of Invention & Technology*, vol. 17, no.3, (2002), accessed August 21, 2019, <https://www.inventionandtech.com/content/making-mouse-3>.

52 “Sam Lucente,” Industrial Designers Society of America, accessed August 21, 2019, <https://www.idsa.org/members/sam-lucente>.

53 Sharon Terlep, “Forget Tide Pods. P&G Bets Water-Free Soap ‘Swatches’ Are the Future,” *The Wall Street Journal*, April 22, 2019, accessed August 21, 2019, <https://www.wsj.com/articles/forget-tide-pods-p-g-bets-water-free-soap-swatches-are-the-future-11555946574>.

54 “Keynote Speakers: Timothy Anness,” North American Council of Automotive Teachers archives, last modified 2019, accessed August 21, 2019, <https://www.nacatconference.org/index.php/keynote-speaker>.

55 Thomas Nilson and Benedict Sheppard, “The Changing Face of Medical-Device Design,” *The McKinsey & Company*, 2018, accessed August 22, 2019, <https://www.mckinsey.com/industries/pharmaceuticals-and-medical-products/our-insights/the-changing-face-of-medical-device-design>.

56 Austin Carr, “Why Did Apple Just Hire a Nike Shoe Designer?,” *Fast Company*, September 27, 2013, accessed September 16, 2019, <http://www.fastcompany.com/3018686/why-did-apple-just-hire-a-nike-shoe-designer>.

57 Jacqueline Kern, “Brand Recognition: Collaborative University of Cincinnati Project Wins Top School Award at International Contemporary Furniture Fair,” *UC News*, September 20, 2017, accessed August 21, 2019, https://magazine.uc.edu/editors_picks-recent_features/daapicff.html.

58 “Fallingwater Institute,” Fallingwater, last modified 2019, accessed August 21, 2019, <https://fallingwater.org/education/fallingwater-institute/>.

59 Rocky Rotella, *The Definitive Firebird & Trans Am Guide 1967-1969*, (Forest Lake, Minnesota: CarTech, 2016), 34.

60 Mary Reilly, “High-Octane Teacher Fuels UC’s Status in Auto-Design Education,” *UC News* November 21, 2005, accessed September 6, 2019, <https://www.uc.edu/profiles/profile.asp?id=3352>.

61 Richard Danne and Bruce Blackburn, *National Aeronautics and Space Administration Graphics Standards Manual* (Washington, DC: NASA, 1975).

62 Michael Bierut, *Now You See It: And Other Essays on Design*, (New York: Princeton Architectural Press, 2018).

63 “John Lutz,” Selbert Perkins Design, last modified 2018, accessed September 6, 2019, <https://selbertperkins.com/john-lutz-is-president-of-segd/>.

64 Jacqueline Kern, “Allbirds CEO Credits UC With Success,” *UC News*, April 17, 2019, accessed August 21, 2019, <https://www.uc.edu/news/articles/2019/04/n2081858.html>.

65 “Luke Woods,” Semi Permanent, last modified 2019, accessed August 21, 2019, <https://www.semipermanent.com/profiles/Luke%20woods>.

66 “GDUSA Top Graphic Design Schools,” Graphic Design USA, last modified 2019, accessed August 15, 2019, <http://gdusa.com/category/features/top-design-schools>.

67 “Stan Herman,” Stan Herman Studio, last modified 2018, accessed August 21, 2019, <http://stanhermanstudio.com/bio.html>.

68 “Start an Education Revolution in Seven Steps,” Tread Project, *Fast Company*, August 12, 2011, accessed September 6, 2019, <https://www.fast-company.com/1664773/start-an-education-revolution-in-seven-steps>.

69 Jade Wilson, Meesh Strauss, and Draven Peña, “The Future of SFI: A Sit-down with Dr. Gjoko Muratovski,” Sustainable Fashion Initiative Cincinnati, December 21, 2018, accessed August 21, 2019, <https://www.sficincinnati.com/post/the-future-of-sfi-a-sit-down-with-dr-gjoko-muratovski>.

70 “About Us,” World Design Organization, last modified 2019, accessed August 13, 2019, <https://wdo.org/about/>. Originally founded in 1957 as the International Council of Societies of Industrial Design (ICSID), the organization changed its name to the World Design Organization in 2015 in order to better reflect its renewed vision and mission.

71 “United Nations Sustainable Development Goals,” World Design Organization, last modified 2019, accessed August 21, 2019, <https://wdo.org/about/vision-mission/un-sdgs/>.

72 “Lectra and The Myron E. Ullman, Jr. School of Design (UC DAAP) Forge Automotive Partnership in Higher Education,” *Bloomberg News*, March 1, 2019, accessed August 21, 2019, <https://www.bloomberg.com/press-releases/2019-03-01/lectra-and-the-myron-e-ullman-jr-school-of-design-uc-daap-forge-automotive-partnership-in-higher-education>.

73 “The Best Fashion Schools in the World 2019,” *Business of Fashion*, last modified 2019, accessed August 15, 2019, <https://www.businessoffashion.com/education/best-schools/undergraduate/fashion-design>.

74 “Hannah Beachler,” *IMDB*, last modified 2019, accessed September 13, 2019, <https://www.imdb.com/name/nm1667545/>.

75 The “Midwest Modern” and “Creative Workspaces” furniture collections are now permanently displayed at the Ullman Design Museum.

76 In 2018 we produced a short documentary called “Creative Workspaces: Rethinking Education by Design.” This mini-documentary was based on a pilot project that we used to test this new way of working. The project, which was called “Section 001” (the course’s administrative code) has been complex on many levels. Thirty students—twenty industrial designers and ten architects—worked as a team supervised by three instructors: John Dixon, Stephen Slaughter, and myself. Their task was to imagine the workspace of the future by specifically catering to the needs and expectations of millennials and Gen-Z demographics. We used our Communication Design students and their workspaces as a reference point, and we started designing an environment that’s

better suited for the young, creative professionals of the future. Throughout this project, we collaborated with a dozen industry partners at various stages of the process (Herman Miller, Steelcase, Haworth, Versteel, IKEA, Autodesk, etc.). In fifteen weeks, we went from basic research to full-scale prototypes. Despite the challenges and intensity of the work, the team thrived. We applied evidence-based research. We tested new design methodologies. We explored creative approaches to team work, design process, and trend forecasting, as well as hand and machine making. During the process, we celebrated a culture of interdisciplinary collaboration among co-designers. Finally, we showcased the new furniture collection and interior design concept at the 2018 International Contemporary Furniture Fair (ICFF), which is a part of the NYCxDESIGN—New York City’s annual design event. In addition to industry support and sponsorship, the project was funded in part with a generous grant from the Patricia Kisker Foundation. Students’, faculty, and industry feedback, along with responses and experiences while working on this project are recorded in the documentary, which can be found on the YouTube channel of The Myron E. Ullman, Jr. School of Design. “Creative Workspaces: Rethinking Education by Design,” YouTube video, 2018, posted by University of Cincinnati, accessed July 25, 2019, <https://www.youtube.com/>

[watch?v=NE3SDmdF35Y&list=PLoSusZo9EUvNT01eCk1eqyAVDXut-jqsvl&index=6&t=0s](https://www.youtube.com/watch?v=NE3SDmdF35Y&list=PLoSusZo9EUvNT01eCk1eqyAVDXut-jqsvl&index=6&t=0s).

77 Gretchen Von Koenig, “Diversity Champions: 8 Schools That Aren’t Just Paying Lip Service to Diversity,” *Metropolis*, January 30, 2017, accessed August 13, 2019, <https://www.metropolismag.com/design/design-education/diversity-champions-8-schools-that-arent-just-paying-lip-service-to-diversity/>.

78 “Wellness by Design” is an initiative for promoting student, staff and faculty welfare and mental health, developed in close collaboration with the University Counseling & Psychological Services—a professional counseling office within the Division of Student Affairs. Together we started working on developing a training session for full-time and part-time faculty on learning how to identify serious issues of mental health and how to provide a supportive environment to each other and to the students. As a part of this initiative, I have also been auditing a range of cultural aspects of our workplace, as well as our learning and teaching environment, in order to identify and remove any elements that may contribute to student, staff and faculty stress and anxiety.

79 “Diversity by Design” is an initiative that enables students to drive diversity empowerment in the school. This is a joint project that I have initiated with the College Director for Equity and Inclusion and with the Office of Equal Opportunity and Access. Together we started developing a multifaceted program with the aim of building a more vibrant, equitable, and inclusive community. The program was originally indented to include a series of seminars, workshops, educational videos, as well as a range of activities that can introduce students, staff and faculty to cultural and social inclusivity.

80 “Upskilling 2025,” Amazon, last modified 2019, accessed August 21, 2019, https://www.aboutamazon.com/working-at-amazon/upskilling-2025?utm_source=sem&utm_medium=g&utm_term=g07112019.

81 “Creating Purposeful Partnerships,” *The Business of Higher Education Forum*, last modified 2019, accessed August 21, 2019, <http://www.bhef.com/publications/creating-purposeful-partnerships>.

references

Amazon. “Upskilling 2025.” Last modified 2019. Accessed August 21, 2019. https://www.aboutamazon.com/working-at-amazon/upskilling-2025?utm_source=sem&utm_medium=g&utm_term=g07112019.

Art Academy of Cincinnati. “AAC History Timeline.” Last modified 2019. Accessed July 5, 2019. <https://www.artacademy.edu/news-events/art-academy-cincinnati-history-timeline/>.

Bierut, Michael. *Now You See It: And Other Essays on Design*. New York: Princeton Architectural Press, 2018.

Bloomberg News. “Lectra and The Myron E. Ullman, Jr. School of Design (UC DAAP) Forge Automotive Partnership in Higher Education.” March 1, 2019. Accessed August 21, 2019. <https://www.bloomberg.com/press-releases/2019-03-01/lectra-and-the-myron-e-ullman-jr-school-of-design-uc-daap-forge-automotive-partnership-in-higher-education>.

Business of Fashion. “The Best Fashion Schools in the World 2019.” Last modified 2019. Accessed August 15, 2019. <https://www.businessoffashion.com/education/best-schools/undergraduate/fashion-design>.

The Business of Higher Education Forum. “Creating Purposeful Partnerships.” Last modified 2019. Accessed August 21, 2019. <http://www.bhef.com/publications/creating-purposeful-partnerships>.

Carr, Austin. “Why Did Apple Just Hire a Nike Shoe Designer?” Last modified 2013. Accessed September 16, 2019. <https://www.fastcompany.com/3018686/why-did-apple-just-hire-a-nike-shoe-designer>.

Carpenter, Kenneth E. “European Industrial Exhibitions Before 1851 and Their Publications.” *Technology and Culture* 8, no. 3. (July 1972): 465–486.

Cincinnati Art Museum. “Cincinnati’s Golden Age, 1850–1900.” Last modified 2019. Accessed July 3, 2019. <http://www.discoveringthestory.com/goldenage/>.

Cincinnati Art Museum. “Benn Pitman – Background.” Last modified 2019. Accessed July 6, 2019. <http://www.discoveringthestory.com/goldenage/bed/background.asp>.

“Creative Workspaces: Rethinking Education by Design.” YouTube video. 2018. Produced by Gjoko Muratovski, University of Cincinnati. Accessed July 25, 2019.

Cole, Meredith Amanda. “In Quest of Walter Smith: The Past, Present, and Future Impact of Visual Art in Adult Education.” PhD diss., University of Southern Mississippi. 2009. Accessed July 10, 2019. <https://aquila.usm.edu/cgi/viewcontent.cgi?article=2107&context=dissertations>.

Danne, Richard and Bruce Blackburn. *National Aeronautics and Space Administration Graphics Standards Manual*. Washington, DC: NASA, 1975.

Droste, Magdalena. *Bauhaus 1919–1933*. Berlin: Benedikt Taschen, 1993

Fallingwater. “Fallingwater Institute.” Last modified 2019. Accessed August 21, 2019. <https://fallingwater.org/education/fallingwater-institute/>.

Fast Company. “Start an Education Revolution in Seven Steps.” Tread Project, August 12, 2011. Accessed September 6, 2019. <https://www.fastcompany.com/1664773/start-an-education-revolution-in-seven-steps>.

Graphic Design USA. “GDUSA Top Graphic Design Schools.” Last modified 2019. Accessed August 19, 2019. <http://gdusa.com/category/features/top-design-schools>.

Haxthausen, Charles W. "Walter Gropius and Lyonel Feininger Bauhaus Manifesto, 1919." In *Bauhaus 1919-1933: Workshops for Modernity*. Edited by Barry Bergdoll and Leah Dickerman. 64-67. New York: Museum of Modern Art, 2009.

IMDB. "Hannah Beachler." Accessed September 13, 2019. <https://www.imdb.com/name/nm1667545/>.

IIT Institute of Design. "Our Bauhaus Heritage." Last modified 2019. Accessed July 30, 2019. <https://id.iit.edu/new-bauhaus/>.

Industrial Designers Society of America. "Sam Lucente." Accessed August 21, 2019. <https://www.idsa.org/members/sam-lucente>.

Kern, Jacqueline. "Allbirds CEO Credits UC With Success." *UC News*, April 17, 2019. Accessed August 21, 2019. <https://www.uc.edu/news/articles/2019/04/n2081858.html>.

———. "Brand Recognition: Collaborative University of Cincinnati Project Wins Top School Award at International Contemporary Furniture Fair." *UC News*, September 20, 2017. Accessed August 21, 2019. https://magazine.uc.edu/editors_picks/recent_features/daapicff.html.

Kenner Collector. "Kenner History." Accessed August 21, 2019. <http://www.kennercollector.com/kenner-history/>.

Koesters, Matthew. "UC Co-Op Students Earned a Record \$66 Million." *UC News*, August 21, 2018. Accessed July 15, 2019. <https://www.uc.edu/news/articles/2018/08/n200012.html>.

Michael Graves Architecture & Design. "Alessi Teakettles." 2019. Accessed August 20, 2019. <https://www.michaelgraves.com/projects/alessi/>.

National Association of Schools of Art and Design. "History." Last modified 2019. Accessed July 30, 2019. <https://nasad.arts-accredit.org/about/history/>.

Nilson, Thomas and Benedict Sheppard. "The Changing Face of Medical-Device Design." *The McKinsey & Company*. 2018. Accessed August 22, 2019. <https://www.mckinsey.com/industries/pharmaceuticals-and-medical-products/our-insights/the-changing-face-of-medical-device-design>.

North American Council of Automotive Teachers archives. "Keynote Speakers: Timothy Anness." Last modified 2019. Accessed August 21, 2019. <https://www.nacatconference.org/index.php/keynote-speaker>.

Ohio History Central. "Ohio Mechanics Institute." Last modified 2019. Accessed July 4, 2019. http://www.ohiohistorycentral.org/w/Ohio_Mechanics_Institute.

Park, Clyde W. *Ambassador to Industry: The Idea and Life of Herman Schneider*. Indianapolis: Bobbs-Merrill, 1945.

Pang, Alex Soojung-Kim. "The Making of the Mouse." *American Heritage of Invention & Technology* 17, no.3, (2002). Accessed August 21, 2019. <https://www.inventionandtech.com/content/making-mouse-3>.

Premo, Terri and Cindy B. Damschroder. *VisionsRevisions*. Edited by Jay Chatterjee. Cincinnati: University of Cincinnati, 2001.

Reilly, Mary. "High-Octane Teacher Fuels UC's Status in Auto-Design Education." *UC News*, November 21, 2005. Accessed September 6, 2019. <https://www.uc.edu/profiles/profile.asp?id=3352>.

Rotella, Rocky. *The Definitive Firebird & Trans Am Guide 1967-1969*. Forest Lake, Minnesota: CarTech, 2016.

Selbert Perkins Design. "John Lutz." Last modified 2018. Accessed September 6, 2019. <https://selbertperkins.com/john-lutz-is-president-of-segd/>.

Semi Permanent. "Luke Woods." Last modified 2019. Accessed August 21, 2019. <https://www.semipermanent.com/profiles/Luke%20woods>.

Smith, Walter. "Report on the works of pupils, in the French schools of design [...]". London: Simpkin, Marshall, and Co. 1864. <https://archive.org/details/report-works-of-p00smit/page/n3>.

Stan Herman Studio. "Stan Herman." Last modified 2018. Accessed August 21, 2019. <http://stanhermanstudio.com/bio.html>.

Target. "20 Years of Design for All." Last modified 2019. Accessed August 20, 2019. <https://www.target.com/c/target-20-years-of-design-for-all/-/N-yk9q4>.

Terlep, Sharon. "Forget Tide Pods. P&G Bets Water-Free Soap 'Swatches' Are the Future." *The Wall Street Journal*, April 22, 2019. Accessed August 21, 2019. <https://www.wsj.com/articles/forget-tide-pods-p-g-bets-water-free-soap-swatches-are-the-future-11555946574>.

U.S. General Services Administration. "Office of Presidential Innovation Fellows." Last modified 2019. Accessed August 21, 2019. <https://www.gsa.gov/about-us/organization/federal-acquisition-service/technology-transformation-services/office-of-presidential-innovation-fellows>.

University of Cincinnati. "Career Education, Co-op." Last modified 2019. Accessed July 22, 2019. <https://www.uc.edu/campus-life/careereducation/get-experience/co-op.html>.

———. "College of Engineering and Applied Science: About Aerospace Engineering & Engineering Mechanics." Last modified 2019. Accessed September 8, 2019. <https://ceas.uc.edu/academics/departments/aerospace-engineering-mechanics/about.html>.

———. "College of Engineering and Applied Science: Facilities." Last modified 2019. Accessed August 21, 2019. <https://ceas.uc.edu/about/facilities.html>.

———. "Famous Alumni, Designers, Architects, Artists from UC." Last modified 2019. Accessed August 21, 2019. <https://magazine.uc.edu/famousalumni/designers.html>.

University of Glasgow History of Art and HATII, Mapping the Practice and Profession of Sculpture in Britain and Ireland 1851-1951. "Government School of Design (London)." Last modified 2011. Accessed July 4, 2019. http://sculpture.gla.ac.uk/view/organization.php?id=msib4_1267714397.

Von Keonig, Gretchen. "Diversity Champions: 8 Schools That Aren't Just Paying Lip Service to Diversity." *Metropolis*, January 30, 2017. Accessed August 13, 2019. <https://www.metropolismag.com/design/design-education/diversity-champions-8-schools-that-arent-just-paying-lip-service-to-diversity/>.

The White House archives. President Barack Obama. "Presidential Innovation Fellows." Last modified 2013. Accessed August 21, 2019. <https://obamawhitehouse.archives.gov/innovationfellows>.

Wilson, Jade, Meesh Strauss, and Draven Peña. "The Future of SFI: A Sit-down with Dr. Gjoko Muratovski." Sustainable Fashion Initiative Cincinnati, December 21, 2018. Accessed August 21, 2019. <https://www.sficincinnati.com/post/the-future-of-sfi-a-sit-down-with-dr-gjoko-muratovski>.

World Design Organization. "About Us." Last modified 2019. Accessed August 13, 2019. <https://wdo.org/about/>.

———. "United Nations Sustainable Development Goals." Last modified 2019. Accessed August 21, 2019. <https://wdo.org/about/vision-mission/un-sdgs/>.

photo credits

PAGE	
4	Centennial Buildings, Cincinnati, O. 1888. Illustration. Society for the Preservation of Music Hall. https://friendsofmusicall.org/
7	Philadelphia Architects and Buildings. Circa 1910. Postcard. https://www.philadelphiabuildings.org/pab/app/ho_display.cfm/126976 Connelly Library, Moore College of Art and Design. https://connellylibrary.wordpress.com/tag/sarah-peter/
8	Walnut Street. Circa 1910. Photograph. Detroit Publishing Co. via Shorpy, https://www.shorpy.com/node/8949
9	No. 836. Wholesale District, Third Street, Cincinnati. Postcard. Public Library of Cincinnati and Hamilton County, Paul F. Bien postcard collection. https://digital.cincinnati.library.org/digital/collection/p16998coll6
11	DAAP Building. DAAP Archive
12	Portrait of Charles McMicken. www.artsci.uc.edu/about/history/slavery-research/charles-mcmickens-legacy.html
13	McMicken Building. 1904. Library of Congress, Prints & Photographs Online Catalog. University of Cincinnati. http://loc.gov/pictures/resource/det.4a11634/
14	Morris, William. <i>Marigold</i> . Circa 1875. Block-printed wallpaper. Metropolitan Museum of Art. https://www.metmuseum.org/art/collection/search/384018
17	Ohio Mechanics Institute, Cincinnati, Ohio. 1911. Postcard. Collections of the Public Library of Cincinnati and Hamilton County. https://digital.cincinnati.library.org/digital/collection/p16998coll6
18	The Great Exhibition – Crystal Palace. Plate 3. June 9, 1851. Lithograph. Royal Commission for the Exhibition of 1851. https://www.royalcommission1851.org/
19	Smith, Walter. <i>American Text Books of Art Education</i> . 1875. Book cover. Public Domain.
21	Thomas S. Noble. wikimedia.org/wikipedia/commons/thumb/2/28/Thomas_satterwhite_noble_portrait.jpg
22	Twachtman, John Henry. <i>Springtime</i> . circa 1884. Oil painting. Public Domain. DeCamp, Joseph. <i>The Blue Cup</i> . 1909. Oil Painting. Museum of Fine Arts, Boston. https://collections.mfa.org/objects/32470/the-blue-cup?sessionId=D8D760C35534478B54E723F67A8DDEB3?ctx=a22434e3-04f0-45ec-a162-60f8d10be8cb&idx=1
23	Nourse, Elizabeth. <i>Self Portrait</i> . 1892. Oil Painting. Public Domain.
24	Blum, Robert. <i>Chinese Street Scene</i> . circa, after 1890. Watercolor and gouache over graphite. Princeton University Art Museum. https://artmuseum.princeton.edu/collections/objects/4473
26	Potthast, Edward Henry. <i>On The Beach</i> . 1917. Oil Painting. Christies. https://www.christies.com/lotfinder/Lot/edward-henry-potthast-1857-1927-on-the-beach-6037624-details.aspx
29	Book cover of <i>Circular of the University of Cincinnati for 1875—76</i> . Photograph. University of Cincinnati Library archives.

- 30** Forearm and torch of the Statue of Liberty on display at the *Centennial Exposition* in Philadelphia. 1876. Photograph. Centennial Photographic Co. via Philly History. <https://www.phillyhistory.org/PhotoArchive/Search.aspx?type=address&address=Colossal%20Arm%20of%20Independence>
- 31** Pitman, Benn. Hanging Cabinet. 1880. American black walnut, white oak, painted panels brass. Cincinnati Art Museum. <https://www.cincinnatiartmuseum.org/art/explore-the-collection?id=11606627>
- 35** Park, Clyde W. *The Idea and Life of Herman Schneider Ambassador to Industry*. Photograph of book cover.
- 36** Roebling Suspension Bridge in 1906, Cincinnati. 1906. Photograph. Detroit Publishing Company/ Public Domain. https://commons.wikimedia.org/wiki/File:Roebling_Bridge_1906.jpg
- 38** Herman Schneider. https://www.uc.edu/president/the-office/former_presidents.html
- 42** International Exhibition of Modern Decorative and Industrial Arts. 1925. Postcard. Public Domain. https://commons.wikimedia.org/wiki/File:Postcard_of_Exposition_des_Art_Decoratifs_et_Industriels_Modernes.jpg
- 44** Exterior view of the New Bauhaus, Marshall Field mansion, Chicago. 1937. Photograph. The Moholy-Nagy Foundation, Inc. <https://moholy-nagy.org/teaching/>
- 46** Detroit, Michigan. 1932. Photograph. Walter P. Reuther Library, Archives of Labor and Urban Affairs, Wayne State University. <http://reuther.wayne.edu/image>
- 48** Photograph of the exterior of the Metropolitan Museum of Art, New York City. 2018. The Metropolitan Museum of Art, <https://www.metmuseum.org/visit/plan-your-visit/met-fifth-avenue>
- 50** DAAPworks postcard. 2013. Designed by Michael Graves.
- 52** Kettle 9093 designed by Michael Graves for Alessi. 1985. Sterling silver. Alessi. https://www.alessi.com/us_en/kettle-9093-pc-9093.html
- 53** Five-piece tea and coffee set for Alessi by Michael Graves. 1985. Sterling silver. Art Net, <http://www.artnet.com/artists/michael-graves/a-five-pieces-sterling-tea-and-coffee-service-abjwC6dQDBnla-CJWlnLw2>
- 54** The West Campus of University of Cincinnati. Ofer Wolberger for The New York Times <https://www.nytimes.com/2015/09/13/magazine/if-you-build-it-they-will-come-wont-they.html>
- 57** Jim Alexander. 1974. Photograph. University of Cincinnati library archives
- 58** Raymond Loewy at The Museum of Modern Art, New York. 1953. Photograph. The Museum of Modern Art. <https://www.moma.org/artists/9768>
- 59** Neil Armstrong teaching an aerospace engineering class at the University of Cincinnati. 1974. Photography. University of Cincinnati Digital Libraries. <http://digital.libraries.uc.edu/exhibits/ceas/armstrong/armstrong-time-at-uc.html>
- 60** Segal, Gregg. Mike Ullman. 2005. Photograph. Fortune, <https://fortune.com/longform/j-c-penney-reinvention/>
- 63** International Association of Societies of Design Research conference poster. 2017. Designed by Matthew Wizinsky.
- 65** Chappellet-Lanier, Tajha. Presidential Innovation Fellows meeting with House Majority Leader Kevin McCarthy. 2017. Photograph. Fed Scoop. <https://www.fedscoop.com/presidential-innovation-fellowship-program-cruises-along-surviving-first-transition/>

- 66** Apple Macintosh, 1984. Photograph. Istock. <https://www.istockphoto.com/photo/apple-macintosh-128k-from-1984-the-vintage-imac-gm479468999-36751034>
- 67** IBM's ThinkPad 701 laptop computer. 1996. Photograph. Richard Sapper Design. <http://www.richardsapperdesign.com/products/1990-2000/thinkpad-701>
- 68** *Star Wars* action figures. 1977. Kenner Toys. www.donthatethegeek.com/wp-content/uploads/2018/01/star-wars-action-figures-netflix
- 70** Plymouth Prowler. Road and Track. <https://www.roadandtrack.com/car-culture/entertainment/videos/a31263/plymouth-prowler-retro-review/>
- 72** Jeep Grand Cherokee. Car and Driver. <https://www.caranddriver.com/jeep/cheerokee>
- 75** Proctor & Gamble logo. 2019. P&G. <https://us.pg.com/>
- 76** *Star Wars: The Last Jedi*. 2017. Movie poster. Star Wars. <https://www.starwars.com/films/star-wars-the-last-jedi-poster-gallery>
- 77** *The Matrix Reloaded*. 2003. <https://roadshow.com.au/titles/movies/wb/2003/the-matrix-reloaded>
Blade Runner 2049. 2017. Warner Brothers. <https://www.warnerbros.com/movies/blade-runner-2049/V-for-Vendetta>. 2006. https://www.vintagemovieposters.co.uk/wp-content/uploads/2016/02/IMG_1064.jpg
The Amazing Spiderman. 2012. <https://cdn.collider.com/wp-content/uploads/amazing-spider-man-poster-movie.jpg>
Mission: Impossible. 1996. <https://www.imdb.com/title/tt0117060/mediaviewer/rm3243234304>
Iron Man II. 2010. <https://fanart.tv/fanart/movies/10138/movieposter/iron-man-2-56be8ffe467c2.jpg>
Godzilla King of the Monsters. 2019. <https://www.imdb.com/title/tt3741700/mediaviewer/rm3629213184>
Guardians of the Galaxy Vol. 2. 2017. <https://www.imdb.com/title/tt3896198/mediaviewer/rm2476380417>
Terminator Dark Fate. 2017. <https://www.geekalerts.com/u/Terminator-Dark-Fate-Movie-Poster.jpg>
- 78** Harmonic Focus ultrasonic shears with Adaptive Tissue Technology. Photograph. Johnson & Johnson Medical Devices. <https://www.jnjmedicaldevices.com>
- 80** Nike Flyknit Racer shoe. 2012. Photograph. Nike. <https://news.nike.com/news/nike-flyknit>
- 81** Apple Watch Nike+ Series 4. 2017. Photograph. Apple. <https://www.apple.com/watch/>
- 82** Section 001 collection at the International Contemporary Furniture Fair in New York City, 2017. DAAP Archive.
- 84** Photograph of chairs from Section 001. 2018. DAAP Archive.
- 86** Frank Lloyd Wright's Fallingwater, Mill Run, Pennsylvania. Photograph. Fallingwater Institute. <https://fallingwater.org/>
- 88** DeLorean. 2019. Photograph. DAAP Archive.
- 90** GM EV1. 1996. General Motors. <https://www.gm.com/>
- 91** *Smokey and the Bandit* 1977 Pontiac Trans Am. 1977. Photograph. Barrett-Jackson via Forbes. <https://www.forbes.com/sites/joshmax/2015/12/24/last-surviving-smokey-the-bandit-pontiac-trans-am-up-for-auction/#189eda44396c>
- 92** Meeting Mark Fields. Photograph. DAAP Archive.
- 94** Ferrari at the University of Cincinnati. 2017. Photograph. DAAP Archive.
- 96** NASA "worm" logo. 1975. NASA. <https://www.nasa.gov/audience/forstudents/5-8/features/symbols-of-nasa.html>

- 97** Absolut vodka bottle. Photograph. Absolut Vodka. <https://www.absolut.com/us/>
- 98** The New York Times building. 2015. Photograph. Osugi/Shutterstock, via Arch Daily. <https://www.archdaily.com/776627/michael-bierut-talks-architecture-graphic-design-and-how-to-every-once-in-a-while-change-the-world/563cb21ae58ece8ce30000a1-michael-bierut-talks-architecture-graphic-design-and-how-to-every-once-in-a-while-change-the-world-photo>
- Hillary Clinton Presidential Campaign logo. 2016. Designed by Michael Bierut and Jesse Reed.
- 99** FedEx logo. 2019. FedEx. <https://www.fedex.com/en-us/home.html>
- 100** Allbirds brand men's Merino Wool shoe. 2019. Allbirds. <https://www.allbirds.com/>
Allbirds logo. 2019. Allbirds. <https://www.allbirds.com/>
- 101** Facebook logo. 2019. Facebook. <https://www.facebook.com/>
Instagram logo. 2019. Instagram. <https://www.instagram.com/>
- 105** United Airlines Uniform by Stan Herman. 1976. SFO Museum. <https://www.sfomuseum.org/exhibitions/fashion-flight-history-airline-uniform-design/detail#8>
Fashionaire garment tag twahotel.com/uniforms
- 106** TWA ad. 1969. Print advertisement. TWA archives, via Flash Bak. <https://flashbak.com/the-air-stewardess-in-advertising-1934-1989-378134/who-says-air-hostesses-have-to-look-like-this-twa-says-they-can-look-like-girls-1969/>
- 108** DAAP Fashion show. DAAP Archive.
- 111** Liz Ricketts in Ghana. DAAP Archive.
- 112** Higley, Andrew. Gjoko Muratovski, Beth Altieri, and Bruce Altieri at Fashion Technology Center ribbon cutting ceremony. 2019. DAAP Archive.
- 113** Granitz, Steve. Hannah Beachler. Hollywood, California. 2019. Photograph. Getty Images. <https://www.gettyimages.com/detail/news-photo/hannah-beachler-winner-best-production-design-award-for-news-photo/1127216456>
- 114** *Black Panther* movie poster. 2018. Marvel Studios. <https://www.marvel.com/movies/black-panther>
- 115** *Creed* movie poster. 2015. Warner Brothers. <https://www.originalfilmart.com/products/creed-teaser>
- 116-117** Students. DAAP Archive.
- 118** Fashion Show. DAAP Archive.
- 121-133** Students. DAAP Archive.
- 135** Photograph of Section 001 furniture collection. 2018. DAAP Archive.
- 136-147** Students. DAAP Archive.